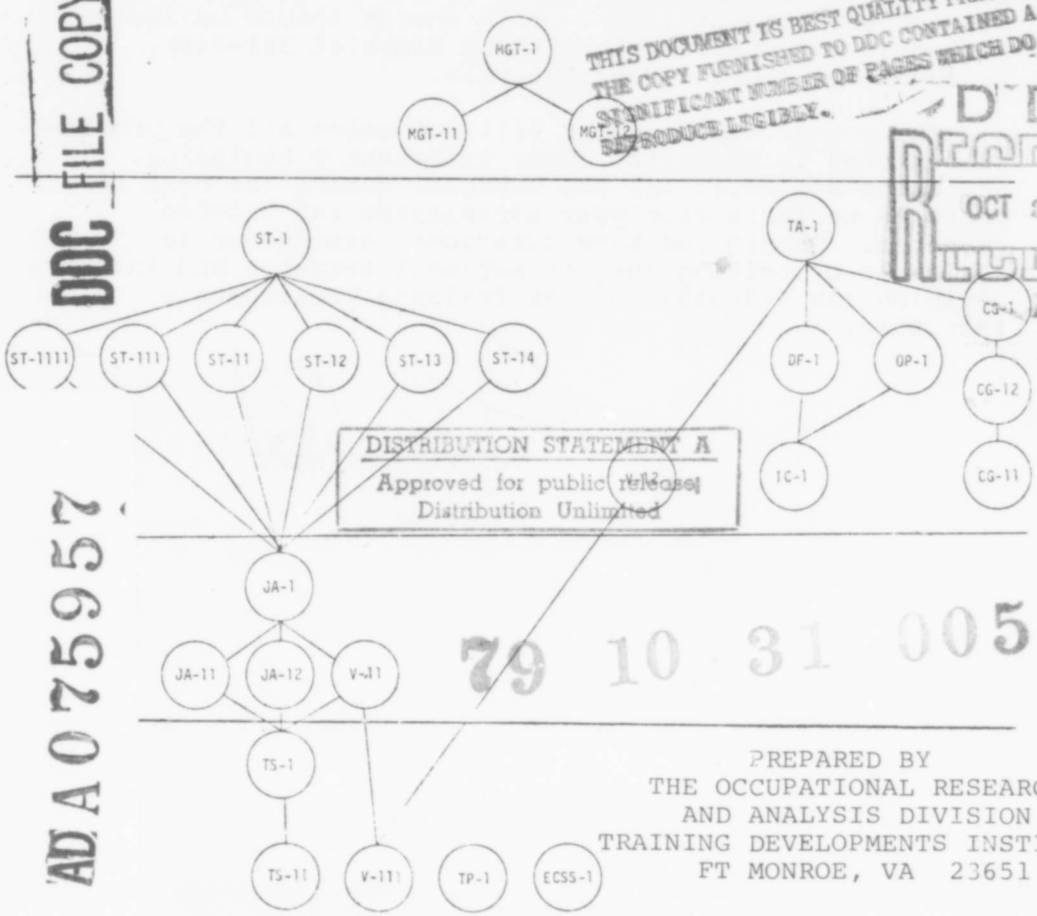
TRAINING DEVELOPMENTS INSTITUTE
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION

12

LEVEL II

MANAGEMENT GUIDE

VOLUME 1



PREPARED BY
THE OCCUPATIONAL RESEARCH
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DEPARTMENT OF THE ARMY
TRAINING DEVELOPMENTS INSTITUTE
FORT MONROE, VIRGINIA 23651

ATTNG-TDI-ORA

27 August 1979

SUBJECT: Job & Task Analysis Course

TO: Job & Task Analysis Course Users

1. As part of its mission the Training Developments Institute has a long-term commitment to the training and development of service school and training center staff and faculty.

2. Within this mission, the Job and Task Analysis Course provides training in the basic skills and knowledges required to perform the analysis phase of Instructional Systems Development (ISD). This course should be implemented in conjunction with TRADOC Pamphlet 351-4(T), Handbook for Job and Task Analysis.

3. The course and handbook will not solve all the problems encountered in analysis. They represent a beginning. Revisions and additions are expected during the next few years as we learn from your experiences and ongoing research. Should you have questions, assistance is available by calling the Occupational Research and Analysis Division (AV 680-3608) of the Training Developments Institute.

FRANKLIN A. HART
COL , IN
Director

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REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

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Task Inventory	Collective/Individual Analysis	
Task Selection	Surveys	
Interviewing	Skill/Knowledges	

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

This course provides an introduction to job/task analysis which focuses on basic skills necessary to Army TRADOC Analysts. The package is primarily designed for the novice or apprentice analyst. However, it will also serve as a useful training/refresher tool for experienced analysts. Further, the package will provide a quick introduction to newly assigned managers in analysis, design/development, and training evaluators to acquaint them with the job/task analysis process.

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OVERVIEW OF THE JOB AND TASK ANALYSIS COURSE

This course provides an introduction to job and task analysis which focuses on basic skills necessary to Army TRADOC analysts.

The package is primarily designed for the novice or apprentice analyst. However, the package will also serve as a useful training tool and refresher for analysts with some degree of experience. The package will also provide a quick introduction for newly assigned managers in analysis and training design/development activities, and for personnel assigned as evaluators to acquaint them with the Job and Task Analysis process.

The modules in this course can can be used as a training tool for:

- Apprentice analysts (with CRI certification)
- Apprentice analysts (without CRI certification)
- Job analysts
- Task analysts
- Analysis team chiefs
- Task analysts - test developers
- Analyst - designers
- Returning analysts requiring a refresher
- Subject matter experts (consulting with analysts)
- Evaluators (from school's DEV)
- Managers of job and task analysis activities

The course is designed around five subject areas:

BASIC SKILLS (TS-11, TS-1, V-111, TP-1, ECSS-1). Five modules concerned with basic analysis skills (identifying tasks, basic interviewing, etc). These modules overlap the CRI Course.

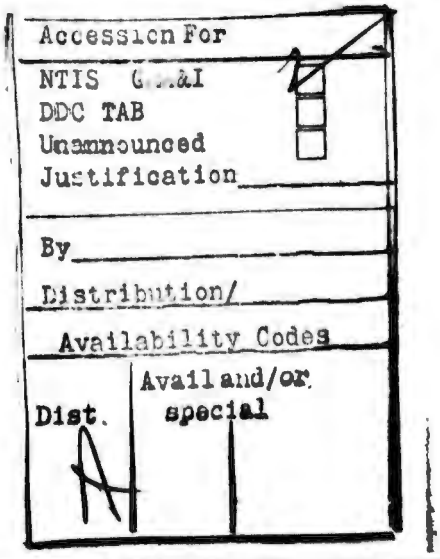
JOB ANALYSIS - PART I (JA-1, JA-12, V-11, JA-1). Four modules concerned with basic researching skills required to develop a task inventory. AG-1 (goal analysis) overlaps with the CRI course.

JOB ANALYSIS - PART II (ST-1111, ST-111, ST-11, ST-12, ST-13, ST-14, ST-1). Seven modules concerned with the process of selecting tasks for training.

TASK ANALYSIS (V-12, DF-1, IC-1, CG-11, CG-12, CG-1, TA-1, OP-1). Eight modules concerned with techniques for analyzing tasks and recording task performance. One optional module is included on stimulus-response tables.

MANAGEMENT OF ANALYSIS (MGT-11, MGT-12, MGT-1). Three modules concerned with planning analysis efforts, selecting training sites, and explaining the job and task analysis process.

See the module map on cover page.



Below is a listing of the course modules and their short titles.

MODULE	SHORT TITLE
TS-11	Identity Task Statements
TS-1	Write Task Statements
V-111	Basic Interviewing
TP-1	Prepare a Target Population Description
ECSS-1	Edit Condition and Standard Statements
JA-11	Goal Analysis
JA-12	Review Resource Documents
V-11	Conduct Information Gathering Interview
JA-1	Develop a Task Inventory
ST-1111	CODAP
ST-111	8-Factor Model
ST-11	4-Factor Model
ST-12	Training Emphasis Model
ST-13	Difficulty-Importance-Frequency (DIF) Model
ST-14	Wartime/Peacetime Model
ST-1	Select Task for Training
V-12	Conduct Observation Interview
DF-1	Develop Flowcharts
IC-1	Identify Initiating Cues

MODULE	SHORT TITLE
CG-11	Plan a Consensus Group
CG-12	Describe Consensus Group Action
CG-1	Participate in a Consensus Group
TA-1	Record Task Analysis
OP-1	Develop Stimulus Response Tables (Optional)
MGT-11	Write Job and Task Analysis Plan
MGT-12	Recommend Training Site
MGT-1	Talk about Job and Task Analysis

RESOURCES FOR JOB AND TASK ANALYSIS COURSE

TRADOC DOCUMENTS

• TRADOC Regulation 351-4	Job and Task Analysis
• TRADOC Circular 351-28	Soldier's Manuals, Commander's Manuals and Job Book's Policy and Procedures
• TRADOC Pamphlet 350-30	Phase I - Analysis
• TRADOC Pamphlet 350-30	Executive Summary
• TRADOC Pamphlet 351-4	Job and Task Analysis Handbook

BOOKS

- Goal Analysis - Robert F. Mager (Fearon Publishers, Inc)

EXTRACTS

- Module TP-11-Describe Target Population Entries (Criterion Referenced Instruction, Analysis Booklet. Robert F. Mager and Peter Pipe).
- DIF Analysis (Job Analysis for Training - Pamphlet No 2 - Published by the Royal Army Education Corps). See Volume 8.
- Synergy and Consensus Seeking Paper. See Volume 8

SAMPLE JOB ANALYSIS PLANS FROM TRADOC SCHOOLS*

- United States Army Infantry School Officer Job/Task Analysis Plan.
- Job and Task Analysis Plan (OV-1 Aircraft Publication) Fort Rucker, AL.
- Management Plan - Job Analysis for Police Services Course.
- 74D/74F/74Z Job and Task Analysis Plan.

NOTE: * Including these plans in this course does not imply their adequacy nor adherence to current TRADOC guidance. These plans are included only to serve as a vehicle for work already done (at the time of course development) and examples of plans prepared by subject schools. These plans are located in Volume 8.

BACKGROUND ON THE JOB AND TASK ANALYSIS COURSE

1. Why was the TRADOC Job and Task Analysis Course developed?

   - The Job and Task Analysis course provides a common training tool for TRADOC analysts. The foundation of systems designed instruction is a thorough analysis base. To provide soldiers with training for their specialties in the field, each specialty must be defined in terms of the tasks soldiers perform. The results of this analysis should be the single analysis base from which all training products are designed and developed. The analysis cannot be accomplished without a trained cadre of analysts. The TRADOC Job and Task Analysis course is an introduction to the basic skills required by TRADOC analysts.

2. What is the purpose of the Job and Task Analysis course?

   - To prepare the managers of analysis activities for the job of training their subordinates (analysts) and reinforcing new analysis skills on the job.
   - To prepare those assigned to job and task analysis activities in the TRADOC schools to conduct job and task analysis efforts in accordance with TRADOC Reg 351-4 (Job and Task Analysis) and TRADOC Pam 351-4 (Job and Task Analysis Handbook).
   - To provide TRADOC analysts with a set of baseline skills necessary to the conduct of job and task analysis.

- To provide managers of analysis with an on-the-job training tool to develop analysis skills in their subordinates.
- To inform managers of job and task analysis activities of the skills and procedures used by their analysts.

3. Who should take the modules in the Job and Task Analysis Course?
   - Managers of analysis activities should complete the course prior to or with the initial group of analysts. This will ensure that the manager has a sufficient understanding of the course and the analysis process to (1) train inexperienced analysts and (2) reinforce new on-the-job skills the analysts have acquired.
   - Anyone directly involved in the conduct of job and task analysis. The package is designed for novice analysts. It is also used as a refresher for analysts who have experience working in other phases of training developments.

4. How long does it take to complete the modules in the Job and Task Analysis course?

There is no set timeframe for completing the modules. The amount of time required to complete the job training package is a function of:

- How many modules the manager feels are necessary to prepare any given analyst.
- How much coaching the manager elects to provide to any given analyst (coaching may be provided either directly from the manager or appointed subordinate, or some combination of the two).

- The level of performance the manager demands for the analyst to meet criteria in each module the analyst completes. For example, although some modules have specific feedback (TS-11, Identify Task Statements and DF-1, Develop Flowcharts) criteria in other modules depend upon the analyst's project requirements. Criteria for modules such as TS-1, Write Task Statements, TP-1, Develop a Target Population Description, and JA-11, Goal Analysis are dependent upon the unique area to which each analyst is assigned.

5. What are the recommended prerequisites to the Job and Task Analysis course?

NCO Analysts

- Qualified in the MOS being analyzed.
- Recent field experience.
- Above average communication skills (oral and writing).

Officer Analysts

- Qualified in the specialty being analyzed.
- Recent field experience.
- Above average communication skills (oral and writing).

Civilian Analysts

- Thorough knowledge of the MOS/speciality being analyzed.
- Above average communication skills (oral and writing).
- Training in current instructional technology.

General Requirements

- Have taken the CRI course.
- Are directly involved in job and task analysis.
- Have available resources for the officer and enlisted specialty they will be analyzing.

For Managers

- Have taken the CRI course.
- Are currently managing a job and task analysis activity in a TRADOC school.

6. What is needed to make the Job and Task Analysis course work?

- A course manager (either a manager of analysis or an appointed subordinate) who has completed the modules and who has had training as a learning facilitator.
- A set of modules for each student analyst.
- A set of criterion TESTS for each student analyst.
- A set of self-evaluation sheets for the course manager to provide feedback to the student.
- Resource materials required by the analyst in normal day-to-day projects.

7. What is the best way for managers of analysts to use the Job and Task Analysis course?

The course should be used as a daily training tool. Workers can complete portions of the course and reinforce their skills as they perform their job. Course work should be performed under the guidance of the individual's supervisor, peers that have completed the course or a combination of supervisor/staff and faculty participant. It is not recommended that analysts be given the entire course in one entity in a workshop setting. Instead, the analysts should be given reasonable portions of pre course to complete. The course work should reinforced through the actual analysis work assigned.

There are several options to use the Job and Task Analysis course. Some suggested training tasks are displayed at Figure 1 - Modules suggested for completion by persons expected to perform various analysis functions (see next page).

IMPLEMENTATION OF THE JOB AND TASK ANALYSIS COURSE

This course is used as an on-the-job training tool for managers to cultivate and develop skills in their analysis personnel. The modules in this course should be used daily or as required by analysts as they perform their official duties. This course, together with TRADOC Reg 351-4 (Job and Task Analysis) and TRADOC Pam 351-4 (Job and Task Analysis Handbook), comprises the training.

Although the modules can be incorporated into a workshop, this package intends to provide analysts with reasonable amounts of knowledge followed by periods of job reinforcement. This desired blend of job site training and practice cannot be accomplished through a two or three week workshop.

Job and task analysis is a very technical and complex field. Analysts should not be trained based on attendance at a workshop removed from their job site. Three main elements develop, reinforce,and maintain analysis skills in any analyst. These are training, practice with reinforcement and experience. To cope with the decoy rates common to workshops, it is recommended that a grooming process be used to develop a strong analysis staff. A two or three week workshop will not provide the student-analyst with the opportunity to be tutored in analysis skills in a job realistic environment. Therefore,the modules in the course may be used as on-the-job tools by managers to develop analysis skills in their staff.

When implemented as an on-the-job course, the materials are most effective when the student analyst is given clusters of modules closely related to current work assignments. The course work required by the modules may be directly related to the analysts work assignment. The analyst may accomplish training while at the same time complete acutal work projects.

The analyst's training through the modules should be managed by a course manager. The course manager can be the chief of analysis or an appointed subordinate. The course manager determines when the student analyst has reached competency in each assigned module. Even after modules are "signed-off" by a course manager, the student should have access to the manager for future skill enhancement.

An alternative to implementing the course as an on-the-job training tool is to offer the modules as a course taken in a set time frame (2 to 3 weeks). The course map can be a guide if the modules are issued as a one-time course.

CERTIFICATION OF COURSE GRADUATES

All students who complete the entire course or phases of the course should receive certification certificate. If possible, each school should develop a system for certifying students who complete course work and for entering records of appropriate certification into the students personnel file.

- For students who complete all 27 modules, certification should be given for the entire course.
- For students who complete suggested clusters (or clusters designed by the school) certification should indicate the clusters completed. If the student eventually completes the entire set of modules, the individual cluster certificates can be replaced by a single course certificate.

COMPONENTS OF THE JOB & TASK ANALYSIS COURSE

The self-pacing portion of the Job Training Package is made up of:

- 27 modules.
- Criterion Tests for each module.
- Feedback sheets for each module.
- A student handbook.
- A management guide for course managers.
- Resources used on the job by the student analyst (TM, FM, mission statements, ASOP reports, etc).

OBJECTIVES AND MODULE SYNOPSIS

TS-11 - Identify Task Statements

- Objective: Given a list of items describing work activities, identify any task statements and explain, in writing, your reasons for rejecting the other statements. You will be allowed one error.
- Synopsis: Module describes task statements according to the criteria given in TRADOC Pam 350-30 (Phase I - Analysis). Student-analyst is given practice in identifying task statements according to ISD criteria.

TS-1 - Write Task Statements

- Objective: For an officer or enlisted specialty for which you are competent or familiar, write task statements which are structurally correct (have an action verb and object) and use the following qualifying phrases:

Simple action verb and object-acted-upon format.

Multiple ways of doing an activity.

Multiple purpose of a task.

Restricted range of activities.

- Synopsis: Module describes the use of qualifying phrases in task statements. Student analyst develops examples using the qualifying phrases discussed in module.

V-III - Basic Interviewing

- Objective: Given several interviewing situations, describe the techniques you would use in those situations. Explain why you would use each technique.

- Synopsis: This module provides basic knowledges important to interviewing. Student responds, in writing, to interview situations.

TP-1 - Prepare a Target Population Description

- Objective: Given the following list of requirements, gather sufficient data to prepare a target population description.

  1. Position requirement -

     Grade or skill level of the target population

        Existing

        Proposed

     Specialty of target population

        Existing

        Proposed

Prerequisite training

Required

Existing

Prerequisite skills and knowledges

Reading grade level

Applicable battery test scores

2. Soldier attributes -

Civilian education level

Existing

Proposed

Required

Percent with English as a second language -

Age

Sex

Avocational interests

Competition orientation

Perception of Army training

Self-discipline

Emotional maturity

Reading grade level

3. Background information -

Time in service

Time in grade

Time in position

Related Experience

Additional skill identifier

Current enlisted reenlistment rate

Current officer extension rate

Average turn around time for overseas tours

- Synopsis: Module explains the required entries for a complete target population description. Student prepares a target population description for the area he is analyzing.

ECSS-1 - Edit condition and standard statements

- Objective: Given a list of task statements with conditions and standards and the appropriate job aids, edit each statement. You will write comments explaining each statement that is not adequate.
- Synopsis: Student is trained in the characteristics of good condition and standard statements. Student learns to critique statements of job standards and job conditions.

JA-11 - Goal Analysis

- Objective: Given a task which is goal oriented (i.e., not easily observable), analyze the task by means of a goal analysis. The task analysis will be complete when the course manager is satisfied that the goal has been totally analyzed.
- Synopsis: Student is given a variety of resource documents to review for task statements. Student is required to extract task statements from the assorted texts.

JA-12 - Review resource documents

- Objective: Given one or more resource documents (or portions thereof),identify all tasks. For each task write one or more task statements.
- Synopsis: Student is given a variety of resource documents to review for task statements. Student is required to extract task statements from the assorted texts.

V-11 - Conduct an information-gathering interview for Job Analysis

- Objective: Given the following -
  - An interview format designed to collect job analysis data
  - The rules for conducting an interview.
  - One or more duty areas for which there is little or no documented information.
  - One or more job supervisors or job holders.

  Conduct an information-gathering interview of the job supervisor(s)/holder(s) and write task statements which reflect the work activities described in the interviews.
- Synopsis: Student is given basic rules to follow when interviewing. Student is also told how to use interview as a data collection technique during job analysis. Student practices interview rules in context of job analysis.

JA-1 - Develop a task inventory

- Objective: Use the results of your own goal analysis, document reviews, and interviews to develop a task inventory for an officer or enlisted specialty you work with. The inventory must

consist of at least 30 tasks clustered by duty position title (and skill level if appropriate).

- Synopsis: Student is required to combine the results of modules AG-1, R-11, and V-4 to create a task inventory.

ST-1111 - CODAP

- Objective: Given data on CODAP, do the following:

1. Talk about advantages and disadvantages of CODAP as a data source for selecting tasks for training (without references).

2. Specify the appropriateness of CODAP to your subject area (without references).

3. Use CODAP data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

- Synopsis: Student is given a brief introduction of CODAP reports. Use of CODAP as a data source for task selection is discussed.

ST-111 - 8-Factor model for selecting tasks for training

- Objective: Given data on 8 factors for selecting tasks for training, do the following:

1. Talk about advantages and disadvantages of the 8-factor model (without references).

2. Specify the appropriateness of the 8-factor model to your subject area (without references).

3. Use the data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

- Synopsis: Module discusses 8 factors for task selection given in TRADOC Pam 350-30 (Phase I). Student practices using 8-factor data for task selection.

ST-11 - 4-Factor model for selecting tasks for training

- Objective: Given data on the 4-factor model for selecting tasks for training,do the following:

1. Talk about advantages and disadvantages of the 4-factor model (without reference).

2. Specify the appropriateness of the 4-factor model to your subject over (without reference).

3. Use the data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

- Synopsis: Module discusses 4 factors for task selection (4 of the 8 given in module ST-111). Student practices using 4-factor data for task selection.

ST-12 - Training emphasis model for selecting tasks for training

- Objective: Given data on the training emphasis model for selecting tasks for training do the following:

1. Talk about advantages and disadvantages of the training emphasis model (without references).

2. Specify the appropriateness of the training emphasis model to your subject area (without references).

3. Use the data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

- Synopsis: Training emphasis model is explained as it relates to selecting tasks for training. Training emphasis model collects data from supervisors rather than workers. Student practices using training emphasis model for task selection.

ST-13 - Difficulty-Importance-Frequency (DIF) model for selecting tasks for training

- Objective: Given data on the DIF model for selecting tasks for training, do the following:

1. Talk about advantages and disadvantages of the DIF model (without references).

2. Specify the appropriateness of the DIF model to your subject area (without references).

3. Use the data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

- Synopsis: The DIF model is explained to the student. Student practices using the model to collect and sort data for task selection.

ST-14 - Wartime/Peacetime model for selecting tasks for Training

- Objective: Given data on the wartime/peacetime model for selecting tasks for training, do the following:

1. Talk about advantages and disadvantages of the wartime/peacetime model (without references).

2. Specify the appropriateness of the wartime/peacetime model to your subject and (without references).

- Synopsis: The wartime/peacetime model is explained to the participant. The participant then practices application of the model.

ST-1 - Select Task for Training

- Objective: Given task selection data, a worksheet package and a list of at least 30 tasks from your own task inventory, select tasks for training using a task selection strategy approved by a course manager.

- Synopsis: This module allows the participant to formulate a task selection strategy that is appropriate to his or her school's needs. This strategy will use some combination of the five task selection models discussed in earlier modules.

V-12 - Conduct Observation Interview

- Objective: Given an example of a job incumbent performing a task, conduct an observation - interview and collect data to complete an analysis of that task. At a minimum, your analysis must include:

  - Task statement (action observed)
  - Standards of performance for the task
  - Conditions for the task
  - Initiating cues
  - Elements or steps in the task
  - Indication when the task is complete

- Synopsis: This module enables the participant to combine interviewing skills learned earlier with the skills of observation.

DF-1 - Develop Flowcharts

- Objective: Given a narrative summary (from either a resource person or publication) of the performance content of a task, develop a flowchart which shows the initiating cues, actions and decisions in that task.

- Synopsis: A flowchart is a diagram of a step-by-step procedure. Symbols are used to identify information and decision actions. This module provides the participant skills in the design and use of such flowcharts.

IC-1 - Identify Initiating Cues

- Objective: Given one or more resource documents describing tasks, identify the initiating cues described for the tasks and any missing or incomplete initiating cues.

- Synopsis: In this module the participant learns how to identify and discriminate initiating cues, those events in the worker's environment that cause actions to take place.

CG-12 - Plan a Consensus Group

- Objective: Write a plan for a consensus grup which addresses the following areas:

  - Selection of consensus group members
  - Selection of the group chairperson
  - A Letter-of-Instruction (LOI)

- Synopsis: The participant is provided the opportunity to set up a consensus group. He or she learns that it is important to specify exactly what a consensus group is to accomplish and how they

are to accomplish it. The participant learns the difference between directed group activities and a group that is dominated by one or two members.

CG-11 - Describe Consensus Group Actions

- Objective: Given situations which may occur during the conduct of a consensus group, state,in writing,whether the actions described are appropriate to the proper conduct of a consensus group.

- Synopsis: This module presents situations that may occur in a consensus group. The participant learns to discriminate between those situations that are appropriate and those that are not appropriate to a consensus group.

CG-1 - Participate in a Consensus Group

- Objective: Participate in a consensus group.

- Synopsis: The participant is given the opportunity to actually participate in a group with a consensus seeking task. This task is designed to simulate conditions similar to those the participant might find in an actual on-the-job experience.

TA-1 - Record Task Analysis

- Objective: Given a task selected for training, the job, MOS and duty area in which the task is performed, and TRADOC Form 550, Job and Task Analysis Worksheet, record the appropriate task analysis data on the form.

- Synopsis: This module introduces the participant to TRADOC Form 550, Job and Task Analysis Worksheet. The participant is guided

through the process of recording job and task analysis data collected in earlier modules.

OP-1 - Develop Stimulus Response Tables (Optional)

- Objective: Given a narrative description of the behaviors that occur during performance of a task, construct a paradigm that represents those behaviors in the appropriate sequence.

- Synopsis: Stimulus response tables provide the analyist with a convenient means of listing the stimuli and responses that make up the performance of a task.

MGT-11 - Write a Job and Task Analysis Plan

- Objective: For an MOS or officer specialty for which your school has proponency, develop a draft Job and Task Analysis Plan by using real world information to complete the following paragraphs:

1. Rationale for the plan.
2. Objective of the job analysis.
3. Resource requirements.
4. Data requirements and sources.
5. A list of deliverable products from the analysis.
6. A milestone schedule.

The plan may be an abbreviated version, but it must include REAL world information.

<u>The plan you develop during the module will serve as the criterion test item</u>.

• Synopsis: This module is designed for those managers responsible for the drafting of a job and task analysis plan. The participant is guided through the process of developing an actual plan.

MGT-12 - Recommend Training Site

• Objective: Given an MOS by skill level to be analyzed, the duty positions that comprised the MOS, the percent of soldiers occupying each duty position in the MOS, and performance data regarding when the task is first performed.

(1) Describe the site selection process without references.

(2) Describe the role of the analyst in the site selection process.

(3) Make a site selection recommendation on 20 tasks which you have selected for training from previous modules on selecting tasks for training.

• Synopsis: This module is intended for those managers responsible for site selection. Participants are guided through the process of formulating a strategy for site selection.

MGT-1 - Talk About Job and Task Analysis

• Objective: Given access to any sources available, prepare and present a talk to inform a group of your superiors, peers,or subordinates of the nature of Job and Task Analysis. The talk will:

(1) Describe the reasons for conducting a Job and Task Analysis.

(2) Describe the reason for having a Job and Task Analysis Plan, briefly (2 or 3 sentences) explain each major paragraph of the plan.

(3) Describe (in outline form) how you would go about doing a job analysis and task analysis for the MOS or specialty you work with.

NOTE: Be sure your description covers each required step in job and task analysis and that you are sure that all required end products are included.

(4) The talk should last no longer than 15 minutes.

- Synopsis: In this module the participant is required to prepare a short (15 minute) briefing on Job and Task Analysis. This module helps the manager internalize job and task analysis concepts.

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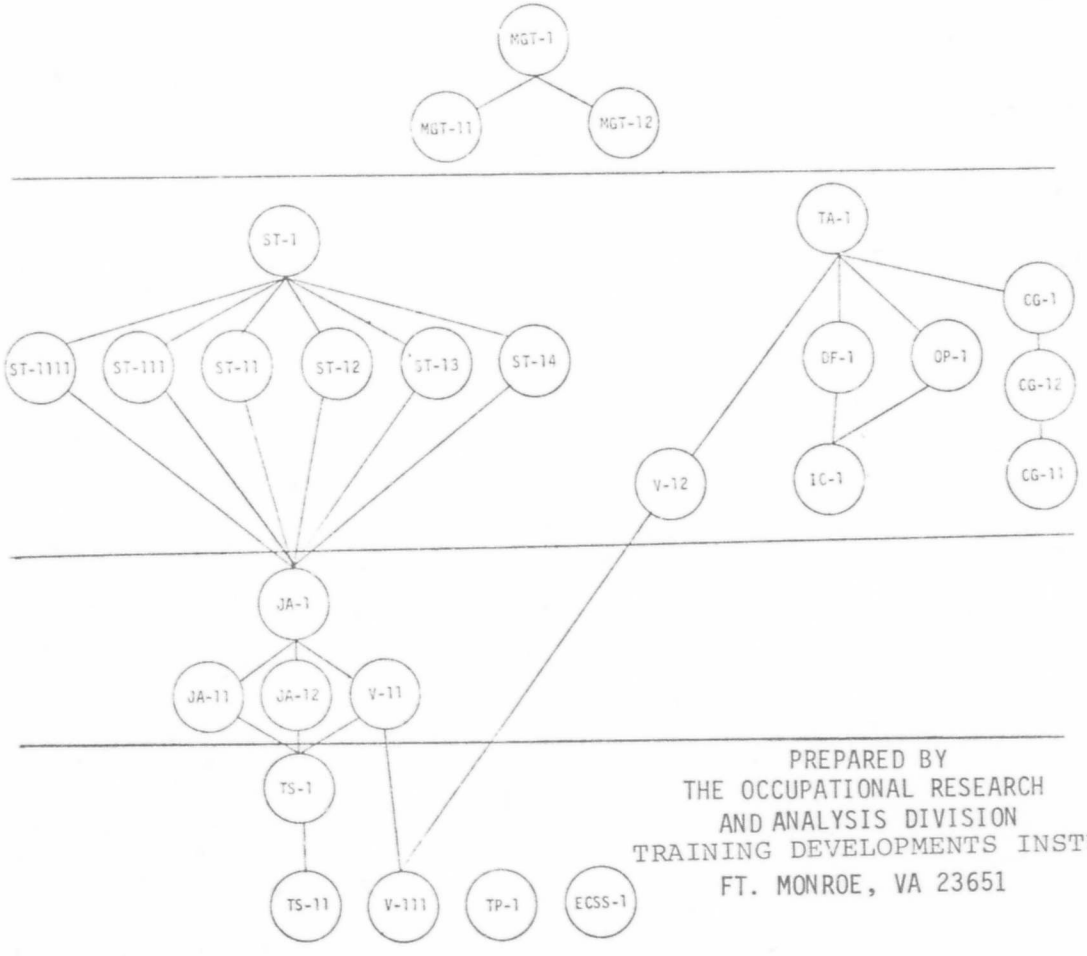
STUDENT GUIDE

VOLUME 2



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CONTENTS

PERSONAL PROGRESS SUMMARY

MODULE	SHORT TITLE	DATE COMPLETED	SIGN-OFF
TS-11	Identify Task Statements		
V-11	Basic Interviewing		
TP-1	Prepare Target Population Description		
ECSS-1	Edit Condition and Standard Statements		
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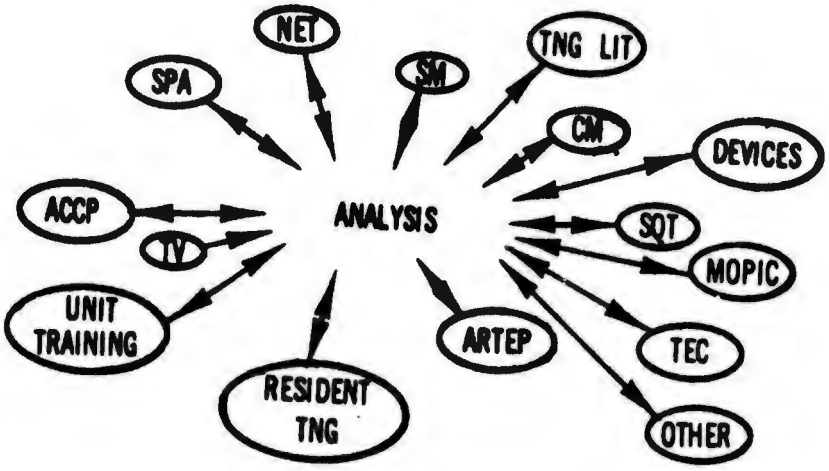
ST-111	8-Factor Model		
ST-11	4-Factor Model		
ST-12	Training Emphasis Model		
ST-13	Difficulty-Importance-Frequency (DIF) Model		
ST-14	Wartime/Peacetime Model		
ST-1	Select Tasks for Training		
V-12	Conduct Observation Interview		
IC-1	Identify Initiating Cues		
CG-11	Plan a Consensus Group		
CG-12	Describe Consensus Group Actions		
CG-1	Participate in a Consensus Group		
DF-1	Develop Flowcharts		
OP-1	Develop Stimulus-Response Tables (Optional)		
TA-1	Record Task Analysis		
MGT-11	Write a Job and Task Analysis Plan		
MGT-12	Recommend Training Site		
MGT-1	Talk About Job and Task Analysis		

OVERVIEW OF JOB/TASK ANALYSIS

Job and task analysis are but parts of a total training development system. The purpose of this system is to deliver training and training products (e.g., TEC and ACCP lessons, SMs, CMs, SQTs, etc.) which support the force-in-the field. Let us first look at how job and task analysis fits into that total training developments system (see figure below).



ANALYSIS BASE

As you can see, a common analysis base forms the core of the training developments system. If part or all of that analysis base is missing, there will not be training of sufficient QUALITY to support the operation and maintenance of weapons and support systems.

ISD

The Instructional Systems Development (ISD) model as described in TRADOC Pam 350-30 consists of five phases. The following is a brief description of each of those phases.

ANALYZE

Analysis is concerned with the collection of job information that contributes to successful development of good training and training products. Such information includes: a task inventory listing all tasks performed in the MOS or officer speciality; a list of tasks selected for training; documentation of initiating cues, job conditions and job standards for each task to be trained; a target population description; documentation of the performance content of each task selected to be trained; recommended training sites.

DESIGN

The information collected in the Job and Task Analysis is fed into the design activity. Here instructional objectives are written from the job and task information. Also, test items to measure each learning objective are written. Finally a sample of students are tested to make sure the assumptions about entry skills are correct and the sequence of instruction is determined.

DEVELOP

In this phase, the learning objectives are classified by learning category and media selection is made. Existing training products are reviewed and revised and new products developed where none existed. Finally, the training products are field tested and needed revisions are made. An additional product is a management plan for conducting the instruction.

IMPLEMENT

The training products and management plan developed earlier are now put into effect. Key personnel are trained as managers or instructors to conduct instruction and evaluate training and training products. Much of the information collected can be used to improve those products as well as influence any future job and task analysis efforts.

EVALUATE

The purpose of this phase is to collect and document information about learner performance in the course. Such information is used to determine inadequate/irrelevant training.

INTRODUCTION TO SELF-PACED CRITERION-REFERENCED INSTRUCTION

The material you will work with in this course is self-paced and criterion-referenced. If you are familiar with this type of instructional program you may want to skip this section.

Self-Paced Criterion-Referenced Instruction is a way of organizing instructional material that allows you to work through a course at your own speed. Your competence will be judged against a known, fixed standard and not in relation to the performance of your fellow participants.

There are no grades in this course. You are judged only as competent or not-yet competent. Therefore there are no "honor graduates", nor are there any graduates who have not been certified as competent.

The course materials have been designed to remove, as much as possible, your dependence on an instructor. The course manager(s) will assist you in mastery of the learning materials by directing you to relevant materials and by serving as subject matter experts when needed.

Should you have any problems with the practice exercises or the Criterion Tests, do the following:

1. Read additional material.
2. Review material in the module.
3. Check with a colleague in the course.
4. Check with a course manager if you are still having problems.

The course is organized into "modules" or units of instruction. The Course Map shows the arrangement of the modules and guides you through the course. The Course Map also indicates any prerequisites for a module.

You may work on any module you desire provided that:

1. You have completed all prerequisite modules as indicated by connecting arrows.

2. You complete all the modules below the solid line before working on modules above the line.

HOW TO COMPLETE THIS COURSE

By this time you are probably ready to select a module and begin the course. **Remember!** This course is self-paced. Work at your own speed. The chart on the next page will help you get started and guide you through completion of the modules and mastery of the course materials.

Step	Procedure
1.	Select any module from the bottom of the map.
2.	Read the objective and the Criterion Test.
3.	Read the module material and any listed resources you may require. (Note: Additional Resources are not mandatory reading, but may be useful.)
4.	Take the Criterion Test when you are ready.
5.	Compare your results with the Self-Evaluation Sheet for the module.
6.	If you are satisfied with your work, take it to a course manager for sign-off.
7.	If a course manager signs-off on a module, select another module to work on. (Note: He may require you to do additional work before proceeding to another module.) Remember to have a course manager indicate your progress on the master progress sheet.
8.	Continue this procedure until all the modules in your track are completed. Since this is a self-paced course, "graduation" is also self-paced.

Introduction

A job analyses effort begins when a need for training has been proven and documented. The first step in developing adequate training is to collect valid and reliable data about the job. You should be able to identify relevant job data sources.

Types

There are 2 basic types of job data sources. They are:

- documents
- people, which includes
  - experienced job incumbents
  - supervisors

List of Document Sources

Most existing jobs have a sufficiently large number of documents describing the work performances. Some of these documents are

- Technical Manuals (TMs)
- Field Manuals (FMs)
- Army Regulations (ARs)
- Soldier's Manuals (SMs)
- Circulars and Pamphlets

- Programs of Instruction (POIs)
- Tables of Organization and Equipment (TOEs)
- Army Training Evaluation Plans (ARTEPs)
- Comprehensive Occupational Data Analysis Program (CODAP) Reports

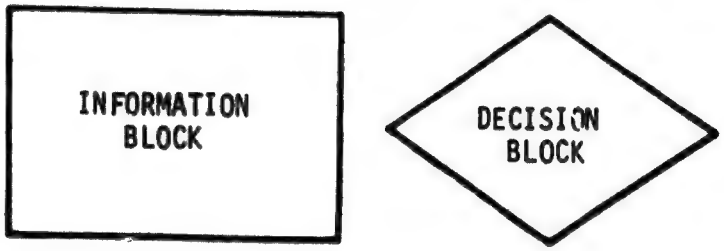
You may want to add to this list based on your own experiences.

Comment

For some jobs, documents will not adequately describe all job performances. In these instances you must go to the job incumbents and their supervisors for the information.

If you are familiar with the concept of flowcharts, algorithms and logic trees, you may want to skip this section.

Flowcharts are used in various modules throughout this course. They are designed to help you learn material in which there are a large number of decision points and a variety of possible outcomes. Generally these are procedures that may be used infrequently and need not be memorized. When you encounter your first flowchart you will see a series of rectangles and diamonds as shown below in the figure below.



Usually these symbols will be joined by lines with arrows indicating the direction you are to go. (See the following example.)

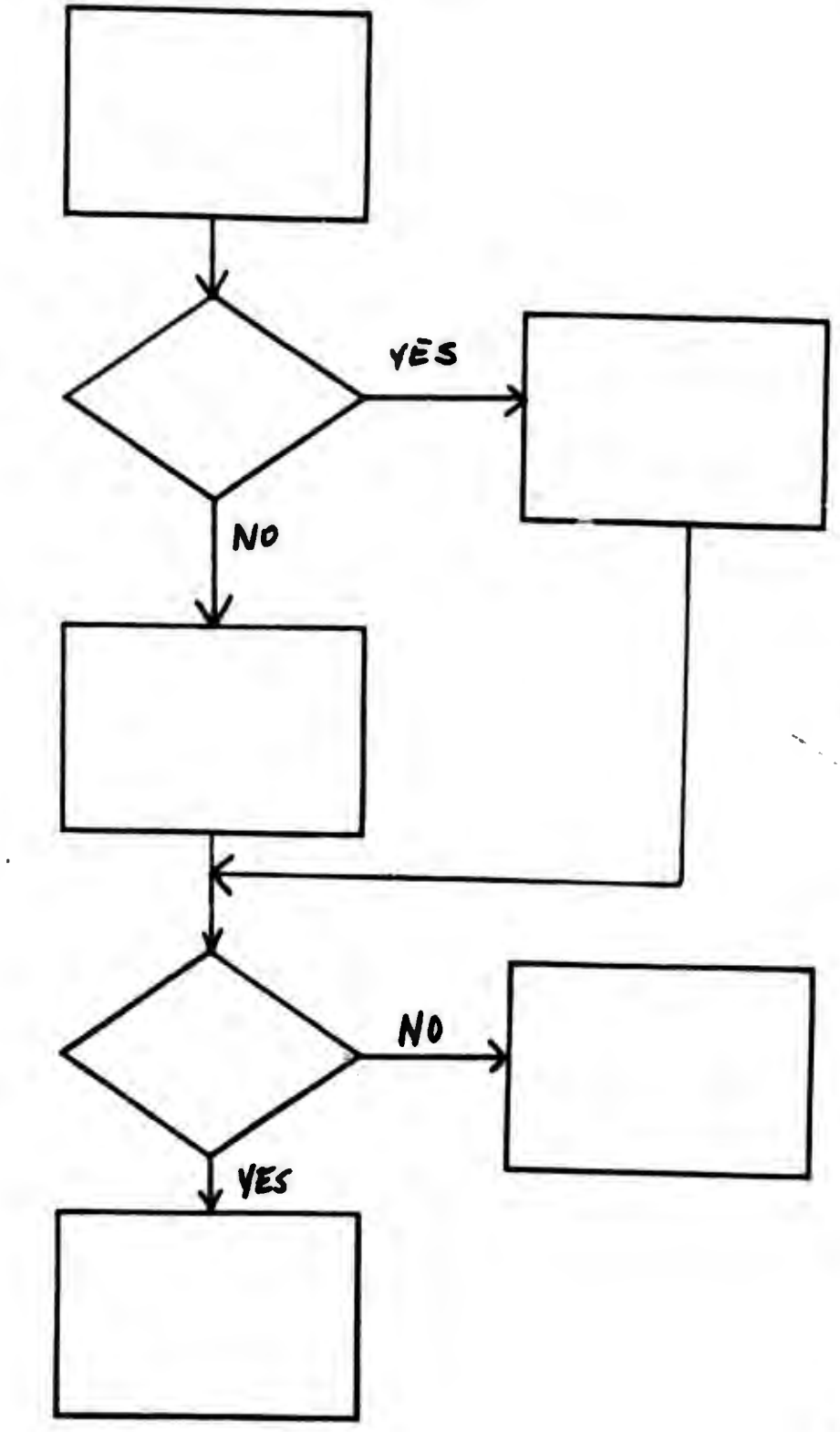
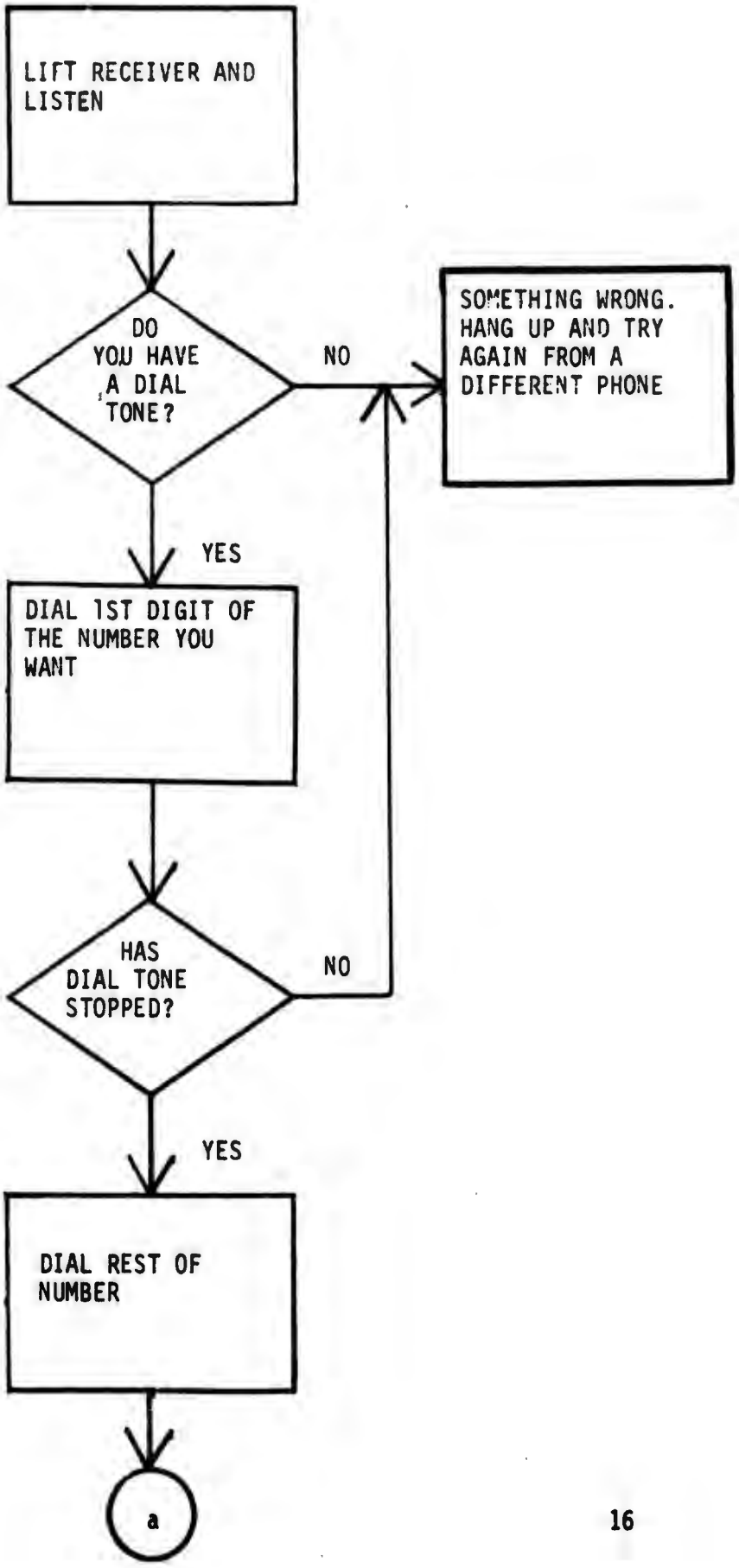


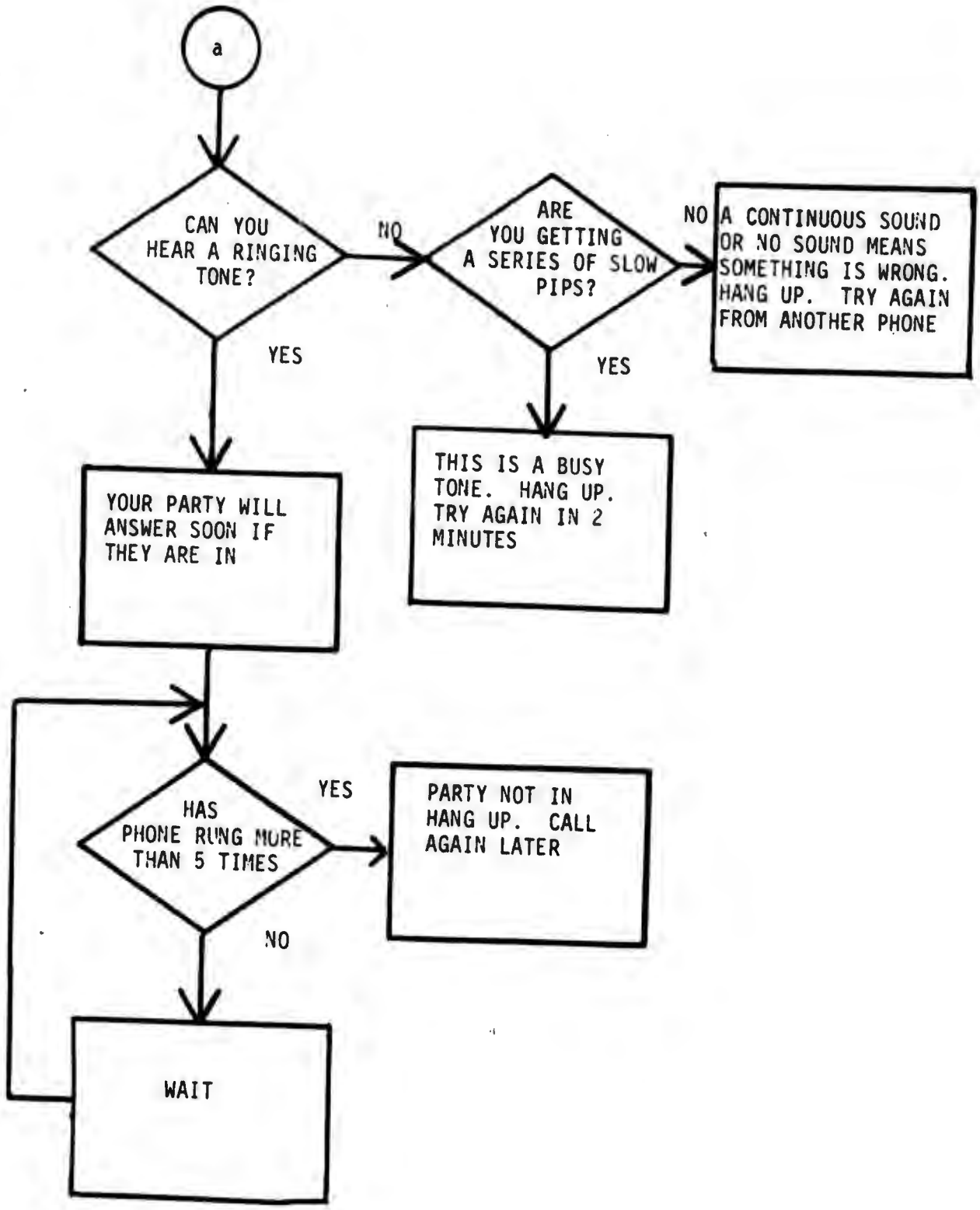
Figure 4

The rectangles provide information and are typically referred to as "information blocks."

The diamonds contain questions which require you to make some decision; hence they are referred to as "decision blocks."

Based on your response to a "decision block" (usually a yes or no answer), the flowchart will guide you through certain parts of a procedure. Often this results in entire (but unnecessary) parts of the procedure being bypassed. In short, a flowchart provides you with the fastest path through a procedure with many decision points. You only go through those steps necessary to arrive at the desired conclusion. The sample flowchart on the following pages will help you get started.


LIFT RECEIVER AND LISTEN
DO YOU HAVE A DIAL TONE?
NO
SOMETHING WRONG. HANG UP AND TRY AGAIN FROM A DIFFERENT PHONE
YES
DIAL 1ST DIGIT OF THE NUMBER YOU WANT
HAS DIAL TONE STOPPED?
NO
YES
DIAL REST OF NUMBER
a


a
CAN YOU HEAR A RINGING TONE?
NO
ARE YOU GETTING A SERIES OF SLOW PIPS?
NO
A CONTINUOUS SOUND OR NO SOUND MEANS SOMETHING IS WRONG. HANG UP. TRY AGAIN FROM ANOTHER PHONE
YES
YES
YOUR PARTY WILL ANSWER SOON IF THEY ARE IN
THIS IS A BUSY TONE. HANG UP. TRY AGAIN IN 2 MINUTES
HAS PHONE RUNG MORE THAN 5 TIMES
YES
PARTY NOT IN HANG UP. CALL AGAIN LATER
NO
WAIT

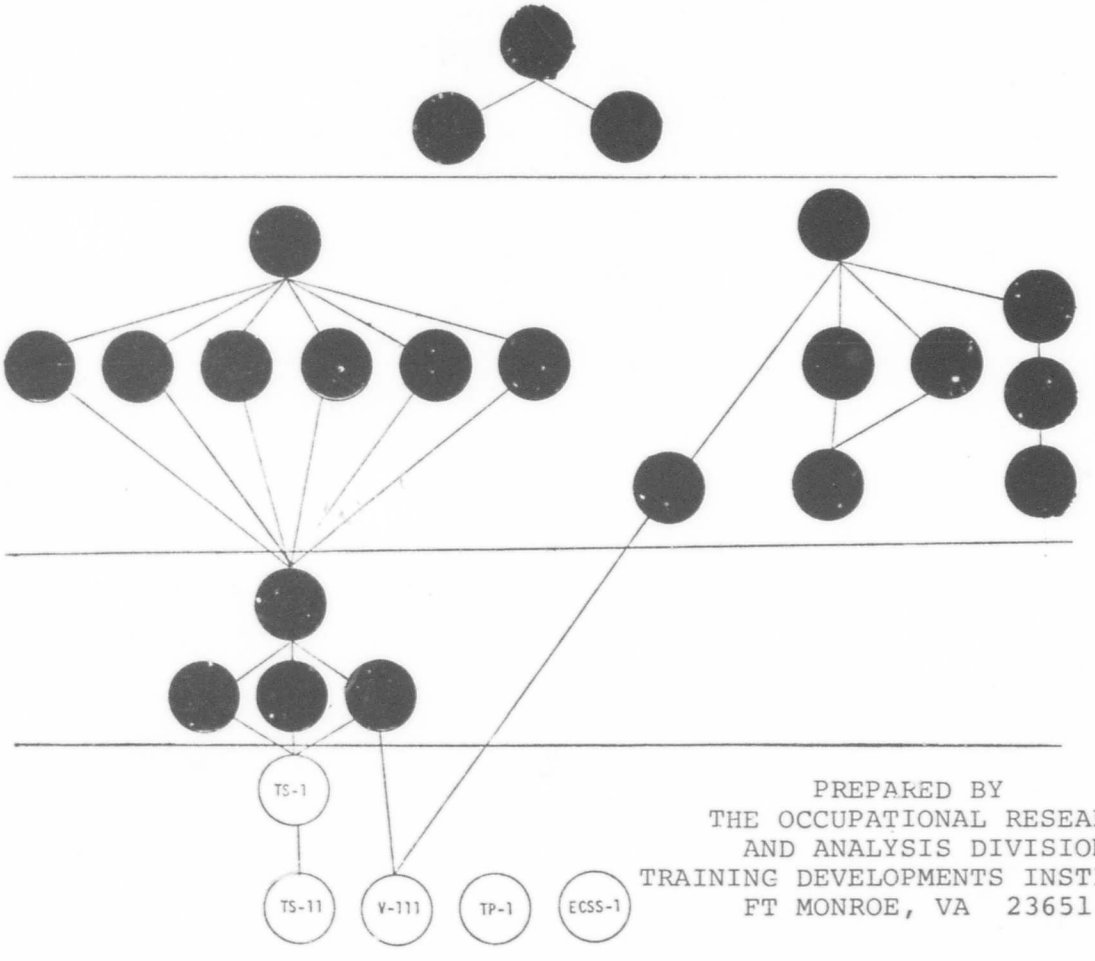
AN ADMINISTRATIVE NOTE

The Senior Course Manager will normally announce the hours that the course managers will be available. Breaks are also self-paced, students taking them at their own discretion.

TRAINING DEVELOPMENTS INSTITUTE
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION

INTRODUCTORY MODULES

VOLUME 3



PREPARED BY
THE OCCUPATIONAL RESEARCH
AND ANALYSIS DIVISION
TRAINING DEVELOPMENTS INSTITUTE
FT MONROE, VA 23651

INTRODUCTORY MODULES

MODULE	TITLE
TS-11	Identify Task Statements
TS-1	Write Task Statements
V-111	Basic Interviewing
TP-1	Prepare a Target Population Description
ECSS-1	Edit Condition and Standard Statements

OVERVIEW FOR INTRODUCTORY MODULES

The set of five modules which you are about to start provides you with instructions on developing the baseline skills you will need to work as a job/task analyst. The world of the analyst revolves around these basic skills. Given below are the titles of the modules and a brief synopsis of each.

1. TS-11 - Identify Task Statements: The Army's current training philosophy is centered around descriptions of work activities called TASKS. Tasks have several properties or criteria. This module tells you what those properties are and then teaches you how to recognize a TASK statement when you see one.

2. TS-1 - Write Task Statements: After you've learned to recognize a task statement when you see it, you will then learn how to write task statements when given the appropriate information. Be sure you complete the TS-11 module before attempting TS-1.

3. V-111 - Basic Interviewing: Interviewing is a combination of art, skill, training, education, practice and experience. This implies that interviewers are developed, not born. While this module will not make you an accomplished interviewer, it provides you with the basic foundational skills. This combined with self-discipline, continued self-education, practice and experience enables most

analysts to acquire polished interviewing skills. The most important aspects of interviewing, i.e., planning, contact, content and control, are addressed in this module. Together, they are the best techniques to study within the time available for this course.

4. TP-1 - Prepare a Target Population Description: An important key to the process of system designed training is understanding exactly who you are going to train. The greatest looking training package in the world is of absolutely no value if it is not designed to fit the needs of the learner. This module discusses the basic characteristics of a target population. It also tells you where you can locate the necessary data. By reducing target population descriptions to absolute FACT, we can eliminate training development for soldiers that is not at the appropriate level.

5. ECSS-1 - Edit Condition and Standards Statements: Not only must the analyst decide what a task is, he must identify the conditions in which it is performed (when the environmental conditions change, does the performance of the task change?) and designate how well (how quickly, how accurately, etc) the task must be performed. Be cautioned that the analyst does not "make-up" this data, but finds out from existing doctrine and field surveys exactly what they are.

SIGN-OFF

COURSE MANAGER

ECSS-1

EDIT CONDITION AND STANDARD STATEMENTS

OBJECTIVE:

Given a list of task statements with conditions and standards, and the appropriate job aids, edit each statement. You will be required to write comments explaining why some statements are inadequate.

CRITERION TEST:

Edit the following condition and standard statements. Write comments to explain any statement that is inadequate.

TASK: Zero an M16 rifle.

CONDITION: Given an M16A1 rifle, 20 rounds of 5.56 ammunition, magazine, sandbag support and a firing data card.

STANDARD: Shots must fall within a three-centimeter diameter circle.

RESOURCE:

TRADOC Pamphlet 350-30 Phase I — Read pages 24-25 and 28-33.

CAUTION:

When working on condition and standard statements, the work must be exact. Each statement must record exactly the job conditions and job standards. Due to operational necessities, you may not be an experienced job holder or subject matter expert for every job you analyze. Under no circumstances should you attempt to "wing it." If you are not sure of the exact job conditions or job standards, you must do research to find the necessary information.

INTRODUCTION:

Conditions, as used in this module, refer to those on-the-job conditions that significantly influence the performance of a task. Job conditions help provide the basis for determining realistic training for tasks. For example, accurate job conditions help determine test items and necessary training conditions.

A number of factors influence job conditions:

Tools
Equipment
Facilities
Environment
Personnel requirements
References available
Job aids

EXAMPLE: A task might require a soldier to orient a map. A condition of this task might be that it be accomplished <u>without</u> the use of a compass (item of equipment). If this were true then it would be wrong to include a compass in the condition statement for the task.

An analyst must write condition statements which are accurate descriptions of real world job conditions. This is critical if soldiers are to receive training which will prepare them for their jobs. Look at the example again. What if a compass were included as a part of the condition and as a result, soldiers were trained to perform the task using a compass when they would not be given a compass on the job? This could result in serious problems when it was time for soldiers to orient maps without a compass!

EVALUATING TASK CONDITION STATEMENTS:

When evaluating task condition statements, ask yourself the following questions:

1. Are all tools and equipment necessary to perform the task listed? You need to identify these items by their nomenclature (for example, RT524 Radio instead of just radio).

2. Are all references available to the soldier when performing the task, listed? Include references only when actually used on-the-job. Again, you need to be specific when identifying these items for example TM-19440-585-10 instead of just TM. Remember, we are talking about actual job conditions, not test conditions.

3. Are all job aids (checklists, instruction sheets, etc) listed? The task may require the use of an aid (for example, a preflight checklist).

4. Have all environmental conditions that influence task performance been identified? The task may be required to be performed under topic conditions.

5. Has the location where the task is performed been identified? For example, inside a sheltered van rather than outdoors.

6. Has the amount of supervision available to the job incumbent been identified? The individual may perform the task as part of a crew or squad.

7. Have all special physical demands required for task performance been identified? Crowded or cramped conditions, or prolonged physical labor are two examples.

8. Has any additional personnel, required to assist in performance of the task, been identified? Some tasks may require an assistant.

PRACTICE EXERCISE:

Examine this condition statement and determine if it is an adequate statement. Here is the statement:

TASK: Transmit a radio message.

CONDITION: Given an operational radio and a written message.

Here is what to do for edition task condition statements:

1. Using the job aid in Figure 1, edit the given condition statement.
2. If you determine the statement is inadequate, state the reason for your decision.
3. Rewrite the condition statement if required.
4. Compare your work to the Feedback on page 8.

FIGURE 1. JOB AID - EDIT CONDITION STATEMENT

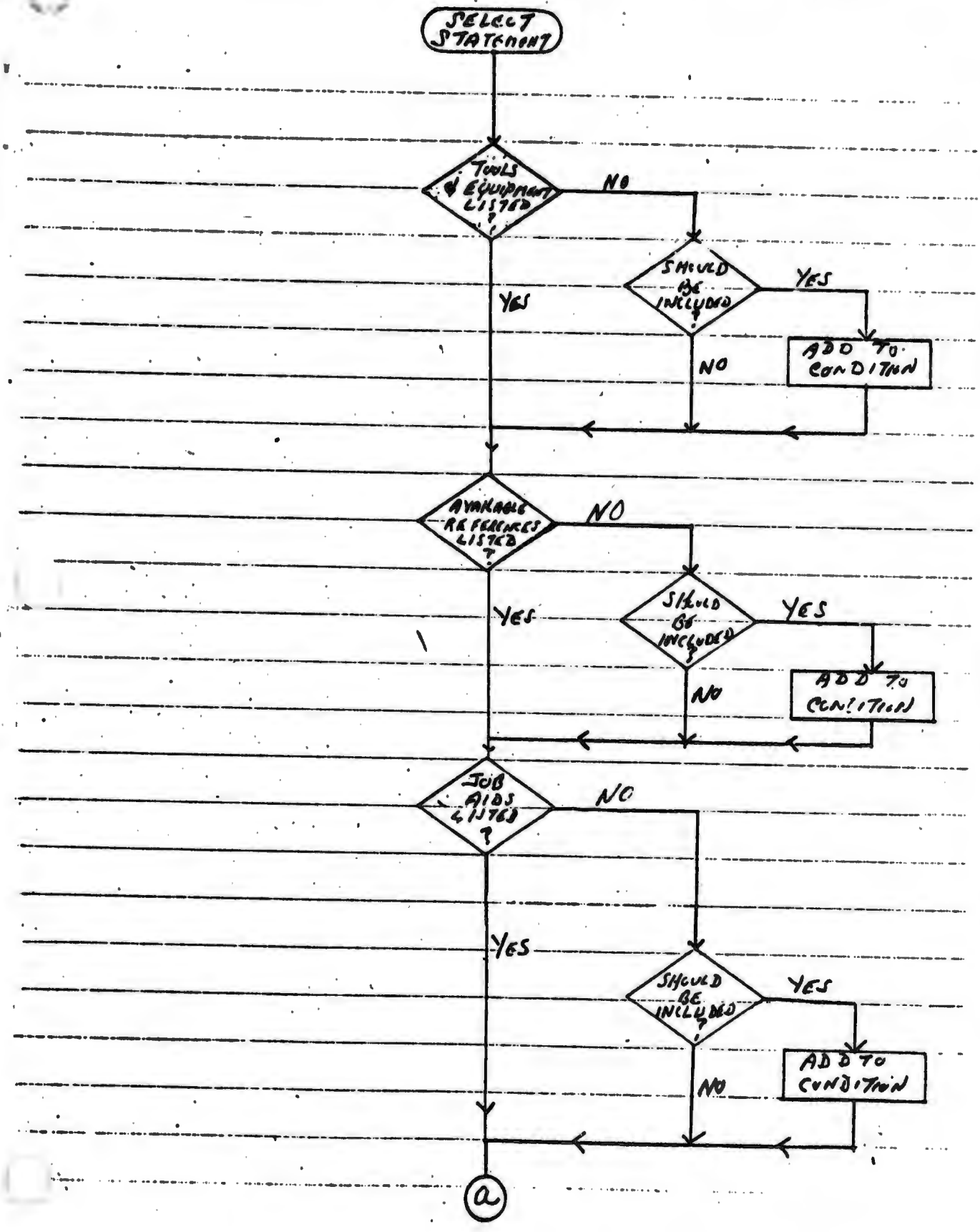


FIGURE 1. (CONTINUED)

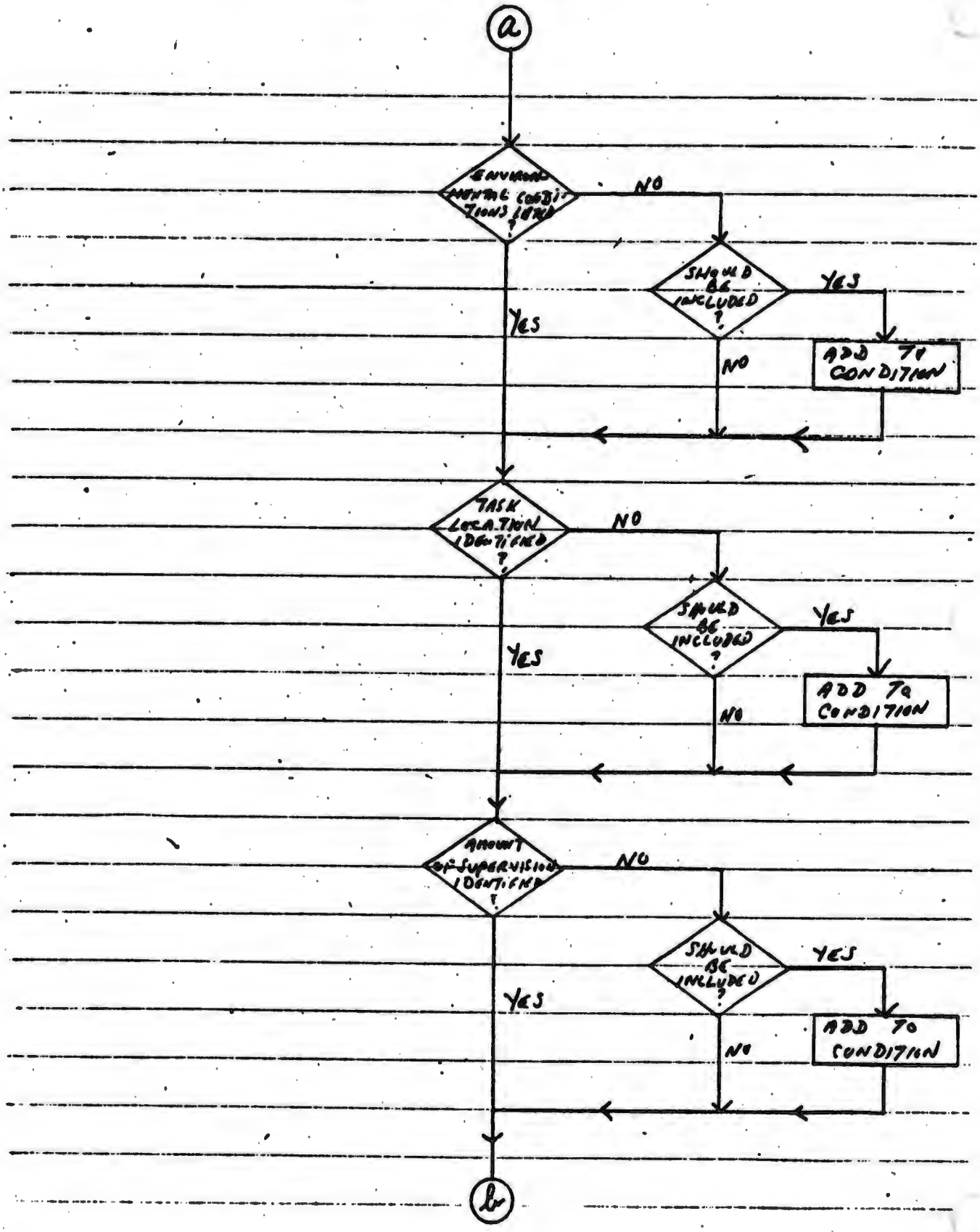
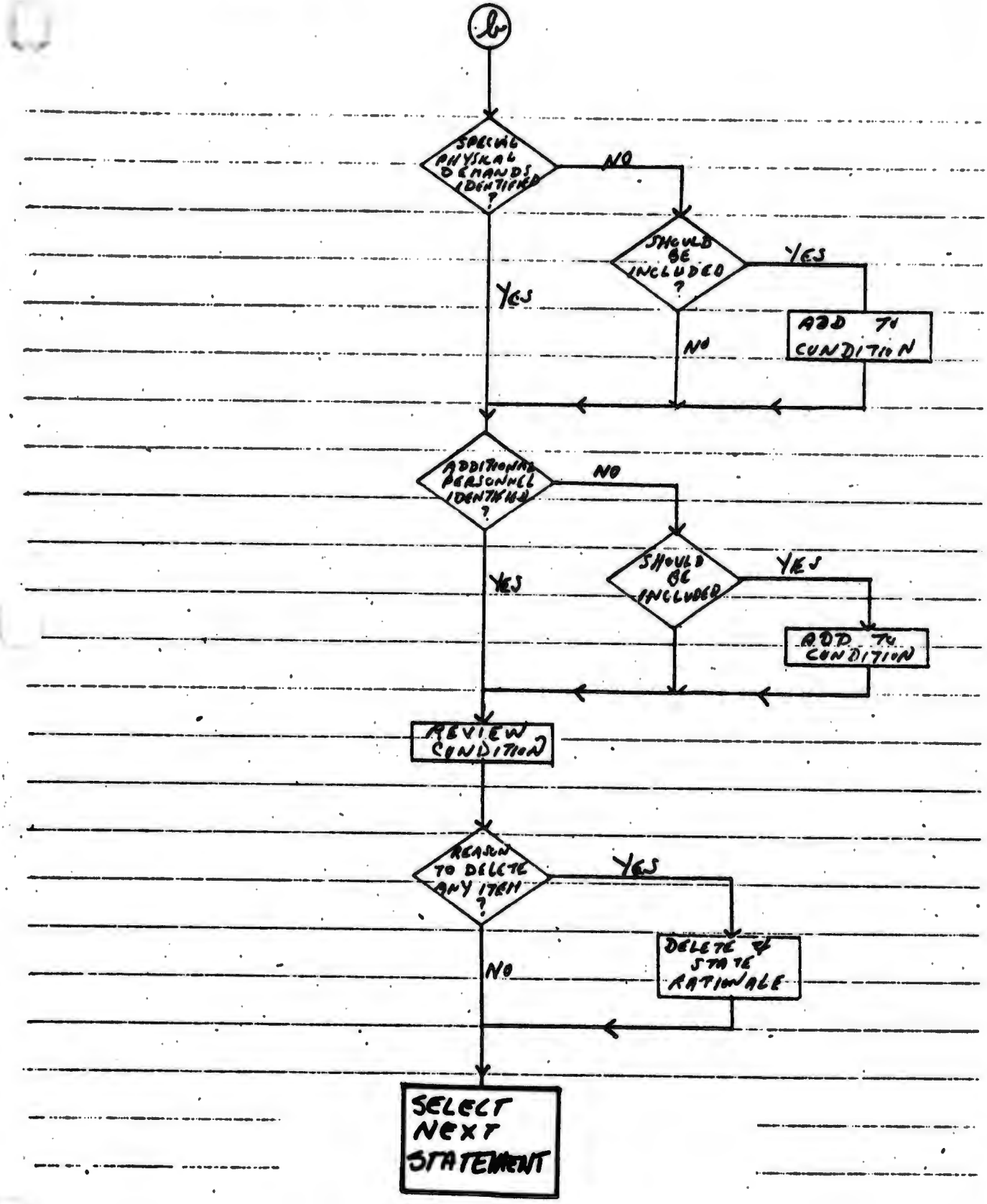


FIGURE 1, (CONTINUED)



FEEDBACK:

On the surface this appears to be a good condition statement. We are going to give the soldier a radio and a written message, and he is going to transmit it. However, when we use our job aid we discover some serious flaws in the statement.

What type of radio are we going to give him? He may have been trained on one type of radio. We should identify that radio in the statement.

What about frequencies and call signs? Should we give him a Command Electronics Operating Instruction or at least tell him what frequency and call sign to use?

Who is he going to talk to? To transmit a message, he must establish communication with another station. It takes two to accomplish the mission.

A more appropriate condition statement might be: CONDITION: Given an operational RT 524 radio, a transmitting frequency, appropriate call sign, a receiving station, and a written message.

NOTE: Know as much as possible about the task before writing conditions. It is not enough to simply know the action of the task.

EDIT TASK STANDARD STATEMENTS:

Introduction

The standard for a task is a statement of how well the task must be performed. This method evaluates the ability of a soldier to perform a given task. Standards also help the soldier and his/her supervisor to know when an acceptable end product is produced and when the correct procedure is followed.

Comment

An analyst must write standard statements which are accurate in terms of the job being analyzed. Then, knowing what the real job standard looks like, the analyst can apply the skills to either writing original standards or to rewriting bad standards. In either instance, task standards will be concerned with the procedure to be followed or the end product to be produced. Occasionally, a task standard will include both procedure and end product.

Examples

1. One of the tasks performed by a 13B is "Engage a stationary target with an M72A2 LAW". The standard for this task is to hit the target with one out of three rounds. Here, the end product (hitting the target) is the measure of adequate performance. Note that the product is tied to a rate. The target must be hit at least once in no more than three rounds.

2. For the task, "Prepare an M72A2 LAW for firing" the standard is a procedure. This procedure consists of four parts: (a) Conduct a prefire safety inspection, (b) ensure that the back-blast area is

clear, (c) Extend the launcher, (d) Place the launcher on your shoulder and aim it.

3. If a task requires that a motor vehicle be driven from point A to point B, the existence of the vehicle at point B could provide a product standard. However, since the driver might have caused several accidents in the procedure, the product standard alone would not be sufficient. A correctly written standard for this task would be, "Follow a preselected route. Obey all traffic signs, rules, and regulations. Without damage to the vehicle or personal property or injury to personnel."

EVALUATING TASK STANDARDS:

When evaluating task standards, ask yourself the following questions:

1. Does the task standard state the sequence of steps to be followed? When the task procedure to be followed is critical, it must be included as part of the standard. An example would be the following:

TASK: Administer closed-chest heart massage.

STANDARD: Perform the following steps in sequence; place yourself at a casualty's side; place one hand over the other, palm down; center hands over the casualty's heart area; compress the heart once every second.

2. Does the task standard state the maximum number of errors permitted, a set of tolerances, or the degree of accuracy required? Tasks which produce end-products often must have the maximum number of errors

permitted, the tolerances, or the accuracy stated in the standard. An example would be:

TASK: Determine an azimuth.

STANDARD: Within ± 3 degrees of the actual azimuth.

3. Does the standard state a time limit? This standard should only be included if there is an actual job requirement for a time limit. An example of this type of standard would be as follows:

TASK: Put on a protective mask.

STANDARD: Within 9 seconds of the chemical alarm.

4. Does the standard state any safety precautions? This standard should be included only if there is a real-world risk of injury to personnel or damage to equipment. Here is one example of part of a standard:

TASK: Prepare cannon ammunition for helicopter resupply.

STANDARD: Do not exceed the lift capability of the transporting helicopter.

5. Does the standard state a production rate? This standard is included when a certain number of products must be accomplished in a given unit of time. An example of this type of standard would be as follows:

TASK: Perform dragline operations.

STANDARD: Not less than 10 cubic yards of earth must be excavated and dumped in 7 minutes in the specified stock pile area.

(Figure 2 is a Job Aid that helps you to edit task standards and write task standard statements.)

Figure 2. Job Aid - Edit Task Standards and write Task Standard Statements.

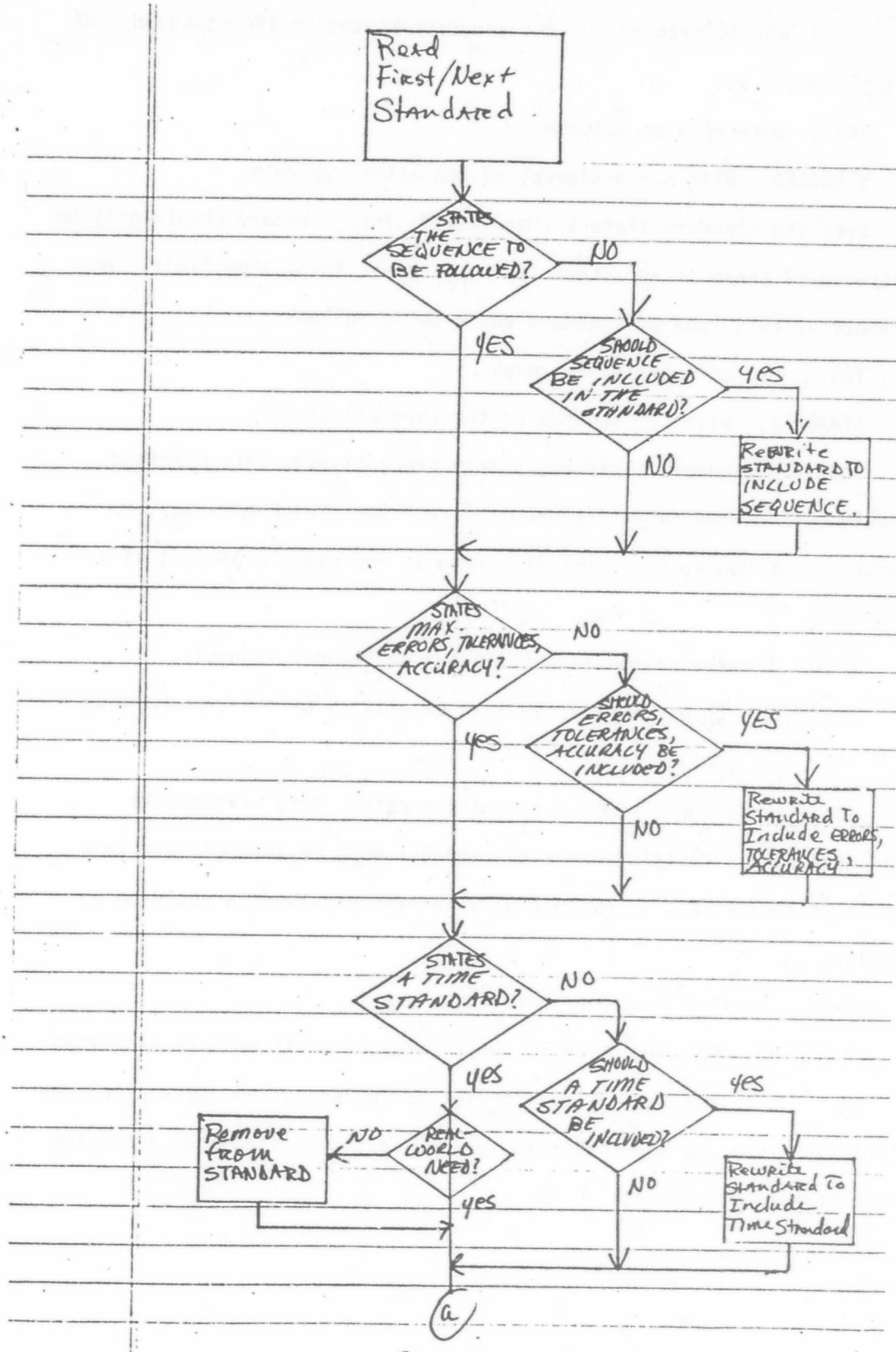


fig. 2

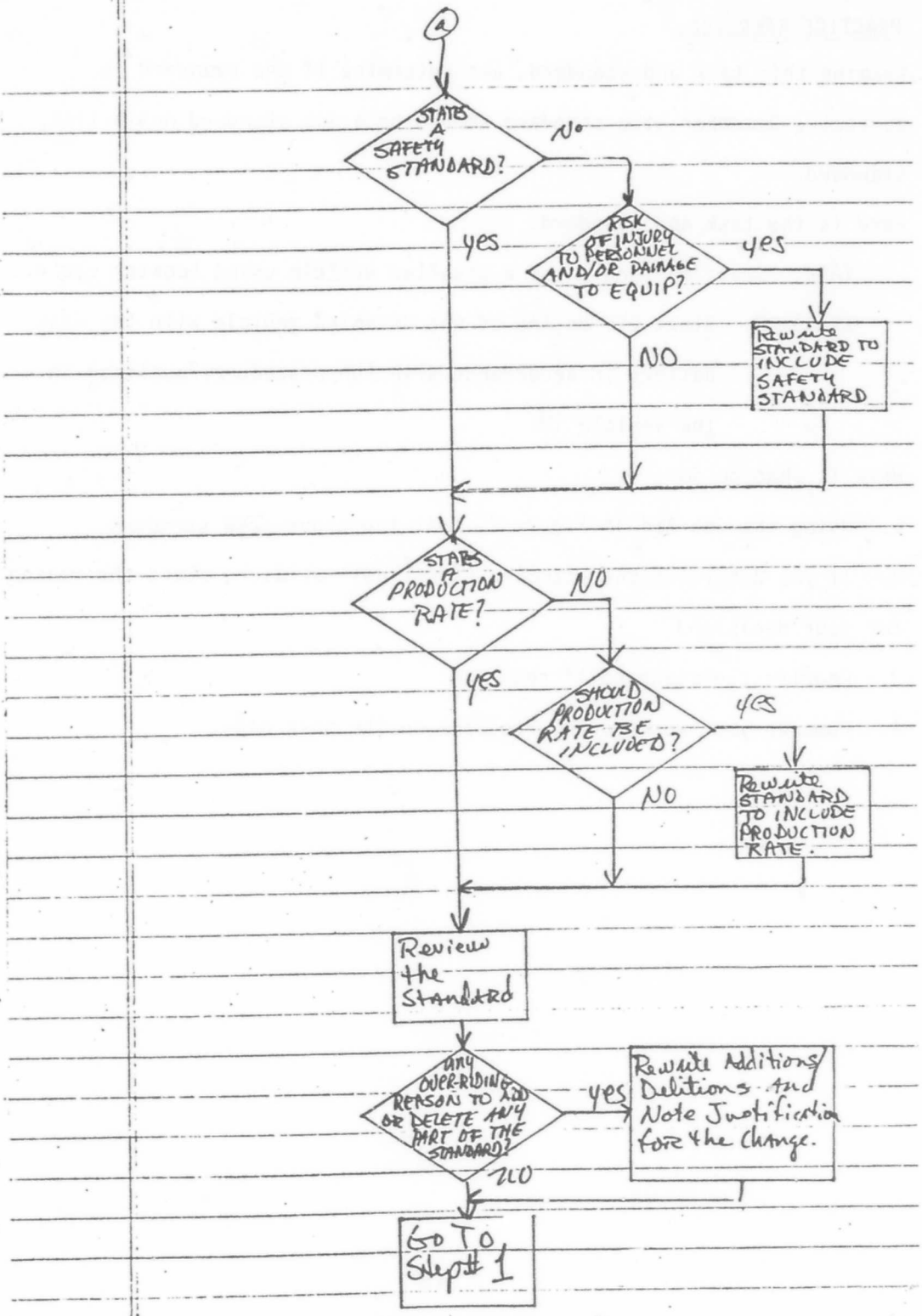

4
STATES A SAFETY STANDARD?
No
yes
RISK OF INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIP?
yes
NO
Rewrite STANDARD TO INCLUDE SAFETY STANDARD
STATES A PRODUCTION RATE?
NO
yes
SHOULD PRODUCTION RATE BE INCLUDED?
yes
NO
Rewrite STANDARD TO INCLUDE PRODUCTION RATE.
Review the Standard
ANY OVERRIDING REASON TO ADD OR DELETE ANY PART OF THE STANDARD?
yes
NO
Rewrite Additions/ Deletions and Note Justification for the Change.
GO TO Step # 1

fig. 2 (cont.)

PRACTICE EXERCISE:

Examine this task and standard, and determine if the standard is correct. Remember, the standard should be a job standard not a test standard.

Here is the task and standard:

TASK: Start the engine of a disabled vehicle using booster cables.

STANDARD: Start the engine of the disabled vehicle with the weak battery in accordance with the procedures outlined in the vehicle TM.

Here is what to do:

1. Using the Job Aid in Figure 2, edit the above task standard.
2. If you determine the standard is not well written, state the reason for your decision.
3. Rewrite the standard if required.
4. Compare your work to the Feedback on the next page.

FEEDBACK:

1. Although the standard refers to a procedure, it does not state the procedure or sequence of events to be followed. The procedure or sequence should be included since the hook-up of the booster cables is very critical. Following an incorrect procedure could cause the battery to explode.

2. There is no need for a statement of maximum errors, tolerances or accuracy.

3. There is no on-the-job requirement for a time standard.

4. A safety standard should be included because of the danger of explosion, fire, acid.

5. There is no need for a production rate standard.

The standard, rewritten should look something like this:

1. Ensure that both transmissions are in neutral.

2. Set handbrakes in both vehicles.

3. Attach booster cables positive-to-positive and negative-to-negative.

CAUTION: DO NOT cross the cables, for example positive-to-negative, because of danger of battery exploding; fire, or acid.

4. Start slave vehicle.

5. Attempt starting disabled vehicle.

6. Disconnect booster cables without crossing cables.

This example shows that the content of the task must be known to evaluate the corresponding standard. Occasionally, it may be necessary to consult with a subject-matter expert or experienced job holder to determine the correct standard for a task.

ADDITIONAL PRACTICE

Here are two more standards. Use the job aid to edit each statement. If you are competent or knowledgeable in one or more of the tasks, rewrite any missing or inaccurate portions of the standard. You may find that one or more of your colleagues are knowledgeable in one or more of the tasks. Consult with them for help in editing or rewriting any unfamiliar standards.

TASK: Set headspace on a .50 caliber HBM2 machine gun.

STANDARD: Adjust the headspace within three minutes.

REWRITE HERE:

TASK: Perform clamshell operations using a 25-ton crane with 3/4 cubic yard clamshell attachment.

STANDARDS: The dump truck must be loaded to its truck capacity (5 cubic yards) in no more than nine passes without damage to the equipment or injury to personnel.

REWRITE HERE:

CHECK WITH THE FEEDBACK ON THE NEXT PAGE

FEEDBACK - ADDITIONAL PRACTICE:

TASK: Set headspace on a .50 caliber HBM2 machine gun.

1. The sequence is not needed as a part of the standard.

2. The most appropriate standard would be a tolerance. For this task, it should be stated as follows:

   The headspace will be set such that the GO end of the GO/NO-GO guage will enter the T-slot to the center ring of the gauge and the NO-GO end of the gauge will not enter.

3. A time standard is inappropriate since there is not a real-world requirement.

4. There is a requirement for a safety standard. Weapon must be cleared before setting the headspace.

5. There is no requirement for a production rate.

FEEDBACK:

TASK: Perform clamshell operations using a 25-ton crane with 3/4 cubic yard clamshell attachment.

1. The procedure or sequence does not have to be stated as part of the standard.

2. The most appropriate standard is one of accuracy. The statement as it is written, reflects the most appropriate standard for this task.

3. A time standard is unneeded because there is no actual job requirement that the task be performed in a set period of time. Remember, a time may be set later because of testing constraints.

If you feel ready go on to the Criterion Test.

SIGN OFF

COURSE MANAGER

TP-1

PREPARE A TARGET POPULATION DESCRIPTION

OBJECTIVE:

Given the following list of requirements, gather sufficient data to prepare a target population description.

1. Position Requirements:

   Grade or skill level of the target population

      Existing

      Proposed

   Specialty of target population

      Existing

      Proposed

   Prerequisite training

      Required

      Existing

   Prerequisite skills and knowledges

      Reading grade level

      Applicable battery test scores

2. Soldier's Attributes:

   Civilian education level

      Existing

      Proposed

      Required

Percent with English as a second language

Age

Sex

Avocational interests

Competition orientation

Perception of Army training

Self-discipline

Emotional maturity

Reading grade level

3. Background Information:

Time in service

Time in grade

Time in position

Related experience

Additional skill identifiers

Current enlisted reenlistment rate

Current officer extension rate

Average turnaround time for overseas tours

CRITERION TEST:

Prepare a target population description for the project your course manager has given you. The description must include data on the following elements:

1. Position Requirements:

Grade or skill level of the target population

Existing

Proposed

Specialty of target population

Existing

Proposed

Prerequisite training

Required

Existing

Prerequisite skills and knowledges

Reading grade level

Applicable battery test scores

2. Soldier's Attributes:

Civilian education level

Existing

Proposed

Required

Percent with English as a second language

Age

Sex

Avocational interests

Competition orientation

Perception of Army training

Self-discipline

Emotional maturity

Reading grade level

3. Background Information:

Time in service

Time in grade

Time in position

Related experience

Additional skill identifiers

Current enlisted reenlistment rate

Current officer extension rate

Average turnaround time for overseas tours

RESOURCES:

CRI Workshop Module TP-11	Read All
TRADOC Regulation 351-4, Job & Task Analysis	Read paragraph 8b(ϵ)
TRADOC Pamphlet 351-4, Job & Task Analysis	Read Chapter 4-4c

ALTERNATE CRITERION TEST:

Alternate form - for use by individuals in a workshop program. Since a target population description cannot be compiled during a workshop, the alternate criterion test will be to prepare an outline of a target population description and to discuss the method and purpose of collecting that data with your course manager.

INTRODUCTION:

The target population description is one of the most important elements produced by the analyst. The target population description provides the course designer with an accurate assessment of the "average" person for whom he will be designing training. The requirements outlined in this module will tell you what is to be collected and where the information is available. In the past, many of the training programs developed by the Army did not work. Those designing and writing the training programs did their best, but something happened to defeat all the effort. That something was the assumption made about the soldier. Training was developed for a mythical "average" soldier and the characteristics of the actual population were largely ignored.

Today we realize that the emphasis of training must be on every soldier achieving a prescribed level of mastery. Therefore, training must be developed which suits the characteristics of the intended soldiers. These vital characteristics are listed in a Target Population Description (TPD). The TPD tells us what the soldiers are really like; not how we would like them to be.

Research has shown that these characteristics will gradually shift over a period of time. Hence, today's soldiers are somewhat different from last year's soldiers, and next year's soldiers will be slightly different from today's. The TPD must be updated periodically to reflect these gradual changes. It follows that training must keep pace not only with changes in technology, but also with changes in the soldier's characteristics.

The people designing training products must have a clear understanding of the type of soldier using the training products. Therefore, analysts must collect adequate target-population information. The target-population information helps designers to "get to know" the potential students by pointing out factors which increase the chance that students will learn and become skilled in the job. Without a target population description, designers can only "guess" about the characteristics of students. The result may be training products which are written at too high a reading level, include items the students see as unimportant, or fail to reinforce students for good performance.

Most analysts have attempted to compile a single target population description when in fact there is no such animal. Since each officer and enlisted specialty has different entry level prerequisites, the description of an artillery cannoneer trainee will be considerably different from that of a computer programmer trainee. Likewise, the description of their E7 level supervisors are as different from the trainee as they are from each other. Consequently, when an analyst attempts to prepare a target population description he must be extremely cautious. You must keep in mind <u>EXACTLY</u> the population you are trying to describe.

Four target population categories have been identified:

CATEGORY	DESCRIPTION
# 1	Target population in the field; no anticipated changes in the specialty; data items are required to ensure existing training products are compatible with existing target population.
# 2	New specialty being created, being built upon an existing specialty, data items are required to ensure training products currently in existence provide the prerequisite skills and

knowledges for newly created tasks or to create a training package to provide these skills and knowldges. Requirements for newly created job/tasks must not exceed existing target population capabilities on which the new specialty is built.

3 New system/equipment being acquired through the acquisition process; baseline entry level on which the new training package will be premised must be identified. If entry level established by producer exceeds capabilities of available personnel for assignment to a new system, MOS, etc, a requirement may be generated to alert the TRADOC systems manager, human factors personnel, etc, to this problem which may require developer/user interface.

4 New analysis effort to ascertain a detailed description of requirements that must be included in an education/training system, for example, officer job and task analysis.

In this module, we describe sources of target population data and the target population characteristics which should be considered. We show you how to establish a data base on current soldiers. This data base will influence the design of current training products and enable you to make adjustments in future projects.

As you build your target population description, keep in mind exactly which category you are trying to describe.

ELEMENTS OF THE TARGET POPULATION DESCRIPTION :

The following elements for a target population description are considered to be the most significant. The checklist given at the end of this module shows how each of these elements relates to the four categories of a target population.

1. Position requirements :

   Grade or skill level of the target population

   - Existing
   - Proposed

   Specialty of target population

   - Existing
   - Proposed

Prerequisite training

- Required
- Existing

Prerequisite skills and knowledges

- Reading grade level
- Applicable battery test scores

2. Soldier Attributes:

Civilian education level

- Existing
- Proposed
- Required

Percent with English as a second language

Age

Sex

Avocational interests

Competition orientation

Perception of Army training

Self-discipline

Emotional maturity

Reading grade level

3. Background Information:

Time in service

Time in grade

Time in position

Related experience

Additional Skill Identifiers

Current enlisted reenlistment rate

Current officer extension rate

Average turnaround time for overseas tours

The following is a description of the elements above, a suggestion as to where you can find the information, and how it should be configured when you give it to the designer.

1. Position requirements.

- Grade or skill level of the target population. In most cases, you will be analyzing a specific grade or skill level for an officer or enlisted specialty. All you need do is record the grade or skill level for the area to be analyzed. In addition, you may be required to consider the future needs of an existing specialty. In this case, indicate a proposed grade or skill level. You may also be required to indicate a grade or skill level for a target population in a proposed new specialty. The grade or skill level of the target population will be given to you.

- Specialty of target population. Indicate the specialty of the target population - whether it is an existing specialty or a proposed new specialty. The specialty of the target population will be given to you.

- Prerequisite training. If you are analyzing an officer or enlisted specialty which is well established you will list military training which is a requirement for the soldiers in your target population. This information can be collected from the proponent school or from surveys given to the soldiers. During your analysis you can also identify training which exists for your target population, but which is not a requirement.

- Prerequisite skills and knowledges. The prerequisite skills and knowledges required of your target population are important data items for course designer and developers. There are two major items to be addressed here:

Reading Grade Level. Initial entry trainees are now being administered a reading test to determine their reading grade level. The results of those tests are available through the post education office. For soldiers in the field, the test should be administered to anyone interviewed during the job analysis.

Applicable Battery Test Scores.

a. For existing MOS, AR 611-201 specifies battery test scores that each soldier should possess. A screening of both the trainees' and "field" soldiers' 201 files will give you this data.

b. For developmental systems, the service school will be required to designate which tests/aptitude area scores are to be used and what the minimum acceptable score will be.

2. Soldier attributes.

a. Civilian education level.

- For an existing specialty get the education level from field 201 files. Take a sample of the files and compute an average education level.

- For a proposed specialty you will have to indicate the recommended education level. One approach would be to determine an average education level for similar existing specialties, then assume the education level would be the same for the proposed specialty.

- Required education levels can be determined through research of 201 files and field surveys. You may find that the existing average education level is either too high or too low and that the actual requirement is much different. In your role as analyst you will have the opportunity to help determine the required education levels for specialties you analyze.

b. Percent of soldiers with English as a second language.

There is no data source available at the present time that contains this information. The following are two methods of collecting this data.

- If your school is the proponent for the MOS and the training is conducted there also, you can survey a limited number of classes and then project that figure to cover the entire MOS. This method has drawbacks because you cannot account for past enlistment/draft patterns that may have caused a significant difference between today's trainee and the soldiers in the field.

- Survey by mail. Send questionnaires to the commanders/ supervisors of these MOS holders and ask them to provide you with this data.

c. Age

First, decide exactly who you are trying to describe. Under normal circumstances you will probably be analyzing either a specific skill level within one MOS or grade level in an officer specialty.

Where do you get information on age? You can get information on age from any one of the following sources:

- 201 files (remember the privacy act).
- Request the information on any surveys that are done for the analysis.
- Ask the soldier (probably the poorest method since you do not have access to many of them).

d. Sex

Oh good! An easy one. Well not quite as easy as you might think. When describing the number of males vs females in a working (active/ current) MOS you simply list the percentage of each in the population. That particular bit of information is available through MILPERCEN. For new MOS, a definition of the physical characteristics necessary to perform the job must be determined. Once those characteristics are determined, it is then possible to determine if women can meet those standards.

If the new MOS is simply a re-configuration of other MOS then you can <u>probably</u> make an assumption that if the old MOS holders were 15 percent women then the new one should be about the same, unless as

pointed out above, the physical demands of the job are different. Statistics concerning the number of women in any MOS are available from a report produced by MILPERCEN. This report is the COPO 45. It is a monthly report that identifies personnel by pay grade, skill level, and MOS. The COPO 45 is classified CONFIDENTIAL and must be requested through your local Adjutant General Office. Part b, Section 4 of the COPO identifies female soldiers.

e. Avocational interests, competition orientation, perception of Army Training, self-discipline, emotional maturity.

These elements can be considered "soft" data that the designer might use as discriminators when determining the best media for teaching, best method for testing, etc. This data is obtained by asking the incumbents' supervisors these questions. You will have to interpret their responses and then collate that information into a narrative format. This list is incomplete and you may add additional items to fit your particular needs.

f. Reading grade level.

Under the heading of "Soldier's Attributes" you want to determine the reading grade level which exists among the soldiers. This reading grade level may be different from that required by the specialty you are analyzing.

3. Background information.

a. Time in service/grade.

This is an easy one to collect. As in other cases, it is purely a function of skill level. When the designer knows he is working on

materials for E6 in the Army with an average of 11 years with 4 years in grade, he may draw certain conclusions as to what they have already done, seen, etc. This data is available through MILPERCEN.

b. Time in position

You need to collect data about the average amount of time soldiers spend in the position you are analyzing. This information is important later in the training development process when deciding on a training site and training design.

c. Related experience.

This will not be difficult data to collect for the field soldiers. Simply go to the background information summary section of the CODAP report for this data. When describing the initial entry soldier, you will be required to look at two items. First, do a records screen to determine what percentage of personnel have any civilian related experience. Second, interview or have the target population compile a survey describing their job related experiences. Most service schools train their proponent MOS, so many personnel are usually present for training thus available for the analyst to gather information. Common sense is probably your best guide for determining what constitutes related experience.

d. Additional skill identifiers.

Indicate any additional skill identifiers which may be necessary to the position you are analyzing. This information is available through MILPERCEN.

e. Extension rate/reenlistment rate.

When the training site selections board is considering the best location for training a particular task, knowing the reenlistment rate for first and second term soldiers will have a large impact on their decision. This is particularly true for the highly technical skills that are traditionally the responsibility of the skill level 2 and 3 soldier. The same need applies to officer tasks. This data is available from MILPERCEN.

f. Overseas turnaround time.

This is another factor which will have a good deal of bearing on site selection. If the "average" soldier is going to spend a large part of his career at overseas assignment, unit training is where he probably should get much of his training. This information is available from MILPERCEN.

These elements are summarized and related to target population category on the checklist on the next page.

The material covered in this module is the basis for one of the most critical items or products of the Job Analysis Phase of system designed courses. The Target Population Description in this module is a combination of what many designers need to do their jobs. Unfortunately the "Goldie Locks" principle - "Not too much and not too little, but just the right amount" does not apply to Target Population Descriptions. Before you start, see if your design personnel need any information to meet a particular requirement. Remember, they are the ones that need it; you only collect the data.

TARGET POPULATION DATA ITEM CHECKLIST

TARGET POPULATION DATA ITEM	TARGET POPULATION CATEGORY #1	#2	#3	#4
1. Which target population does the analysis effort involve?	X	X	X	X
2. Position requirements				
Grade or skill level of target population				
• Existing	X	X		X
• Proposed		X	X	
Specialty of target population				
• Existing	X			X
• Proposed		X	X	
Prerequisite training				
• Required	X	X		X
• Existing	X		X	X
Prerequisite skills and knowledges				
• Reading grade level	X	X	X	X
• Applicable battery test scores (i.e. analytical abilities or mathematical abilities)*	X	X	X	X
3. Soldier attributes				
Civilian education level				
• Existing*	X			X
• Proposed		X		
• Required			X	
Percent with English as a second language***	X	X		X

TARGET POPULATION DATA ITEM	TARGET POPULATION CATEGORY			
	#1	#2	#3	#4
Age*	X	X		X
Sex*	X	X		X
Avocational interests*	X	X		X
Competition orientation +	X	X		X
Perception of Army training +	X	X		X
Self-discipline +	X	X		X
Emotional maturity +	X	X		X
Reading grade level**	X	X	X	X
4. Background information				
Time in service*	X	X	X	
Time in grade*	X	X	X	
Time in position*	X	X	X	
Related experience*	X	X	X	X
Additional skill identifiers#	X	X	X	
Current enlisted reenlistment rate#	X	X		
Current officer extension rate#	X	X		
Average turnaround time for overseas tours#	X			X

* = Data available from field 201 file (SIDPERS reports)
** = For initial entry trainees, available through the post education center
*** = Recommend questioning field unit commanders
\# = Available through MILPERCEN
\+ = Subjective evaluation (should be surveyed).

SIGN-OFF
Course Manager

V-111

BASIC INTERVIEWING

OBJECTIVE:

Given several interviewing situations, describe the techniques you would use in those situations. Explain why you would use each technique.

CRITERION:

Given narrative descriptions of several interviewing situations, describe in your own words the interviewing techniques you would use in each situation. Explain why you would use each technique. You must be prepared to discuss and define your choices.

SAMPLE CRITERION TEST:

You have been selected by the chief of your analysis activity to conduct information-gathering interviews for an analysis of a job in which you have experience and training. Outline how you would go about planning the interviews.

RESOURCES:

Section 2 - Interviews Extract Read All

INTRODUCTION:

Interviews are more than mere conversations. They are planned dialogues about specific subject areas. Unlike conversations, interviews are conducted and controlled by an interviewer. In addition, each interview is conducted for a specific purpose. For job and task analysts, the purpose of interviewing is to gather data about some part of a job.

The information-gathering interview requires the interviewer to be familiar with both the subject area and the individuals being interviewed. It demands self-control so that the interview does not stray from the desired subject area. It does little good to spend most of an interview session discussing favorite fishing holes, recent sports events, or "war stories." This is not to say that information-gathering interviews should be conducted without discussion of these "trivial" subjects. In fact, including a certain amount of "war stories", "fish stories", and "sports" can help to establish and maintain rapport. The analyst interviewing to collect data must use only the minimum of "trivia talk" to facilitate an effective interview.

What can an analyst expect to learn from an interview? To a large extent, this depends on the specific PURPOSE of the interview. Here is a brief look at some of the areas where job and task analysts can expect to collect data.

Job Analysis Interviews:

- Information about the duties soldiers perform.
- Descriptions of job related tasks and work activities.
- Descriptions of operator/maintenance activities performed on a new weapon or equipment system.
- To document information about performance deficiencies, the difference between what a soldier has been trained to do and the actual requirements of the job.
- Descriptions of job supervisors' impressions of the actual requirements of the job.
- Information that describes the target population.

Task Analysis Interviews:

- Description of the steps necessary to perform a task.
- Documentation of the mental steps and decisions necessary to perform a task.
- Information about the job conditions and standards for each critical task.
- Documentation of initiating, sustaining and terminating cues for each critical task.

ADVANTAGES OF INTERVIEWING:

Interviews provide opportunities to clarify and explain questions for the soldier being interviewed. This opportunity does not exist with surveys. The need to interpret and explain questions depends on the complexity of the questions and the job area. Soldiers have few problems with questions that ask for recall of personal history or recent events. However, questions that ask the soldier to recall difficult operator or maintenance procedures make discriminations, generalizations, or evaluate data may need interpretation or rephrasing for the soldier. Interviews are especially useful when the reading skill of interviewees is low. In addition, the more varied the target population, the greater the need to interpret and explain interview questions.

A second advantage of interviewing is that the answers to questions can be clarified. This is usually necessary when there are various ways to perform a particular work activity. The interviewer can encourage the interviewee to give additional information which clarifies a previous answer. This allows for greater flexibility in the types of questions asked and is a good technique for increasing the possible range of answers.

A third advantage is that the interviewer provides greater control over the information gathering situation. You are right there in control! When mailing out surveys and questionnaires, you lose some control because someone else is administering the survey for you.

A fourth advantage of interviews is that they provide an opportunity to determine if the data is valid and reliable.

- Valid data is information which is real in terms of the job being analyzed. During an interview you can tell if the soldier is giving realistic information. You cannot control this when a soldier is filling out a survey at some location miles from your control.

- Reliable data is information which will result over and over again from many different soldiers. In other words, if you interview many soldiers and they all say about the same thing you are getting reliable data. Because interviews allow you to clarify both questions and answers, you can constantly evaluate the reliability of the data you are collecting.

Limitations of the Interview:

There are some limitations to the interview which relate to the abilities of both the interviewer and the interviewee. The interviewer must be capable of planning, conducting and controlling the interview situation. Such skill comes through a good training program and experience. Interviewing may also be limited by the ability of the interviewee to communicate factual information. Untrained or unskilled workers usually cannot describe their job as well as skilled, experienced workers.

PRACTICE EXERCISE:

You may or may not have conducted interviews in your present job as an analyst. However, you may have to conduct information-gathering interviews in the future. List below some of the reasons you would choose to use interviewing over other data collection techniques, such as surveys or questionnaires. Try to relate these reasons to a "real world" problem in your current job as a Job or Task Analyst.

Use this space for your list.

Check the feedback on the next page.

FEEDBACK:

Here are some reasons for choosing to interview:

1. Interviews allow you to explain or restate any questions that may not be understood. Surveys or questionnaires do not provide this opportunity.

2. Interviews allow you to clarify any answers you do not understand. With surveys or questionnaires, you often have to guess at what an answer may mean.

3. Interviews provide control over the information gathering session. Because you can clear up questions and answers, you can collect data you understand. You cannot do this when you mail out a survey or questionnaire.

4. Interviews provide an opportunity for you to check if the data is valid and reliable.

How did you do? Do you see how these advantages relate to the officer or enlisted specialty you work with? If you have any questions, discuss them with your course manager before you continue through the module.

PLANNING THE INFORMATION-GATHERING INTERVIEW:

Planning for the interview begins when the specific purpose of the interview is determined. While all interviews conducted by analysts are for the purpose of collecting data, it is important to specify exactly what type of data is needed. For example, data may be needed on tasks that are not described in such resource documents as FM, TM, POI, ARTEP, and pamphlets.

Once the purpose is determined, the interview questions can be drafted. Different questions need to be asked, based on the information desired. The questions must clearly communicate the intended meaning by using correct job specific terminology at appropriate times. Here is an example of the questions asked during a target population interview.

Purpose of Interview: To collect relevant target population data which describes the characteristics of students entering the Field Wireman Course.

Draft Questions:

1. Describe any previous training/education you have received as a field wireman.
2. Describe any work related experiences you have as a field wireman.
3. Describe your favorite hobby.
4. Describe some of your leisure time activities.

In planning the interview, once the desired information and questions have been identified, identify the people who have this data. Job supervisors are one valuable source of information. If they are to be interviewed, the questions will have to be rewritten slightly. Job supervisors can usually give a summary description of various areas and detailed job data. Most supervisors will leave the detailed descriptions of work activities to their best workers. Workers provide factual information about their individual job but only limited data about a total system. It is seldom desirable or possible to interview all workers. Supervisors indicate their key personnel or workers with sufficient job experience. In addition, most analysts will want to specify the minimum qualifications of the interviewees. This includes such items as minimum time-in-grade, time-in-service, time-in-job, education level, grade/rank, specific MOS, skill level, etc.

After you have determined who has the information, these people must be located. A review of various TOE/TDA's will reveal where (geographically and organizationally) the job holders and supervisors are located. Interview as many soldiers as possible from different geographic locations and organizational levels. Determining resource (time, money, people) requirements for interviewing are functions of training management and beyond the scope of this module. Generally, when interviewing is a part of the Job/Task Analysis, this requirement and its supporting resources are identified early in the analysis and addressed in the Job and Task Analysis Plan. NOTE: The Job and Task Analysis Plan is addressed in considerable detail in another module.

Once the planning is completed, little remains except the actual interviews. Information-gathering interviews can be divided into three phases:

- Contacting and establishing rapport with the interviewee
- Conducting the interview
- Controlling the interview

CONTACTING AND ESTABLISHING RAPPORT WITH THE INTERVIEWEE:

Prior to meeting with your subject, ensure that the interview setting is comfortable and free from distractions such as outside noises, telephone calls, people walking through the area, inadequate lighting and extreme temperatures. Conducting interviews at the job site allows for observations but this should be done only when the job site contributes to the information being collected. The problem with most job sites is that distractions cannot be controlled. Touring the job site prior to interviewing would determine its usefulness as a setting.

Begin to establish rapport with the interviewee as soon as you make contact. Your greeting should be friendly and pleasant for your subject. Most people are somewhat tense initially, especially if they do not know why they are being interviewed. Do not assume that the subjects have been told by their supervisor why they were selected. The following pointers are useful in establishing rapport:

1. Indicate by some definite sign where the person is to sit.
2. Explain the purpose of the interview briefly, but fully. Allow the interviewee time to ask questions about the interview.
3. Talk to the interviewee at his or her level. Avoid using an impressive vocabulary.
4. Use appropriate technical jargon.
5. Sit facing the interviewee and maintain eye contact.
6. Be courteous.
7. Avoid doing other work while interviewing.
8. Be honest in your answers to an interviewee's questions.

Although these pointers will not ensure 100% success, they will contribute significantly to your efforts to establish rapport.

PRACTICE EXERCISE

Assume that you are going to interview one of your colleaques. What things would you consider about the setting prior to actually starting the interview? List them below.

Would your current setting (i.e., the place where you are now working on this module) be a good location for an interview? Why or why not? State your answer below.

List some of the techniques you would use to establish rapport with an interviewee. Discuss your techniques with a colleague.

Check the feedback on the next page.

FEEDBACK - INTERVIEW SETTING AND RAPPORT

1. Here are some things we would consider about an interview setting prior to the interview:

- The setting should be comfortable.
- The setting should be free from outside noises.
- The setting should be near the job site (if appropriate).

2. Only you can determine if your current work setting would be a good location for an interview. Generally, if it is free from noise and fairly comfortable you could use it for an interview setting.

3. Here are some techniques you could use to establish rapport:

- Indicate by some definite sign where the person is to sit.
- Explain the purpose of the interview briefly, but fully. Allow the interviewee time to ask questions about the interview.
- Talk to the interviewee at his or her level. Avoid using an impressive vocabulary.
- Use appropriate technical jargon.
- Sit facing the interviewee and maintain eye contact.
- Be courteous.
- Avoid doing other work while interviewing.
- Be honest in your answers to an interviewee's questions.

Any questions? If not, go on.

CONDUCTING THE INTERVIEW:

There is no clear and distinct separation between contacting the interviewee and conducting the interview. Ideally, rapport should be established at the beginning and maintained throughout the interview. A smooth transition should occur between the initial contact and the actual collection of data. The conduct of an interview includes its content. Content is concerned with the actual collection of data and addresses appropriate questioning and probing techniques. Use of these techniques is left to the judgement of the individual interviewer. Their use does not guarantee success, but merely increases the chances that the data collected will be useful.

Techniques for Conduct:

1. Ask only one question at a time.
2. Begin with an easy topic.
   - Avoid dealing initially with complex topics.
   - Gradually work from simple to complex topics.
3. Use appropriate reading skill level.
   - Avoid impressing the interviewee with your vocabulary.
   - Avoid talking down to the subject.
   - Avoid unfamiliar technical jargon.
4. Avoid leading questions.
   - Avoid questions that hint at an expected outcome.
   - Avoid questions that place the subject in a "no win" situation.

Example: "Are you still beating your wife?"

Leading questions usually begin with "Don't you agree that ....." or "Aren't you in favor of ....." Any question that begins with

a loaded phrase or otherwise cause the subject to give a particular answer is a leading question. Such questions almost force the person to agree with the interviewer. These questions seldom reveal useful information and usually destroy any existing rapport.

5. Use comparative questions.

   • Helps to focus subject's attention on relevant topics.

   • Useful for discovering things the subject finds difficult or distasteful.

Example: "Which do you perform better - A or B?"

"Which procedure is easier to perform - A or B?"

6. Use indirect open-ended questions.

   • Avoid questions that can be answered with only a "yes" or "no".

   • Subtle questions are preferred over sharp, direct questions.

   • Open-ended questions leave the subject with a free choice of answers.

Example: "Tell me about ..... ."

"What would you do if ..... ?"

Avoid hypothetical questions like, "If you were the Commanding General of a division, what would you do to improve or change this?"

7. Explore the subject's reason for an answer.

   • Probe to bring out evidence and reasons.

   • Avoid taking answers at face value.

8. Avoid reading facts or questions from a form.

9. Ask encouraging questions.

   • Helps direct subject's thoughts toward a specific area.

   • Indicates to the subject that more information is needed.

Examples: "Tell me more about ..... ."

"I'd like to hear more about that."

10. Use pause and silence.

- Avoid talking every time the subject stops talking.
- Give the subject time to respond to a question before speaking.

11. Use active listening skills.

- Listening is more than just not talking.
- Listening requires a conscious effort.
- Never be afraid of silence.
- Use restatement frequently.
- Summarize periodically.

Restatement technique of rewording or rephrasing what the interviewee has just said.

Examples: "What I'm hearing you say is ..... ."

"You feel that you must ..... ."

"You are pretty sure that ..... ."

PRACTICAL EXERCISE - INTERVIEW CONTENT

You have established good rapport with your subject. However, as you start to discuss an area you need data on, your subject begins to evade questions. He appears somewhat irritated at the questions. This is an important topic and you need the data. Describe the questioning techniques you would use to collect this data. Use the space below to explain why you would use these techniques.

Check feedback on the next page.

FEEDBACK - INTERVIEW CONTENT

Here are some questioning techniques you could use to collect data from a subject who is evading questions:

- Use comparative questions - Ask "Which procedure do you perform - A or B?"
- Use indirect open-ended questions. Say "Tell me about the tasks you perform in duty position A."
- Ask encouraging questions. Say "I'd like to hear more about the tasks you perform when you operate vehicle Y."

Review the list to identify other techniques you could use. If there are any questions, ask your course manager.

MAINTAIN CONTROL OF THE INTERVIEW:

Most interviews will be useless if you cannot direct the flow. You should strive to use only the minimum amount of control necessary to keep the interview flowing smoothly and on the appropriate topics. Avoid excessive controls as this tends to place stress on the interviewee. The following points should be followed and will help you conduct successful interviews:

1. Avoid interrupting the subject.
   - Hurts rapport.
   - Cuts off a chain of thoughts.
   - May antagonize the subject.

2. Use pause or silence.

- This helps to avoid a steady stream of conversation.
- Gives both interviewer and interviewee time to think.

3. Handle delicate issues carefully and as opportunity occurs.

- Avoid open discussion of personal affairs that may cause distress, embarrassment or emotional reactions.
- Express empathy rather than sympathy.

4. Be flexible.

- Adapt to situations quickly.
- Avoid adhering rigidly to a predetermined format or plan.

5. Avoid bias.

6. Avoid reproof or ridicule of the subject.

- Destroys rapport.
- Does not contribute to the collection of data.

7. Work from general topics to specific topics.

8. Coping with silent and open hostility.

- Recognize when the subject is alienated.
- Encourage the subject to open up and express his or her point of view.
- Try to summarize the points of disagreement.
- Listen to opposing ideas with respect.
- Allow the subject to ventilate his or her feelings.
- Avoid taking sides in a disagreement.

PRACTICAL EXERCISE - CONTROL OF THE INTERVIEW

You have been assigned by the chief of your analysis activity to interview several Subject Matter Experts. Earlier you overheard them discussing their feelings about having to come to your area to be interviewed. Several appeared very annoyed at being away from their own shop. One NCO said he had planned to take off that afternoon. He said this interview stuff is a lot of bull and he will not cooperate. How would you handle this man's potential hostility during the interview? State your answer below.

Check the FEEDBACK on the next page.

FEEDBACK - CONTROL OF THE INTERVIEW

Here are some ways you might control someone's hostility during an interview:

- Let the subject talk and "blow off steam."
  - Do not interrupt.
  - Do not ricicule.
  - Use silence.
- Listen to the soldier's ideas.
- Do not take sides, but do try to focus the interview on the subject at hand.

Clear up any questions that you may have with your course manager. Ask for the criterion test.

SIGN-OFF

COURSE MANAGER

TS-11

IDENTIFY TASK STATEMENTS

OBJECTIVE:

Given a list of items describing work activities, identify any task statements and explain in writing your reasons for rejecting the other statements.

CRITERION TEST:

Read through the list below. Identify the items which are tasks. Explain in a sentence or two what is wrong with the items you rejected. You are allowed one error.

_____1. Be familiar with tank systems.

_____2. Engage a moving target.

_____3. Install a claymore mine.

_____4. Know mail sorting procedures, etc.

RESOURCES:

TRADOC Pamphlet 350-30, Phase I Analysis	Read pages 12-24

Additional Resources:

TRADOC Pamphlet 351-4	
TRADOC Circular 351-28	Read pages 12-15, paragraph 3

A task is a series of actions leading to a meaningful outcome. For example, we can say that baking a cake is a task. It takes a series of actions to bake a cake: measure butter, stir ingredients, grease pans, etc. Baking a cake results in a meaningful outcome - a cake! So we can call baking a cake a task because it fits our simple definition above.

For job/task analysts a task is a unit of work performed by a job incumbent. In the eyes of a job/task analyst a task can be defined as follows:

TASK

The lowest level of behavior in a job that describes the performance of a meaningful function.

Army cooks bake cakes. Is this action a task in the eyes of a job/task analyst? We can say yes. Here's why - baking a cake is the lowest level of behavior for a cook that describes the performance of a meaningful function. If we look at such actions as measure butter, stir ingredients, and grease pans by themselves we see they don't describe meaningful functions! Usually, a cook will not measure butter simply for the sake of measuring butter. However, a cook will measure butter as a step in baking a cake.

EXAMPLES OF TASKS

Task	Outcome
Rotate Tires	Properly placed tires
Bake cake	Cake
Install field telephone	Properly installed telephone
Sort mail	Mail sorted to correct address
Adjust carburetor	Properly adjusted carburetor (good mix of air and fuel)

EXAMPLES OF TASKS

Task	Outcome
Package classified materials for shipment	Classified material properly packaged
Prepare keypunch work sheets	Work sheets prepared
Align headlights	Headlights aligned
Flush transmissions or torque convertors	Transmission or torque converter flushed
Adjust float control valves on refueling equipment	Float control valves adjusted
Adjust ignition point gap	Points adjusted

In order for something to be a task (or expressed as a task statement), it should have certain characteristics. (Hint! Keep in mind the definition above as you read through the characteristics.)

1. Tasks are observable and measurable (either the performance can be observed or the results of the performance can be seen and measured). A task statement has an observable action verb.

EXAMPLES:

-Rotate tires (can be observed during performance).

-Repair carburetor (repaired carburetor can be measured to determine proper repair).

PRACTICE EXERCISE

Indicate which of the following are tasks which are observable and measurable.

____ a. Construct an emergency firing chart.

____ b. Determine firing data for a chemical shell.

____ c. Troubleshoot suspension system.

____ d. Apply first aid measures to a chemical casualty.

____ e. Understand battle tactics.

____ f. Perform inventory control duties.

____ g. Process issue and turn-in requests.

FEEDBACK

TASK a. Construct an emergency firing chart. This activity is observable and measurable.

TASK b. Determine firing data for a chemical shell. The product (firing data) for this task is observable.

TASK c. Troubleshoot suspension system. This task can be observed during its performance. The results can be measured.

TASK d. Apply first aid measures to a chemical casualty. This task can be both observed and measured during the performance.

____ e. Understand battle tactics. It is impossible to observe or measure someone in the act of "understanding."

____ f. Perform inventory control duties. This is probably a duty area (the word "duties" is a big hint). It is difficult to observe and measure the performance of an entire duty - although we can observe and measure the tasks which make up a duty!

TASK g. Process issue and turn-in requests. This is a task. It meets all the requirements we know of so far - its performance is observable and measurable.

2. A task is a highly specific action. The task statement has an action verb that can be observed, plus an object. Sometimes, it is necessary to use an adjective or qualifier.

Now you know that:

a. Tasks are observable and measurable.

b. Tasks are highly specific actions.

EXAMPLE: Type a military letter (the statement "type a military letter" is more specific than the statement "type a letter").

PRACTICE EXERCISE:

Identify the tasks in the following list:

_____ a. Determine firing data for a high explosive shell.

_____ b. Know foreign policy.

_____ c. Turn off buzzer.

_____ d. Calculate loads.

_____ e. Measure ground distances on a map.

_____ f. Adjust gauges.

_____ g. Replace torsion bar on an M109A1 Howitzer.

FEEDBACK:

TASK a. Determine firing data for a high explosive shell. This is a task - It is specific and written in the verb/object format. The qualifier "high explosive shell" makes the statement more specific than simply saying "determine firing data."

_____ b. Know foreign policy. This is not a task. The verb "know" can mean many things to people. It is not specific enough to be used in a task statement.

_____ c. Turn off buzzer. This is not a task. It may be a step in performing some task.

_____d. Calculate loads. This is not a task. This statement is not specific enough to qualify as a task. The statement could be improved by qualifying what type of loads are calculated; calculate loads for type "A" boxcar.

TASK e. Measure ground distances on a map. This is a task. Note how "ground distances" is better than just "distances" and "on a map" makes the task statement more specific.

_____f. Adjust gauges. This is not a task. The statement does not specify the type of gauge to be adjusted.

TASK g. Replace torsion bar on an M109A1 Howtizer. We would call this a task. It is specific, observable, and measurable.

3. A task has a definite beginning and end. Tasks are actions which are time rateable.

Remember that:

a. Tasks are observable and measurable.

b. Tasks are highly specific actions.

c. Tasks have a definite beginning and end.

EXAMPLE: Rebuild type "A" carburetor (one can tell when someone begins to rebuild and when the rebuilding is complete).

PRACTICE EXERCISE:

Identify the items which are tasks meeting the "definite beginning and end" characteristics in the following list:

_____ a. Service a FADAC generator.

_____ b. Dismantle antenna RC-292.

_____ c. Have knowledge of repair procedures.

_____ d. Operate field telephone TA-312/PT

_____ e. Assure unit morale.

_____ f. Understand nuclear weapons.

_____ g. Adjust steering linkage on a 1¼ ton truck M561.

FEEDBACK:

TASK a. Service a FADAC generator. This is a task - it's a specific action with a beginning and end.

TASK b. Dismantle antenna RC-292. This is a task.

___ c. Have knowledge of repair procedures. There is no definite beginning and end to someone's "knowledge" of something.

TASK d. Operate field telephone TA-312/PT. This is a task. It has a definite beginning and end.

_____ e. Assure unit morale. "Assure" is such a broad term that we cannot say it has a definite beginning and end.

_____ f. Understand nuclear weapons. It is impossible to tell when someone's "understanding" begins and ends.

TASK g. Adjust steering linkage on a 1¼ ton truck M561. This is a task. It is specific, and has an early identified beginning and end.

4. A task is performed over a short period of time (usually seconds, minutes, or hours). If some action that you feel is a task takes a day or more to complete, chances are you are looking at a duty area rather than a task.

Remember these points:

a. Tasks are observable and measurable.

b. Tasks are highly specific actions.

c. Tasks have a definite beginning and end.

d. Tasks are performed over a short period of time.

EXAMPLES:

-Bake a cake

-Rotate tires

-Type a military letter

PRACTICE EXERCISE:

Which of the following tasks meet the "short periods of time" characteristic?

_____ a. Conduct traffic investigations.

_____ b. Change secondary fuel filter.

_____ c. Perform maintenance of wheeled vehicle engines.

_____ d. Inspect T-10 parachute.

_____ e. Repair tracked vehicles.

_____ f. Don an M17 series protective mask.

_____ g. Perform military duties.

FEEDBACK:

_____ a. Conduct traffic investigations. This is probably a duty area - investigations usually take more time than seconds, minutes, or hours.

TASK b. Change secondary fuel filter. This is an activity which can be performed over a short period of time.

____ c. Perform maintenance of wheeled vehicle engines. This is too broad an activity to be a task-it is a duty area. Such tasks as "clean spark plugs" and "perform a compression test" fit under this title and meet the time criteria too!

TASK d. Inspect T-10 parachute. This is a task. It's a specific action, has a beginning and end, and can be performed over a short period of time.

____ e. Repair tracked vehicles. This is probably a duty.

TASK f. Don an M17 series protective mask. This is a task.

____ g. Perform military duties. This is a vague statement. At best, it is a duty area.

---

5. A task is independent of other actions (a task is done for its own sake on the job being analyzed). This means a task for one person on one job may be a job or perhaps an element of a task for another person on another job. Generally speaking, a task will be independent of other actions within the limits of the job being analyzed.

Keep these points in mind:

a. Tasks are observable and measurable.

b. Tasks are highly specific actions.

c. Tasks have a definite beginning and end.

d. Tasks are performed over a short period of time.

e. Tasks are independent of other actions.

EXAMPLE:

-Rotate tires. This action is done for its own sake, perhaps as a maintenance procedure.

NON-EXAMPLE:

- Remove tires. "Remove tires" is a specific action (verb/object), with a beginning and end, it is observable and measurable, and is performed over a short period of time. However, it is not independent. Usually, a tire is removed as a step or element of some other action (change a flat tire, or as a step in rotating tires).

PRACTICE EXERCISE:

Indicate which of the following actions are tasks because they have the "independent of other actions" characteristic. As you read through the examples ask yourself, "Would a worker do this action for its own sake and not as a part of some other action?"

_____ a. Install communications wire lines.

_____ b. Measure ground distances on a map.

_____ c. Trouble shoot tracked vehicle suspension system.

_____ d. Wipe oil dipstick.

_____ e. Pace speeding vehicles.

_____ f. Jack-up vehicle.

_____ g. Chop vegetables.

FEEDBACK:

TASK a. Install communications wire lines. This action is done for its own sake and can be called a task. It has the other characteristics also.

TASK b. Measure ground distances on a map. This is an independent unit of behavior. We would say it is a task.

TASK c Troubleshoot tracked vehicle suspension system. This is a single action done for its own sake.

____ d. Wipe oil dipstick. This is probably an element or step in the performance of some task. For example, check oil, change oil, or perform operators maintenance.

TASK e. Pace speeding vehicles. This is a task. Each of the characteristics we have discussed can be applied.

____ f. Jack-up vehicle. We would say this is an element of some task such as "rotate tires" or "change flat tire." Ask yourself why workers would jack-up a vehicle unless they were in the process of doing something which required this action.

____ g. Chop vegetables. This is not independent of other actions. Generally, no worker would do this action for its own sake.

SUMMARY

Tasks (and task statements) have each of the following characteristics:

TASKS

- Tasks are observable and measurable.
- Tasks are specific actions (verb and object and sometimes a qualifying phrase).
- Tasks have a definite beginning and end.
- Tasks are performed in short periods of time.
- Tasks are independent actions.

Although we discussed each of the characteristics individually, keep in mind that in most instances each of the characteristics will apply to any task (or task statement). You will find that many times you will be unsure if something is a task. Applying the characteristics will help, but you will also need to use something impossible to express on paper.

Try the final practice exercise, then you should be ready for the Criterion Test. See a course manager if you have any questions.

PRACTICE EXERCISE:

Indicate which of the following actions are tasks because they have all of the necessary characteristics:

____ 1. Couple air-brake hoses on the XYZ boxcar.

____ 2. Solder various components.

____ 3. Be aware of safety hazards.

____ 4. Assemble the type "A" borescope for operation.

____ 5. Type operations letters.

____ 6. Perform artificial respiration using mouth-to-moutn method.

____ 7. Set focus on camera.

____ 8. Operate winch on ABC cargo carrier.

____ 9. Enforce laws.

____ 10. Install synchro resolver drive assembly.

SEE NEXT PAGE FOR FEEDBACK

FEEDBACK:

TASK 1. Couple air brake hoses on the XYZ boxcar.

_____ 2. Solder various components.

_____ 3. Be aware of safety hazards.

TASK 4. Assemble the type "A" borescope for operation.

TASK 5. Type operations letters.

TASK 6. Perform artificial respiration using mouth-to-mouth method.

_____ 7. Set focus on camera.

TASK 8. Operate winch on the ABC cargo carrier.

_____ 9. Enforce laws.

TASK 10. Install synchro resolver drive assembly

If you have any questions, discuss them with your course manager.

If not, go on to the TEST.

SIGN-OFF

COURSE MANAGER

TS-1

WRITING TASK STATEMENTS

OBJECTIVE: For an MOS or officer specialty for which you are competent or familiar, write task statements which are structurally correct (have an action verb and object) and use the following types of qualifying phrases:

- o Multiple ways of doing a task
- o Multiple purposes of a task
- o Restricted range of tasks

CRITERION TEST:

For an MOS or officer specialty for which you are competent or familiar, write task statements which are structurally correct (have an action verb and object) and use the following qualifying phrases:

- o Multiple ways of doing an activity
- o Multiple purposes of a task
- o Restricted range of tasks

There must be at least 4 task statements for each type of qualifying phrase in the action verb-object format.

WRITING TASK STATEMENTS

Tasks are the building blocks used to develop good training products. This module deals with the structure of tasks and the writing of good task statements.

In an earlier module you learned that tasks (and task statements) generally have each of the following characteristics:

TASKS

- Tasks are observable and measurable.
- Tasks are specific actions (verb, object and sometimes a qualifying phrase).
- Tasks have a definite beginning and end.
- Tasks are performed in a short period of time.
- Tasks are independent actions.

A task is a unit of physical or mental activity and represents a composite of methods, procedures, and techniques which commonly serve to accomplish one meaningful unit of work. Tasks involve soldier inter-action with such objects and concepts as equipment, material, other people, animals, information, ideas, data, and events. In most instances the performance of a task by a soldier has a reasonably definite beginning and end; the whole activity requiring a mixture of decisions, perceptions, procedures, and/or physical actions serving a useful job purpose or a particular work assignment.

For use in occupational surveys and to provide a basis for decisions on training content, statements of tasks should conform grammatically, represent a specific unit of purposeful job activity, and use terminology that is current and meaningful to job holders.

STRUCTURE OF A TASK STATEMENT

Each statement of a task is composed of two basic elements:

- A specific action verb descriptive of what is being done.
- An object of the action verb, providing a brief identification of what is being acted upon.

A third element is often added for clarification:

- Any qualifying phrases needed to distinguish the task from related or similar activities; limit and define the scope of the task; communicate clearly what task it is.

Thus, task statements are simple declarative statements. The following are examples of task statements, several of which have qualifiers:

Action Verb	+ Object Acted Upon	+ Qualifier
Compute	Firing Data	On a Hand Held Calculator
Counsel	Unit Personnel	On Career Advancement
Sort	Unit Mail	
Replace	Brake Shoes	On a Sedan
Type	Legal Affidavits	

Task statements to be used in task inventories should be brief and clear. They need to be brief to save reading time for soldiers or others who may be asked to respond on occupational surveys. Clarity is needed so that the statement has essentially the same meaning for anyone having a reasonable knowledge of the MOS or specialty, particularly for soldiers and supervisors who may be asked to use the statements in describing their job performance.

For the use of the course designers in determining the content of training products, it is necessary that task statements be specific and reflect only one meaningful unit of work activity. Performance standards (how well a task must be performed) should <u>not</u> be included in task statements. Though standards are useful in learning or testing objectives, they are not a proper part of task statements. Task statements serve to communicate the work activity of a job. The table on the following page shows examples of clear, complete, concise, and relevant task statements.

PRACTICE EXERCISE

Write several (4-5) task statements from your own MOS or specialty which use only ACTION VERBS and OBJECT-ACTED-UPON. Show your examples to a colleague and ask him or her for feedback on the structure of these statements. Use this feedback to revise any of the task statements that are not structurally correct. Any disagreement should be discussed with a course manager or supervisor.

Use this space for writing task statements.

DO NOT MIX TASK AND DUTY STATEMENTS

Omit statements of larger activities (e.g., functions, responsibilities or duties) of which a task is a part. Such statements do not provide adequate detail for use in making decisions about training content. Task statements which cover broad, general duty areas will mean different things to different soldiers. Each task statement should be independent, such that the activity does not overlap or encompass other activities. For example, the task statement "Repair fuel systems" may mean "Repair fuel pumps" to one soldier, "Repair fuel tanks" to another, and "Repair carburetors" to yet anotner soldier. As apparent in the above example, the level or size of the activity represented by the statement can often be judged in terms of its object, "Fuel systems" versus "Fuel pumps", "Fuel tanks", and "carburetors".

PRACTICE EXERCISE

Here is a short practice exercise in which you are to identify the task statements which are overly general.

---

a. Resolve technical problems.

b. Administer emergency medical care for burns.

c. Operate wheeled vehicle with trailer.

d. Drives a recovery vehicle full tracked light M578.

e. Inspect wheeled vehicle exhaust system.

f. Repair wheeled vehicles.

g. Implement a command consultation program.

FEEDBACK:

Here are our choices:

a. Very general; which technical problems?

c. Overly general; which wheeled vehicle?

e. Which wheeled vehicle?

g. Very general; most likely a duty.

USING QUALIFYING PHRASES/MODIFIERS

Several conditions may necessitate the use of qualifying phrases or modifiers. These are governed by the general rule of doing what is necessary to be able to make specific decisions about training content. Thus, if significantly different training activities and learning could be implied by a task statement, then qualifying phrases/modifiers would be needed to clarify the actual task intended. The objective is to avoid confusion with similar activities that may have different training needs. This may require that each distinction form the basis for a separate task statement.

In general, there are three different types of qualifying phrases/modifiers:

1. When there are multiple ways of doing a task, there may be a need to state how each task is done. For example, the activity of digging a trench might be stated in the following ways, each involving different training:

- o Dig a trench by hand.
- o Dig a trench using a backhoe.
- o Dig a trench using a bulldozer.

Stating the means or media used in performance can sometimes be accomplished by modifying the action verb. Some examples are:

- o Visually inspect motor pool vehicles.
- o Road test motor pool vehicles.
- o Spot check motor pool vehicles.

PRACTICE EXERCISE

Write several (4-5) simple task statements (action verb + object). Change each task by adding 2-3 qualifying phrases or modifiers, such that the task activity becomes more specific. Show your work to a colleague. Rewrite any statements based on feedback you received. Resolve any differences with a course manager.

Use this space for writing task statements.

2. When there are multiple purposes for a task, there may be a need to state why it is done. For example, the activity of checking the condition of on-site power generators might be stated in the following ways, each involving quite different and separate performance on the job:

- Check 10KW power generator engine for evidence of overheating.
- Check 10KW power generator engine for adequacy of oil level.
- Check 10KW power generator engine for evidence of physical damage.
- Check 10KW power generator engine for adequacy of exterior paint.

Each of these tasks may be performed with different frequency, be of differing job importance and concern for training. If a name is commonly used to identify a prescribed procedure, that name may be used without stating the precise action or concern of the task. For example, "Perform cylinder leakage test", "Pressure test the air conditioner system", and "Perform preventive maintenance inspection of common hand tools". If, however, a soldier does not perform the test procedure itself but does monitor the test results, a task should be stated for such monitoring action. For example, "Observe oscilloscope for results of calibration check".

PRACTICE EXERCISE

Write several (4-5) task statements which use qualifying phrases or modifiers to clarify the purpose of the original task. Ask a colleague to review your work and provide feedback. Rewrite any statements based on the feedback.

Discuss any differences with a course manager.

Use this space for writing task statements.

3. When the range of what is to be acted upon is restricted, there may be a need to state the scope of the task. For example, "Counsel unit personnel on career advancement," places limits on the task, "Counsel unit personnel." If other counseling activities occur, they would be stated as separate tasks. This acts to provide the greater level of specificity needed to develop adequate training products. In effect it helps training developers know the boundaries of training content.

Limiting the scope of the object acted upon can, in some instances, be accomplished by the addition of descriptive adjectives. In the following examples the underlined portion helps clarify the object acted upon:

- Proofread final staff reports...
- Review recently published TRADOC Circular...
- Administer hands-on component...
- Lecture large groups of basic training students...

If a qualifying phrase or modifier is needed for greater task specificity or to dinstinguish between similar activities, all other significant tasks with comparable modifiers should be listed. For example, in a listing of automotive mechanic tasks, "Repair transmissions" would not be specified enough. Therefore, if the statement was modified to read "Repair automatic transmission", then "Repair standard transmissions" and "Repair transmissions with overdrive", should be included in the inventory.

PRACTICE EXERCISE

Write several (4-5) task statements which use qualifying phrases or modifiers to specify or restrict the possible range of task activities. Ask a colleague to review your work and provide feedback on any needed corrections. Rewrite those task statements which require revision. Discuss any differences with a course manager.

Use this space for writing task statements.

Always avoid redundant qualifying phrases/modifiers such as "when appropriate", "as appropriate", "as required", and "in accordance with". These are often found in source materials, but serve no useful purpose in task inventories. The table below shows the use of qualifying phrases.

USE OF QUALIFYING PHRASES

WHEN THIS OCCURS	DO THIS
More than one way of doing a task	State <u>how</u> each task is done
More than one purpose for a task	State <u>why</u> each task is done
Restricted task range	State the <u>scope</u> of each task

DESCRIBING SUPERVISORY, MANAGERIAL AND LEADERSHIP TASKS

One of the more challenging efforts is to state the tasks performed by supervisory and managerial personnel in an MOS or officer specialty. It is insufficient to say they "Supervise subordinate personnel", "Control flow of work", "Monitor safety programs", "Supervise training programs" or "Attend meetings."

Several tasks need to be generated to describe what observable activity is being done in accomplishing each general function. Thus, instead of saying, "Recruit new soldiers," it should be possible to identify such component tasks:

- Process application for enlistment.
- Interview recruits.
- Counsel recruits on school selection.
- Counsel recruits on pay and allowances.

The idea is to describe the actual, observable activities that must be performed to accomplish each supervisory or managerial function. Supervisory and managerial tasks often use action verbs of a more mental rather than physical nature. Thus, such tasks will more likely reflect such appropriate and relevant actions as:

Appraise	Contact	Forecast	Recommend
Approve	Counsel	Inform	Review
Assign	Decide	Interpret	Schedule
Chair	Determine	Investigate	Set
Check	Draft	Negotiate	Study
Compare	Estimate	Plan	Submit
Conduct	Explain	Process	Verify

These verbs reflect an emphasis upon information processing and communication functions, which are common features of many jobs dealing with the supervision or management of personnel. It should be obvious from a number of these actions that tasks need not be limited to observable work performance, but often may identify job activities not readily discernible by a person other than the worker. Although these activities are not readily observable, there should always be an observable end product or service. It is through these observable end products or services that you <u>infer</u> that the mental behavior has in fact occurred.

<u>PRACTICE EXERCISE</u>

Write several (4-5) task statements which describe supervisory tasks you perform in your job. If you are not a supervisor, use tasks that <u>your</u> supevisor performs. Show these task statements to a colleague. Rewrite any task statements which need revision.

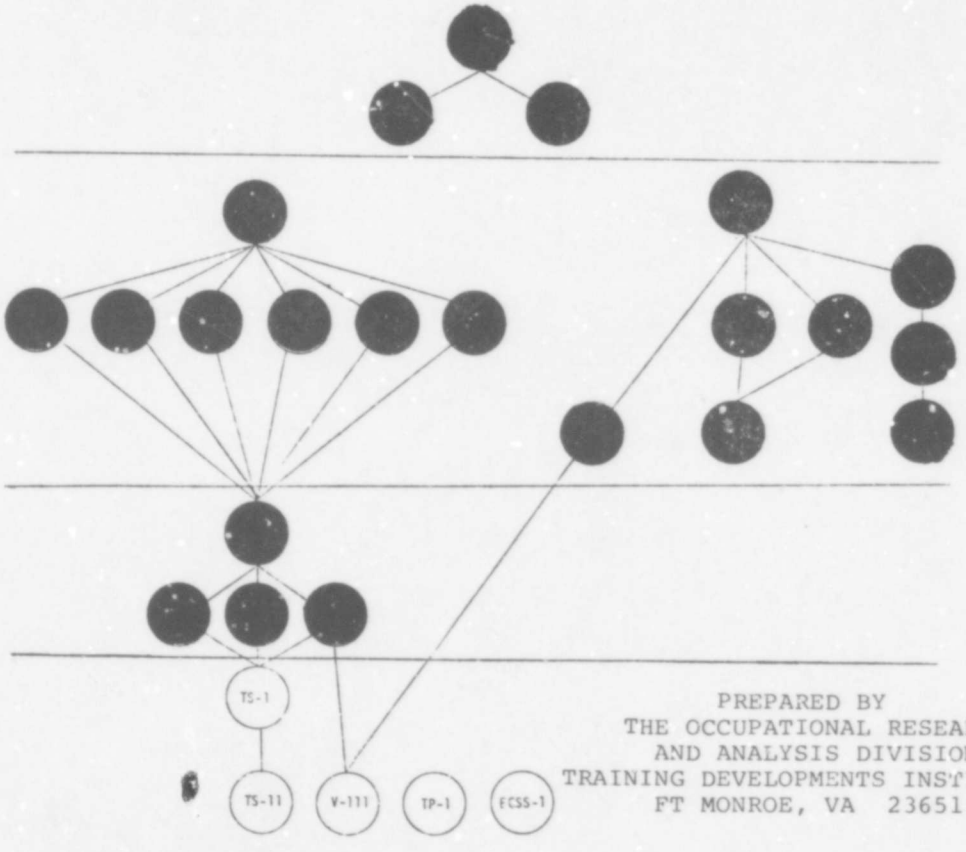
Use this space for writing task statements.

TRAINING DEVELOPMENTS INSTITUTE
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION

INTRODUCTORY MODULES

CRITERION TESTS

VOLUME 3A



PREPARED BY
THE OCCUPATIONAL RESEARCH
AND ANALYSIS DIVISION
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INTRODUCTORY MODULES

MODULE	TITLE
TS-11	Identify Task Statements
TS-1	Write Task Statements
V-111	Basic Interviewing
TP-1	Prepare Target Population Description
ECS-1	Edit Condition and Standard Statements

SIGN-OFF

Course Manager

ECSS-1

CRITERION TEST

EDIT CONDITION AND STANDARD STATEMENTS

Using the job aids (figures 1 and 2) from the module, edit the following condition and standard statements. You will be required to write comments explaining why some statements are inadequate. (NOTE: It may be necessary to consult with one or more colleagues who are knowledgeable about the conditions and standards listed below):

1. TASK: Plot geodetic control.

   CONDITIONS: In a TOE equipped cartographic work area, given project instructions, station description card (DA Form 1959)/ trig list, compilation/grid base, DA Form 1941 (Grid and Declination Computation), invar scale, dividers, straight-edge and 4H pencils.

   STANDARDS: The geodetic control on the compilation/grid base will be within .13 min (.005 inches) of its true horizontal position when referred to the projection.

   EDIT HERE:

14

2. TASK: Locate an unknown point on a map or on the ground by resection.

CONDITIONS: In the field at an unknown location, given a 1:50,000 map of the area, a lensatic compass, straightedge, coordinate scale, pencil and two terrain features visible from your location and identifiable on the map.

STANDARDS: Within 7 minutes determine the 100,000 meter square identification letters and 6-digit coordinates of your location to within 100 meters of the actual grid coordinates.

EDIT HERE:

3. TASK: Encode and decode messages using a Tactical Operations Code, KTC 600.

CONDITIONS: Given a CEOI with Tactical Operations Code, KTC 600; paper and pencil; and either a message to be encoded or any number of 3-letter code groups to be decoded.

STANDARDS: Using the code set corresponding to the time frame in which the task is being performed (day of the month of operation as specified in the CEOI), encode (or decode) the message without error within 30 seconds per code group or word/phrase.

EDIT HERE:

4. TASK: Zero an M16A1 rifle.

CONDITIONS: On a 25-meter firing range, given an M16A1 rifle, magazine, 24 rounds of ammunition, battlesight zero target, sandbag support, shot group analysis card, and a firing data card.

STANDARDS: Place the center of a shot group at the X 2.4 centimeters below the Canadian bull's-eye and have the group touch or fall within a 3-centimeter diameter circle centered on the X.

EDIT HERE:

5. TASK: Operate a winch on an M548 cargo carrier.

CONDITIONS: You will be given an M548 with winch and complete basic issue items (BII), TM 9-2350-247-10, a suitable anchor, a capable assistant, and a stated situation to warrant the use of a winch.

STANDARDS: Operate the winch to successfully perform the mission without injury to personnel or vehicle.

EDIT HERE:

6. TASK: Refer the piece (13B MOS).

CONDITIONS: You will be given a weapon with sighting equipment, appropriate night lighting devices, aiming circle or other designated aiming point.

STANDARDS: Without moving the tube, turn the head of the panoramic telescope until the vertical hairline of the reticle is exactly on the designated aiming point. Center the bubbles and read the correct deflection to an accuracy of 0 mils within 15 seconds.

EDIT HERE:

7. TASK: Deliver a bulk drug order/controlled drugs (91Q MOS).

CONDITIONS: Given filled bulk drugs and/or controlled drugs designated for a ward, clinic, or dispensary and a means of transportation; under the supervision of Skill Level 3 personnel or higher.

STANDARDS: Will correctly post receipts to requesting units Controlled Substance Record (DA Form 3949), receive a signature for all controlled medications delivered, and ensure that no more than a 15-day supply of a medication is on hand.

EDIT HERE:

SIGN OFF

COURSE MANAGER

TP-1

CRITERION TEST

PREPARE A TARGET POPULATION DESCRIPTION

Prepare a target population description for the project your course manager has given you. The description must include data on the following elements:

1. Position requirements.

   Grade or skill level of the target population

      Existing

      Proposed

   Specialty of target population

      Existing

      Proposed

   Prerequisite training

      Required

      Existing

   Prerequisite skills and knowledges

      Reading grade level

      Applicable battery test scores

2. Soldier attributes.

   Civilian education level

      Existing

      Proposed

      Required

Percent with English as a second language

Age

Sex

Avocational interests

Competition orientation

Perception of Army training

Self-discipline

Emotional maturity

Reading grade level

3. Background information.

Time in service

Time in grade

Time in position

Related experience

Additional skill identifier

Current enlisted reenlistment rate

Current officer extension rate

Average turnaround time for overseas tours

SIGN OFF

COURSE MANAGER

V-111

CRITERION TEST

BASIC INTERVIEWING

Given the following 3 interviewing situations, describe in your own words the interviewing techniques you would use in each situation. Explain why you would use each technique.

SITUATION 1

You have been asked to plan a series of interviews of subject matter experts. Describe how you would go about planning those interviews. Consider yourself familiar with the job being analyzed although you are not a subject matter expert.

SITUATION 2

During an interview with an NCO (skill level 4) you learned that he was involuntarily reclassified into his current MOS and has not received any training. He is knowledgeable in the subject area but does not meet the minimum qualifications outlined in your interviewing plan. It is obvious that he is confused by some of your questions and is not familiar with the technical jargon of the job. Describe how you would handle this situation. Explain why you would use certain interviewing techniques.

SITUATION 3

You have been interviewing an Infantry Captain for about 20 minutes. The purpose of the interview is to collect data on leadership and supervisory tasks. During the interview the Captain has made frequent negative statements about several ethnic groups. In response to your last question the Captain began talking about how members of one ethnic group are so dumb they can't follow orders. You feel that you are loosing control of the interview situation. What interview techniques would you use to regain and keep control of the interview? Describe your reasons for using each technique.

SIGN-OFF

COURSE MANAGER

TS-11

CRITERION TEST

IDENTIFY TASK STATEMENTS

Read through the list below. Each statement is followed by a job title. Identify the items which are task statements. Explain in a sentence or two what is wrong with the items you rejected. You will be allowed one error. Check your work with the feedback sheet:

_____ 1. Be familiar with tank systems (turret mechanic).

_____ 2. Engage a moving target with an M60A1 tank main gun (gunner).

_____ 3. Install an oil pressure gauge in a ¼ ton truck (vehicle mechanic).

_____ 4. Stir ingredients (food service specialist).

_____ 5. Prepare traffic accident spot map (military policeman).

_____ 6. Know mail sorting procedures (admin specialist).

_____ 7. Form tape wrapped joints (generator repairman).

_____ 8. Fire a claymore mine (infantryman).

_____ 9. Plc targets from a fire plan (artillery operations specialist).

_____10. Process DA Form 2765 (requisition for issue on turn-in) in priority sequence (stock control specialist).

____ 11. Service a 5KW generator oil system (generator repairman).

____ 12. Repair wheeled vehicles (vehicle mechanic).

SIGN-OFF
Course Manager

TS-1

CRITERION TEST

WRITE TASK STATEMENTS

For an MOS or officer specialty for which you are competent or familiar, write 4 task statements for each of the following:

- o Simple Action Verb and Object-Acted-Upon format.
- o Qualifying phrases to show:
  - Multiple ways of doing an activity.
  - Multiple purpose of a task.
  - Restricted range of tasks.

There must be at least 4 task statements for each format.

INTRODUCTORY MODULES

FEEDBACK SHEETS

VOLUME 3B

SIGN-OFF

Course Manager

ECSS-1

FEEDBACK

EDIT CONDITION AND STANDARD STATEMENTS

NOTE TO COURSE MANAGERS:

Participants should be encouraged to consult with one another to find individuals skilled or knowledgeable in the tasks included in the Criterion Test. The editing and rewriting of conditions and standards depend heavily on a personal knowledge of the subject area or use of subject-matter experts/experienced job holders.

1. TASK: PLOT GEODETIC CONTROL (MOS 81C)

The condition statement does not list specific references. (Note to course manager: Most course participants will not be able to specify these references.) All tools, equipment and job aids have been listed. There is no requirement for environmental conditions, amount of supervision, physical demands, or additional personnel.

2. TASK: LOCATE AN UNKNOWN POINT ON A MAP OR ON THE GROUND BY RESECTION.

The specific references are not identified in the condition statement.

The standard contains an inappropriate time standard which should be omitted.

3. TASK: ENCODE AND DECODE MESSAGES USING A TACTICAL OPERATIONS CODE, KTC 600.

The condition statement does not include the specific reference.

The standard includes an inappropriate time standard which should be omitted.

4. TASK: ZERO AN M16A1 RIFLE.

The condition statement does not identify the amount of supervision required.

The standard does not state the number of rounds per shot group.

5. TASK: OPERATE A WINCH ON AN M548 CARGO CARRIER.

The condition statement does not include the environmental conditions.

The standard does not state the procedure to be followed for use of the winch. The safety standard could be more complete to include use of gloves when handling the cable and a caution on exceeding the load of the winch.

6. TASK: REFER THE PIECE (MOS13B).

The condition statement does not state the specific weapon (field piece) or the specific references. The specific sights (M100 series or M12 series) have been omitted and there is no mention of environmental conditions.

The standard is appropriate as stated.

7. TASK: DELIVER A BULK DRUG ORDER/CONTROLLED DRUGS (MOS 91Q).

The condition statement does not include the specific references.

The standard should state that the DA Form 3949 will be filled out completely and without error.

SIGN OFF

COURSE MANAGER

TP-1

FEEDBACK

PREPARE A TARGET POPULATION DESCRIPTION

NOTE TO COURSE MANAGER:

When reviewing a target population description and when discussing the elements, ensure the analyst has a full understanding of the elements and what they entail and where information can be located.

ELEMENT	SOURCE
1. Position requirements	
Grade or skill level of target population	
Existing	Given
Proposed	Given or analyst's opinion
Specialty of target population	
Existing	Given
Proposed	Given or analyst opinion
Prerequisite training	
Required	Proponent school
Existing	Proponent school
Prerequisite skills and knowledges	
Reading grade level	Proponent school
Applicable battery test scores	Proponent school

ELEMENT	SOURCE
2. Soldier's attributes	
Civilian education level	
Existing	201 file
Proposed	Proponent school
Required	Proponent school
Percent with English as a second language	Survey
Age	201 file, surveys
Sex	COPO 45
Advocational interests	201 file, survey
Competition orientation	Survey
Perception of Army training	Survey
Self-discipline	Survey
Emotional maturity	Survey
Reading grade level	Post Education Center Administer test
3. Background information	
Time in service	201 file
Time in grade	201 file
Time in position	201 file
Related experience	201 file
Additional skill identifier	MILPERCEN
Current enlisted reenlistment rate	MILPERCEN
Current officer extension rate	MILPERCEN
Average turnaround time for overseas tours	MILPERCEN

SIGN OFF

COURSE MANAGER

V-111

FEEDBACK

BASIC INTERVIEWING

NOTE TO COURSE MANAGER:

The participant should produce a written response for each situation. The participant must be prepared to defend his approach or selection of techniques. If the participant's responses appear inappropriate, you must suggest additional reading or practice.

SITUATION 1

This situation concerns the contact with the interviewees.

The participant must give a response that indicates the following:

- Purpose of the interviews.
- How the interview questions are to be determined.
- How the subjects will be identified and selected.
- How the location of the subjects will be determined.

SITUATION 2

This situation concerns the conduct of the interview. The participant's response must include appropriate interviewing techniques which will help to collect data. It must also include the participant's rationale for selecting those techniques.

SITUATION 3

This situation concerns control of the interview. The participant's response must include techniques appropriate to the situation and his or her rationale for selecting those techniques.

SIGN-OFF

Course Manager

TS-11

FEEDBACK

IDENTIFY TASK STATEMENTS

Compare your answers with our responses below:

____ 1. Be familiar with tank systems. We think this is too vague to be a task.

TASK 2. Engage a moving target with an M60A1 tank main gun. This is a task. It is specific, results in a product (sighted and engaged target), etc.

TASK 3. Install an oil pressure gauge in a ¼ ton truck. This is a task. It has all the characteristics of a task.

____ 4. Stir ingredients. This is probably an element in some task performed by cooks.

TASK 5. Prepare traffic accident spot map. We would say this is a task. It is specific, observable and measurable, has a definite beginning and end, can be performed in a short period of time, and is independent of other actions.

____ 6. Know mail sorting procedures. The verb "know" is not specific. How can we observe someone "knowing" something?

TASK 7. Form tape wrapped joints. We would say this is a task. The outcome is a properly formed tape wrapped joint.

TASK 8. Fire a claymore mine. We feel this is a task.

TASK 9. Plot targets from fire plan. This is a specific, observable, measurable, short, independent action resulting in an output - plotted targets.

TASK 10. Process DA Forms 2765 (requisition for issue or turn-in) in priority sequence. This is a task. The action should result in correctly sequenced documents.

TASK 11. Service 5KW generator oil system. We would call this a task, it is a specific action.

____ 12. Repair wheeled vehicle. This is probably a duty area. In order to repair wheeled vehicles, a soldier has to perform a number of tasks (repair carburetors, inspect exhaust systems, etc).

SIGN-OFF
COURSE MANAGER

TS-1

FEEDBACK

WRITE TASK STATEMENTS

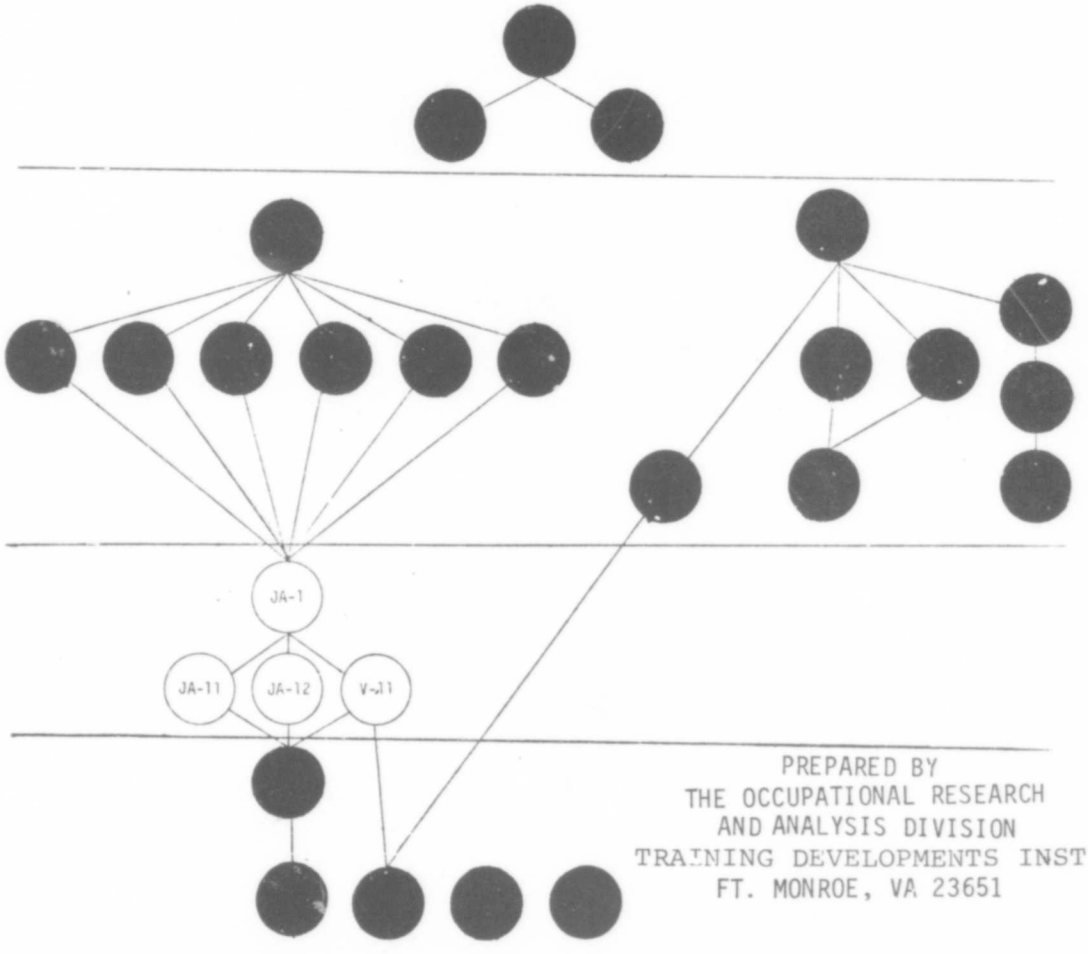
NOTE TO COURSE MANAGER:

The student should have four task statements for each format for a total of 16 statements. Each statement should be correct for the corresponding format. Incorrect statements should be identified and the participant encouraged to rewrite them. Sign-off only when all statements conform to the formats specified in the Criterion Test. In addition to format, check to be usre all task statements are realistic in terms of actual job description.

TRAINING DEVELOPMENTS INSTITUTE
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION

JOB ANALYSIS MODULES

VOLUME 4



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JOB ANALYSIS MODULES

MODULES	TITLE
JA-11	Goal Analysis
JA-12	Review Resource Documents
V-11	Conduct Information Gathering Interview
JA-1	Develop a Task Inventory

OVERVIEW OF JOB ANALYSIS

The purpose of job analysis is to identify all tasks which are now being or should be performed by soldiers of each specialty and skill level so that the training programs supporting these specialties can be systematically designed and do in fact prepare the soldier for his job. Considering the diversity of MOS within the Army and the varying degrees of complexities of MOS or specialties, it is obvious that there is no one appropriate process for job analysis. Instead, there are a number of methods of collecting information about the job. One of the requirements for information is to produce a list of everything the soldier is supposed to do. This list is called a task inventory.

The purpose of the next three modules is to teach you the skills you will need to develop a Task Inventory. The task inventory is a comprehensive list of every task a job holder performs. Although he may only perform a given task once a year, and it may be the simplist operation he'll ever perform, the job analyst must ensure that it is on the task inventory. As stated before, the task inventory is comprehensive. If the soldier does "it," "it" goes on the inventory.

Now, there are three methods that will be covered as means of developing the inventory: goal analysis, reviewing resource documents, and interviewing job holders for information.

Goal Analysis: Often the job analyst will discover job statements that really aren't tasks, but vague, non-descript, non-specific generalities. Actually, they are goals. The goal analysis process

will teach you how to identify goals and then reduce them to specific task statements. In the process, you will be required to read one short, slightly amusing, and highly informative book.

JA-12 - Review Resource Documents: More often than not, the analyst will not have full-time access to job holders and subject matter experts; consequently, he will have to review the basic literature (FM, TM, ARTEPS, etc) that dictate the procedures of the job. From those documents, the analyst must be able to isolate the specific job actions and further refine them into task statements.

V-11 - Conduct Information Gathering Interview: One of the best methods for obtaining information about a job is to interview the people that do the job and those that supervise the job holder. One cannot simply go out and just ask questions. There are certain principles and rules that must be followed to ensure that the proper "type" and "amount" of information is obtained.

JA-1 - Develop a Task Inventory: This module allows the participant the opportunity to combine skills learned in earlier modules.

The first three modules in this section of the course may be approached in any sequence. However, you must have completed all the modules below the line before attempting this particular track. Remember the objective of these modules is to give you the skills to prepare a task inventory, or a listing of all the tasks the job holder performs or is responsible for performing.

SIGN-OFF

COURSE MANAGER

V-11

CONDUCT AN INFORMATION-GATHERING INTERVIEW FOR JOB ANALYSIS

OBJECTIVE:

Given the following:

- One or more job supervisors or job holders.
- One or more duty areas for which there is little or no document information on the tasks to be performed.
- The guidelines in Module V-111 for conducting an information gathering interview.

Plan and conduct an information-gathering interview of the job supervisor(s)/holder(s). Write a series of task statements which reflect the work activities described in the interview(s). The task statements must conform to guidelines contained in module TS-1.

CRITERION TEST:

Locate one or more colleagues and discuss with him/her common work experiences. Choose an area in which you both have skill and knowledge. Using the information available in this module and Module V-111, plan and conduct an information-gathering interview about the selected duty area. Record the interview for critique by a course manager. The interview must comply with the guidelines in modules V-111 and V-11. Following the interview, write a series of task statements which reflect the tasks performed in the work activity.

INTRODUCTION:

During the analysis of a job, you may find that one or more duties are not completely described in the resource documents. You've reviewed the documents and extracted a list of tasks. However, based on your knowledge of the job and comments from colleagues or SME, you know the list is not complete. At this point you must be prepared to tap an additional source of information - job supervisors and job holders. The method of collecting information from job supervisors and job holders is the interview. While you may be thinking that an interview is little more than a series of questions, this is only partially true. An interviewer must be able to accurately collect only the desired job information. This module builds on the basic interviewing skills module (V-III) and helps prepare you to use interviewing to collect JOB INFORMATION.

INTERVIEWING TO COLLECT JOB ANALYSIS INFORMATION

The job analysis interview can be used to collect information about the following areas:

- The tasks soldiers perform in a duty.
- Description of tasks performed in the operation/maintenance of a <u>new</u> weapon or equipment system.
- To document information about performance deficiencies (the difference between what a soldier can do and what the actual job requires him or her to do.)
- Descriptions of job supervisor's impressions of the actual job requirements.
- Target population information.

Recall from Module V-III, Basic Interviewing, that the first step in conducting a series of interviews is to PLAN. This begins with stating the purpose of the interview. While you may be thinking "The purpose is to collect job data," this is not specific enough. A more specific purpose would be something like this:

A. The XM-1 (main battle tank) 120mm main gun is a smooth bore that uses "caseless" ammo. Current tank crews are unfamiliar with the handling procedure for this new "caseless" ammo. Some information is available from the manufacturer but is not complete. Since the only personnel familiar with handling procedures for caseless ammo are M551 Sheridon crew members, they must be interviewed.

B. A new air defense missile system scheduled for delivery in two years uses a guidance system radically different from current guidance mechanisms. A small group of Warrant Officer and NCO technicians have been reviewing the work of the contractor. So far, the contractor has produced only a draft maintenance manual. This manual is not complete and has several errors in key maintenance procedures. You must interview the WO and NCO technicians and any SME the contractor can provide to complete development of a task inventory for the maintenance job.

PRACTICE EXERCISE:

Describe in your own words the purpose for conducting job analysis interviews in an area of your specialty or MOS.

State your answer in the space below.

Check the feedback on the next page.

FEEDBACK

Your reasons for conducting job analysis interviews will depend on the current problems in your officer or enlisted specialty. Here are some general reasons for conducting a job analysis interview:

- Need to add information to incomplete descriptions of duties
- Need for information on a new system
- Need to document information about performance deficiencies
- Need to gather information from supervisors on job requirements.
- Need to gather target population information.

Any questions? If so check with a course manager. If not, continue on with the module.

During the planning of a job analysis interview, you must draft a series of questions which will help collect the desired data. Your ability to collect good job data will depend greatly on the type and wording of these questions. Lets review the previous example in which the purpose of the interview is to collect information about the handling of "caseless" ammo. Here are some suggested questions that might help collect the desired data.

- Describe the procedure you follow to transfer caseless ammo into the M551 sheridan.
- Describe any safety procedures that are followed prior to handling caseless ammo.
- Describe any special handling procedures that are followed inside the turret.

• Describe the procedure followed when a round of caseless ammo is damaged.

Notice that all the questions are open-ended - that is, the person being interviewed is free to give a wide range of answers. Review Module V-111 for additional questioning techniques such as, comparative questions, probing and encouraging questions.

PRACTICE EXERCISE:

Imagine you are going to interview several job holders about a duty area in your MOS or specialty. Make a list of at least six questions (at least 4 must be open-ended) you would use to collect information about the tasks performed in that duty. Show your work to a course manager.

CONTACTING AND ESTABLISHING RAPPORT WITH THE JOB SUPERVISOR AND JOB HOLDER

When conducting job analysis interviews you are interested in collecting information that will help you complete the task inventory. Usually, it is helpful to interview several job supervisors in addition to job holders. Job supervisors can give information about the job that may not be available to job holders. This includes such things as the sequencing of tasks; infrequently performed but critical tasks; and clues as to which job holders may be most qualified to describe certain aspects of a job. Generally, you will want to interview the job supervisor prior to interviewing the job holders. Not only will this provide some valuable insights, but it helps to establish your sincerity and creditability. Remember, you are after data that will help you finish out your initial task inventory.

WRITING TASK STATEMENTS FROM INTERVIEW DATA

Once the interviews have been conducted and the data collected, you still must write a series of task statements. If you need a reference on writing task statements, review Modules ITS-1 and TS-1.

You should now be ready to conduct your job analysis interview. If however, you feel you need additional work, consult with a course manager.

PRACTICE EXERCISE:

Answer the following statements with either agree or disagree.

1. Preparation for an interview is not needed.

2. The purpose of a Job Analysis interview is to collect job information.

3. Rapport with your subject is not needed in an information-gathering interview.

4. The Job Analysis interview is used to collect information about how individual tasks are performed.

5. Job supervisors are a valuable source of job analysis information.

6. The interviewer is responsible for controlling the interview situation.

7. Open-ended questions allow the person being interviewed to give a wide variety of answers.

Check your work with the feedback on the following page.

FEEDBACK:

1. Disagree.

2. Agree.

3. Disagree. You should work to establish rapport in every interview.

4. Disagree. Job Analysis interviews are used to collect information about WHAT tasks are performed, not HOW they are performed.

5. Agree.

6. Agree.

7. Agree.

SIGN-OFF

COURSE MANAGER

JA-11

GOAL ANALYSIS

OBJECTIVE:

Given a task which is goal oriented (not easily observable), analyze the task by means of goal analysis. The Task Analysis will be complete when the course manager is satisfied that the goal has been totally analyzed.

SAMPLE CRITERION TEST :

1. Pick a goal oriented task or duty area statement from an area you are responsible for analyzing. For example:

   - A goal of logistic support is to reduce the amount of supplies in the pipeline.
   - Be familiar with small arms storage procedures.
   - Establish a command consultation program.
   - Prevent crimes.
   - Increase the combat effectiveness of the division.
   - Lead a discussion group.

2. Have your goal approved by a course manager before you begin.
3. Perform a goal analysis on your goal.

RESOURCE

GOAL ANALYSIS

NOTE: If you have not already read the resource, read it BEFORE you start this module.

Often when conducting an analysis we discover that the activities which make up jobs or duties are difficult to observe. For example, we may analyze a set of managerial or supervisory duty positions, or we may analyze a set of journeyman duty positions which mostly involve mental activities. A specific example of this type activity would be to supervise maintenance activities. At the end of our job analysis, we find a group of activities which are difficult to analyze because of their "fuzzy" or goal-oriented nature. Usually these activities involve actions like "supervision", "managing", "administering", "ensuring", "spotchecking", and so on. In task analysis, we find it difficult to describe the steps in these actions when we try to analyze these types of activities. These activities, known far and wide, cast fear into the hearts of the bravest of analysts! Just walk up to any of your fellow analysts and ask them to analyze a fuzzy for you. Then watch them beg, plead, and offer their life savings to take the fuzzy away!

Actually, these activities can be effectively analyzed. A procedure called GOAL ANALYSIS is quite useful. Goal analysis helps you to define the behaviors, standards and conditions that describe the performance of the goal-oriented activity you are trying to analyze.

Goal analysis is a procedure developed by Bob Mager and described in his book GOAL ANALYSIS (Mager, 1972).

Before doing a goal analysis, see if you can identify a goal.

Try this simple exercise. See if you can identify which of the statements below are goal statements and which are task statements. Mark your choices "T" for Task or "G" for goal:

_____1 Be able to investigate accidents.

_____2 Copy telephone messages.

_____3 Have a working knowledge of combat strategy.

_____4 Inspect 8-ton torque convertor.

_____5 Appreciate proper inspection procedures.

_____6 Set cannon for quadrant elevation.

_____7 Understand rapid fire procedures.

_____8 Slave staut a disabled vehicle.

_____9 Be aware of enemy strength.

_____10 Exercise caution.

Check the Feedback on the next page.

FEEDBACK

G 1 Be able to investigate accidents.

T 2 Copy telephone messages.

G 3 Have a working knowledge of combat strategy.

T 4 Inspect 8-ton torque convertor.

G 5 Appreciate proper inspection procedures.

T 6 Set cannon for quadrant elevation.

G 7 Understand rapid fire procedures.

T 8 Slove start a disabled vehicle.

G 9 Be aware of enemy strength.

G 10 Exercise caution.

How did you do? If you have any questions, see a course manager. From the exercise above, you can see that a goal is very different from a task. A goal is vague and non-specific. It cannot be observed or measured.

If you feel comfortable with the concept of goal versus task, continue on with the lesson. Clear up any questions you may have with a course manager.

When conducting GOAL ANALYSIS, you must do the following:

Step one - Write down the goal statement (the fuzzy goal oriented activity).

Step two - List the performances you would want to see for you to agree that the activity had been accomplished. Keep in mind that fuzzy activities can differ in "size." They can be on the task level, duty level, or job level.

Step three - Eliminate from the list any duplications or items that, on second thought, are of no interest.

Step four - Expand each desired performance into a complete statement describing the nature and extent of the performance you desire.

Step five - Test the statement for adequacy by asking: "If these performances were achieved, would I be willing to say the activity has been accomplished?"

Look at some examples of goal analysis. Here are some goal statements:

- Gun owners should be responsible and safety-conscious individuals.
- Be enthusiastic about using camouflage techniques.
- Be able to exist in a survival situation.

Work through one of these examples and do a complete goal analysis.

Step one - Write down the goal statement.

We will work with the goal, "Be enthusiastic about using camouflage techniques."

Step two - List the performances you would want to see that show the activity has been accomplished. In our example, we must list all the performances we would want to <u>see</u> that show us someone is "enthusiastic about using camouflage techniques."

Use the space below to list the performances you would want to see from someone enthusiastic about camouflage techniques.

Look at the feedback on the next page for our list.

FEEDBACK - STEP TWO

Step Two - List the performances you would want to see from someone "enthusiastic about using camouflage techniques."

Here is our list:

Someone enthusiastic about using camouflage techniques would ...

- camouflage without being told.
- read all current publications on camouflage.
- watch training films on the subject of camouflage.
- read articles on camouflage used by foreign armies (allied and enemies).
- voluntarily camouflage.
- help others to camouflage.
- practice movements under camouflage.
- practice camouflage stationary positions.
- assist others to improve their abilities to use camouflage.
- practice spotting camouflage positions and soldiers.
- etc.

Write anything you feel that shows evidence of someone being enthusiastic about camouflage techniques.

Your list is probably different from our list, just combine the two lists for now.

If you have any questions, see a course manager. If not, continue on with this module.

Step Three - Eliminate from the list any duplications or items that, on second thought, are of no interest.

Check over your master list (our list plus your list) and look for duplications and items of no interest if you are looking for someone who is enthusiastic about camouflage techniques.

Write your new list below.

Look at the feedback on the next page to see what we did.

FEEDBACK - STEP THREE

Step Three - Eliminate from the list any duplications or items that, on second thought, are of no interest.

Here is our list again with some of the items eliminated.

Someone enthusiastic about using camouflage would ...

- camouflage without being told.
- practice combat movements while camouflaged.
- practice camouflage stationary positions.
- assist others to improve their abilities to use camouflage.
- practice spotting camouflaged positions and camouflaged soldiers.
- etc.

Here is an explanation of our eliminations:

Items 1 and 5: Appear to be very close in meaning. Eliminate one of them.

Items 2 and 4: Appear to be very close in meaning. Eliminate one of them.

Item 2: On second thought, this should be eliminated. We cannot see this one as a job task.

Item 3: We cannot make a job related task of someone watching movies on camouflaging. We are not interested in this item as a job task.

Items 6 and 9: Appear to be very close in meaning. Eliminate one of them.

We kept items, 1, 7, 8, 9, and 10. We may be able to expand these into complete statements which describe job tasks.

You should combine our list with your list of goal statements.

Any questions? See a course manager. If not, continue on with the lesson.

Step Four - Expand each desired performance into a complete statement describing the nature and extent of the performance you desire.

Now you should take your statement and change them to job tasks in the action and object format. We have the following goal statements remaining from step three:

- camouflage without being told
- practice combat movements while camouflaged
- practice camouflaging stationary positions
- assist others to improve their abilities to use camouflage
- practice spotting camouflaged positions and camouflaged soldiers.

Use your combined list of goal statements to make complete task statements.

Check the next page for our feedback.

FEEDBACK - STEP FOUR

Step Four - Expand each desired performance into a complete statement describing the nature and extent of the performance you desire.

Checking our list of goals we find the four task statements listed below. We eliminated the goal "assist others to improve their abilities to use camouflage." After review, this did not yield a job task statement. Here is our list:

- camouflage self
- camouflage a position (one-man or two-man)
- move while camouflage (escaping detection)
- spot camouflaged positions.

These statements are a good start on task description for the goal, "be enthusiastic about using camouflage techniques."

If you have any questions see a course manager. If not, continue on with the lesson.

Step Five - Test the statements for adequacy by asking: "If these performances were achieved, would I be willing to say the activity has been accomplished?" In other words, if someone stopped performing them would the goal be accomplished?

If you can answer YES, you are finished with the goal analysis!

Check your combined list to see if the goal has been accomplished.

This simple procedure for goal analysis is used only when we have to analyze statements which are fuzzy. We may go through the entire goal analysis procedure and discover we really have no data on which to work.

NOTE:

Mager stated, "we would rather not do goal analyses. It is preferable to bore in directly to the performance... We do goal analyses only when they seem necessary - When the goals that are important ... are abstract or fuzzy. Never do them just because the procedure is there."

Page 21 Analysis, Criterion-Referenced Instruction.

If you feel satisfied with our example, you are ready for the criterion test. You will select a goal-oriented task from your task list, and then analyze it into important performances. The course manager may suggest that you work with a colleague. In such case, you will each need to select a goal and carry out the two analyses together.

You must have your GOAL STATEMENT approved by a course manager before you start your criterion test.

SIGN OFF

COURSE MANAGER

JA-12

REVIEW RESOURCE DOCUMENTS

OBJECTIVE:

Given one or more resource documents, or portions of a document, identify all tasks. For each task, write one or more task statements.

CRITERION TEST:

Given one or more resource documents, or portions of a resource document, identify by listing or underlining all tasks. For each task identified, write one or more task statements.

INTRODUCTION:

Resource documents are a major source of information about the kinds of work soldiers do on the job. Listed below are many of the resource documents available for existing jobs. An analyst may wish to add to this list based upon his/her experience.

- Technical Manuals (TM)
- Field Manuals (FM)
- Army Regulations (AR)
- Circulars and Pamphlets
- Programs of Instruction (POI)
- Soldier's Manuals (SM)
- Commander's Manuals (CM)
- AOSP (CODAP) Reports
- Previous Task Inventories/Lists
- Threat Scenarios
- ARTEP
- Research Reports
- Field Surveys/Questionnaires
- Product Improvement Plans (PIP)
- Field Feedback Reports
- TOE /TDA
- SOPs
- Minutes of Conferences/Meetings
- New Equipment Status Reports
- QQPRI
- Report on ARTEP Results

A major part of any analyst's job is to review resource documents, to identify work activities, and to write task statements.

SELECTING RESOURCE DOCUMENTS

It would be quite easy to say, "Obtain every available resource document related to the specialty being analyzed," but following such guidance would be a waste of human energy and resources. For each specialty being analyzed, certain documents are essential while other documents are needed on a case-by-case basis. As a minimum, obtain those TOE/TDA, AR, TM, FM, POI, circulars and pamphlets directly related to the specialty being analyzed.

The availability of other documents will be determined by the specialty being analyzed and whether it is equipment or non-equipment oriented. Equipment oriented specialties are jobs which mainly involve the operation and/or maintenance of weapons and equipment systems. The following resource documents will generally be available:

- TM/FM - Contain descriptions of operation and/or maintenance procedures; maintenance allocation charts (MAC); tool and equipment lists; inspection/troubleshooting/checkout procedures.

- POI - Contain descriptions of accepted operation and/or maintenance procedures; inspection/troubleshooting/checkout procedures.

- TOE /TDS - Lists duty positions within the specialty; lists of authorized weapons and equipment.

- Circulars/Pamphlets - Contain current guidance and policy; frequently has latest updated technology.

- SM/CM - Contain critical tasks from previous analysis; references related to the MOS; study materials; equipment and tools.

Other documents which may be available for equipment-oriented specialties include:

- Product improvement plans
- Previous task inventories/lists
- ARTEP
- Research reports
- AOSP (CODAP) reports
- Field feedback reports

NON-EQUIPMENT ORIENTED JOBS

Certain specialties (e.g., personnel, finance, race relations, drug counselor, etc.) are concerned with the delivery of an end-product or

a customer service. The following types of documents contain descriptions of procedures/processes to be followed:

- TM
- FM
- POI
- Circulars
- Pamphlets
- AR

Also useful are SM/CM, AOSP reports, previous task inventories/lists, ARTEPs, and research reports. TOEs/TDAs will help determine the duty positions and any items of authorized equipment which may be operated and/or maintained. If an analysis was performed earlier, obtain copies of any documentation that exists.

WHAT TO DO:

Select one equipment and one non-equipment oriented specialty which is familiar to you.

IDENTIFY WORK ACTIVITES

For each specialty, list five to eight specific resource documents you would review to begin writing task statements for an inventory. Discuss your selections with a colleague. Decide if each document is appropriate for the specialty selected for analysis. Are there additional documents?

The resource documents used in analysis often contain descriptions of work activites, rather than task statements. Work activites must first be identified before writing task statements. The example that follows was taken from FM 24-20, "Field Wire and Field Cable Techniques." The work activities have been underlined. Notice that most of the material describes the equipment used in the work activity.

CHAPTER 4, FM 24-20

SPLICING FIELD WIRE

19. General

Splicing is the method used to join the conductors of field lines to maintain electrical continuity. A splice should have the same tensile strength, electrical conductivity, abrasion and weather protection, and insulation resistance as the unspliced portion of the wire. A poorly made splice introduces transmission loss, increases noise, and generally impairs the quality of the circuit.

20. Wire Splicing Equipment

Field wire splices can be made with either Tool Equipment TE-33 or Wire Splicing Kit MK-356 ( )/G. (Nomenclature followed by parentheses ( ) refers to all models of the items of equipment .

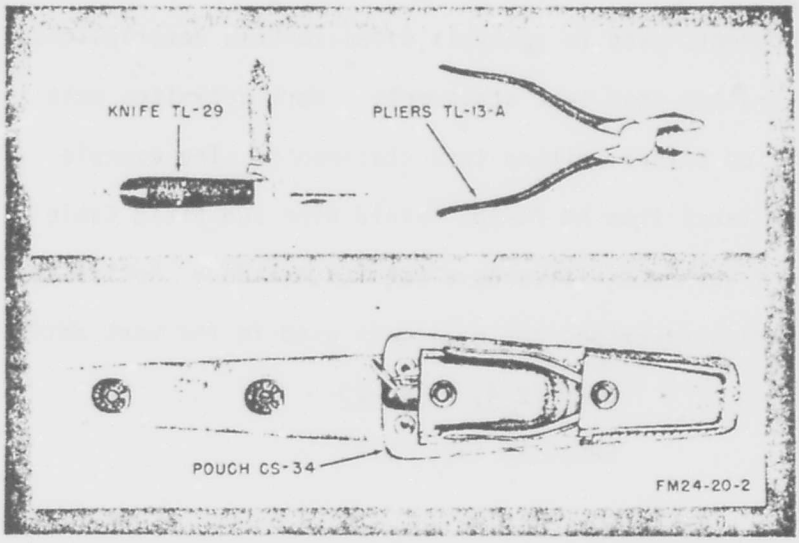


Figure 12. Tool Equipment TE-33.

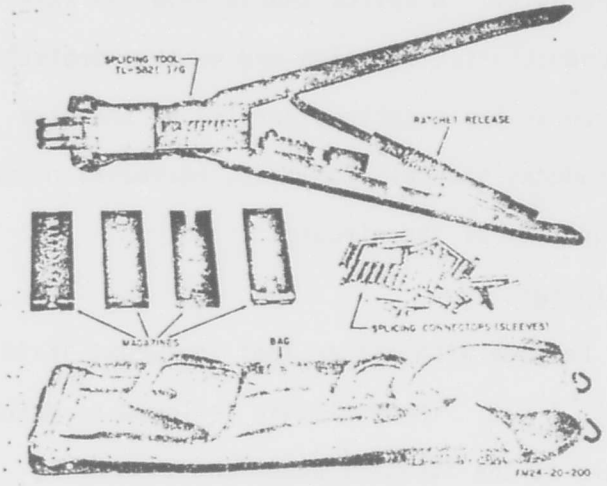


Figure 13. Wire Splicing Kit MK-356( )/G.

a. Tool Equipment TE-33. Tool Equipment TE-33 is used for making field wire splices. It consists of Pouch CS-34, Pliers TL-13-A, and Electricians Knife TL-29. Two types of insulating tapes can be used in making field wire splices: Electrical Insulating Tape TL-636/U (black polyethylene) used in tropical and temperate zones; and Electrical Insulation Tape TL-600-U (white polyethylene), used in the Arctic and during cold weather in temperate zones. Tape TL-83 (friction) may be used for added protection of the splice.

To improve the field splice mechanically and electrically, a small guage, soft-drawn copper wire (known as seizing wire) may be used. (Seizing wire may be obtained from the copper conductors in a piece of field wire.)

b. Wire Splicing Kit MK-356 ( )/G. Wire Splicing Kit MK-356 ( )/G is designed to provide a means for rapidly splicing Wire WD-1/TT (standard splice). The kit consists of Wire Splicing Tool TL-582 ( )/U, 4 magazines, a bag, and 200 splicing connectors (sleeves). TL-582 ( )/U is 12 inches long and weighs approximately 3½ pounds.

(1) Wire Splicing Tool TL-582 ( )/U has three basic parts: the head assembly, the cutter assembly, and the handle assembly.

(a) The head assembly is composed of the magazine housing, the wire guide, the wire holder, and the crimping chamber. (indenter and anvil).

(b) The cutter assembly, mounted on the left handle of the tool, has a wire guide, wire stop, and upper and lower hinged cutting blades. The cutting blades are kept closed by a coiled spring when not in use. Each blade has a groove for stripping insulation from Wire WD-1/TT.

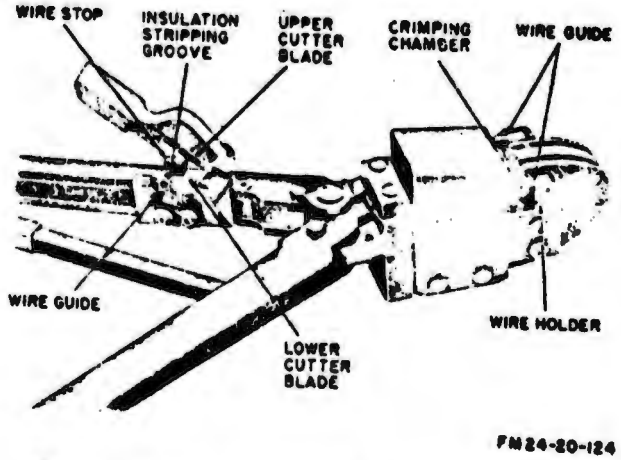


Figure 15. Wire splicing tool: Cutter assembly and head assembly.

(c) The handle assembly includes the handles and a ratchet. The ratchet (on older models) prevents the tool from opening until the splice is complete. This feature ensure that the operator will not make a low-tensile strength splice.

(d) A ratchet release mechanism has been added to the newer model. The mechanism allows the operator to open the tool without completing the crimping operation.

(2) The magazine holds 10 connectors or sleeves. It has a spring, follower, and a retaining slide for locking the connectors in place.

(3) The bag provides a means of carrying the splicing tool and four magazines.

(4) The splicing connector assembly is made up of three concentric sleeves: copper outer sleeve, plastic intermediate insulator, and a copper insert. The copper insert insures tensile strength and conductor connection; the plastic insulator provides a waterproof seal, with the aid of pressure maintained by the outer sleeve. The plastic insulator is belled at each end to form a funnel-like opening for the insertion of the bared wire. The spliced connector assembly provides a waterproof splice without the use of tape.

21. STANDARD FIELD WIRE SPLICE

Steps in making splice:

a. Load the magazine

b. Place the sleeve in the crimping chamber

c. Cut the conductors

d. Strip the insulation from each conductor

e. Insert the bared wires in the corresponding ends of the sleeve.

f. Crimp the sleeve.

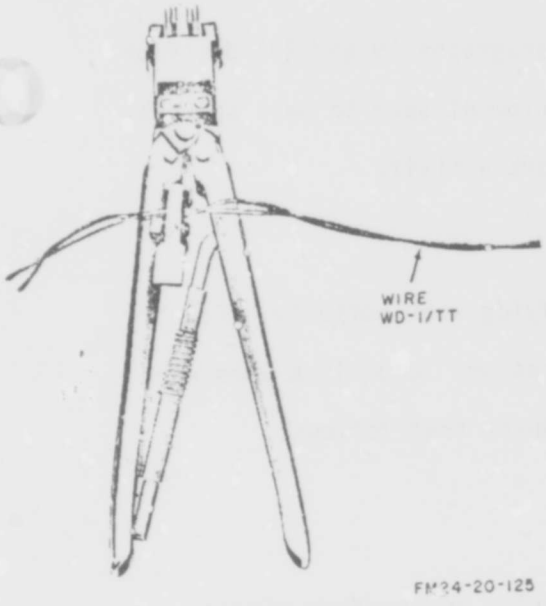


Figure 19. Cutting conductors for a splice.

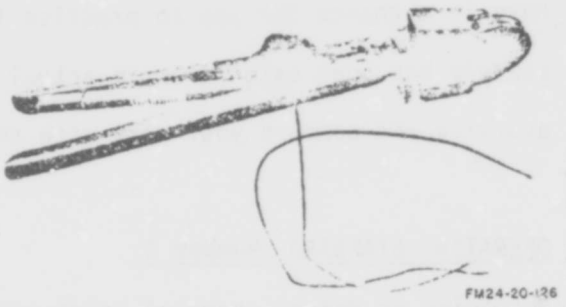


Figure 20. Stripping insulation.

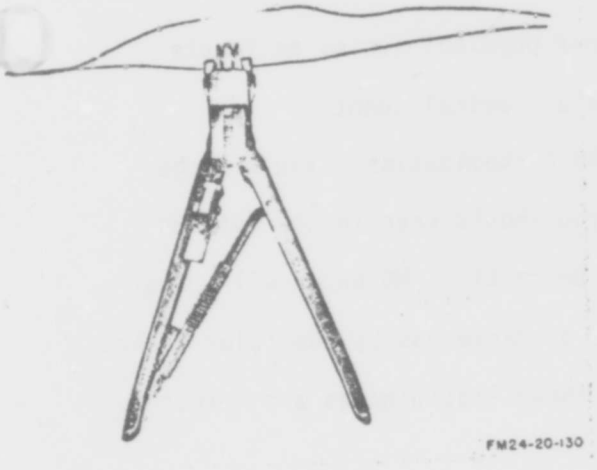


Figure 21. Inserting wire conductor in sleeve assembly.

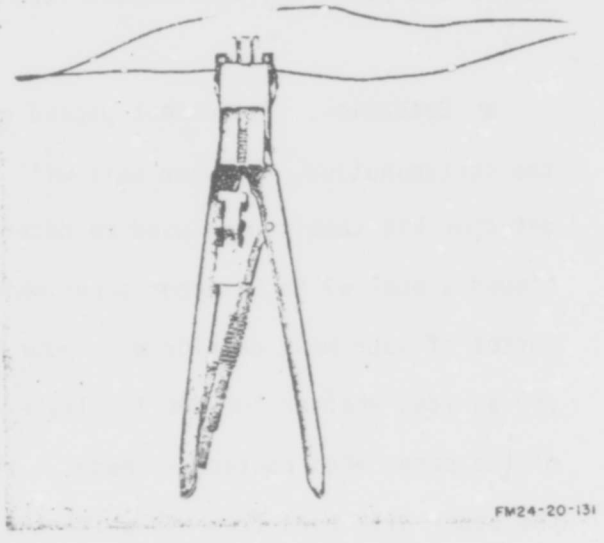


Figure 22. Crimping sleeve.

Figure 23. Completed splice.

Did you notice that most of the material (paragraphs 19 and 20) describes how well a splice should be made and the equipment used to make splices. Paragraph 21 is the only description of a work activity.

PRACTICE EXERCISE

Here is a chance for you to practice identifying work activity. Each example has been taken from an actual publication. Underline each work activity and compare your work with the feedback that follows.

OPERATING STANDARD Number 3

Recognize or detect chemical agent contamination and perform simple decontamination of your weapon, clothing, personal equipment, individual weapon and position, vehicle and crew served weapon.

- Detection. You cannot depend on your physical senses to locate the contamination, but your unit will have a chemical agent detector kit that can be used to detect the contamination. You will be issued a book of M8 Detector paper which you should keep in the outside pocket of your mask carrier with your M13 Decon Kit. M8 paper will give you an idea whether the gas is blister gas or nerve gas by the color change of the paper when contact is made. When these liquid gases are detected, the paper will turn from off-white to:

1. RED: For blister gas
2. DARK GREEN OR BLACK: For nerve gas (persistent)
3. YELLOW: For nerve gas (nonpersistent) (this gas may be in liquid

form for a short time). These colors are shown on the inside cover of the M8 book.

If you must go through an area that may be contaminated, attach a piece of M8 paper to your trouser leg or shirt sleeve (with tape, string or anything to hold it on); this will let you know that you may be contaminated so you can take immediate action.

- Decontamination. You will have two kits that you can use for deconning yourself, clothes and weapon; the M258 Skin Decontamination Kit and the M13 Individual Decontaminating and Reimpregnating Kit. The M258 kit, as you can see, looks a lot like the M13 kit, except that the M258 kit, has web strap and snap clip attached to the back so it can be attached to your mask carrier or pack harness. Inside the cover is a metal cutter blade or spike. Contents of the M258 kit are:

1. 4 gauze pads
2. 2 scraping sticks
3. 2 large plastic capsules hold the decon solutions. They are labeled 1 and 2; number 1 is the smaller capsule.

The M258 kit will decon both nerve and blister gases on your skin. The gauze pads are to soak up liquid gas from your skin, and to swab the decon solutions on your skin. The 2 scraping sticks are for scraping off liquid that won't soak up into the gauze pads. The recommended way to carry the M258 kit is to slip the web strap of the kit over the D-ring strap of the mask carrier, or clip it to the front of the shoulder harness.

When you see liquid contamination on your skin (or if a buddy sees it and tells you) take the following steps IMMEDIATELY:

FIRST: STOP BREATHING AND PUT ON YOUR MASK

SECOND: Open your M258 kit. Take the T-handle of the cover and push it through the web strap of the kit so that you don't lose it.

THIRD: Take out one piece of gauze and soak up the liquid on your skin. If one piece isn't enough to soak up all the liquid, use another one. If the contamination won't soak up into the gauze because it is thick or "greasy," use one or both scraping sticks as shown below, to get the contamination off your skin. Be careful where you throw the used gauze and scraping sticks - they are contaminated, and you don't want them lying around where you can recontaminate yourself.

FOURTH: Take out capsule 1 and punch a hole in the side near the top with the spike attached to the cover of the kit.

Next, take a gauze pad and wet it with solution from capsule.

Now, put the capsule back into the case with punctured end up, so you have both hands free to work, and swab or wipe the contaminated skin with the wet pad for one minute.

FIFTH: Take out capsule 2. There is a glass vial inside the capsule that must be broken. Use the heel of your boot, and butt of your weapon, or a rock to break the vial. When the vial breaks, shake the capsule hard 12 times so that everything in the capsule is well mixed.

Now, puncture the capsule with the spike on the kit cover and wet another piece of gauze. Slip the capsule back into the kit case (punctured end up) so that you can work with both hands, and swab the contaminated skin with

set solution 2 gauze for 2-3 minutes. When you have finished, bury the used gauze and, if used, the scraping sticks. You have now completed the skin decon procedures. Now throw away the M258 Decon Kit.

FEEDBACK:

Compare the work activities we have identified with those you underlined. If you find that you missed one or more work activities, discuss these with a colleague or course manager.

NOTE: The text describes three separate activities: detecting chemical agents with the M8 paper; masking; and individual decontamination using the M258 decon kit. The M13 decon kit is mentioned, but no procedure is given for its use.

OPERATING STANDARD No. 3: FEEDBACK.

Recognize or detect chemical agent contamination and perform simple decontamination of your weapon, clothing, personal equipment, individual weapon and position, vehicle and crew served weapon.

- Detection. You cannot depend on your physical senses to locate the contamination, but your unit will have a chemical agent

detector kit that can be used to detect the contamination. You will be issued a book of M8 Detector paper which you should keep in the outside pocket of your mask carrier with your M13 Decon Kit. M8 paper will give you an idea whether the gas is blister gas or nerve gas by the color change of the paper when contact is made. When these liquid gases are detected, the paper will turn from off-white to:

1. RED: For blister gas

2. DARK GREEN OR BLACK: For nerve gas (persistent)

3. YELLOW: For nerve gas (nonpersistent) (this gas may be in liquid form for a short time). These colors are shown on the inside cover of the M8 book.

If you must go through an area that may be contaminated, attach a piece of M8 paper to your trouser leg or shirt sleeve (with tape, string or anything to hold it on); this will let you know that you may be contaminated so you can take immediate action.

• Decontamination. You will have two kits that you can use for decorning yourself, clothes and weapon; the M258 Skin Decontamination Kit and the M13 Individual Decontaminating and Reimpregnating Kit. The M258 kit, as you can see, looks a lot like the M13 kit, except that the M258 kit, has web strap and a snap clip attached to the back so it can be attached to your mask carrier or pack harness. Inside the cover is a metal cutter blade or spike. Contents of the M258 kit are:

1. 4 gauze pads.
2. 2 scraping sticks.
3. 2 large plastic capsules hold the decon solutions. They are labeled 1 and 2; number 1 is the smaller capsule.

The M258 kit will decon both nerve and blister gases on your skin. The gauze pads are to soak up liquid gas from your skin, and to swab the decon solutions on your skin. The 2 scraping sticks are for scraping off liquid that won't soak up into the gauze pads. The recommended way to carry the M258 kit is to slip the web strap of the kit over the D-ring strap of the mask carrier, or clip it to the front of the shoulder harness.

When you see liquid contamination on your skin (or if a buddy sees it and tells you) take the following steps IMMEDIATELY:

FIRST: STOP BREATHING AND PUT ON YOUR MASK

SECOND: Open your M258 kit. Take the T-handle of the cover and push it through the web strap of the kit so that you don't lose it.

THIRD: Take out one piece of gauze and soak up the liquid on your skin. If one piece isn't enough to soak up all the liquid, use another one. If the contamination won't soak up into the gauze because it is thick or "greasy", use one or both scraping sticks as shown belcw, to get the contamination off your skin. Be careful where you throw the used gauze and scraping sticks -

they are contaminated, and you don't want them lying around where you can recontaminate yourself.

FOURTH: Take out capsule 1 and punch a hole in the side near the top with the spike attached to the cover of tne kit.

Next, take a gauze pad and wet it with solution from capsule.

Now, put the capsule back into the case with punctured end up, so you have both hands free to work, and swab or wipe the contaminated skin with the wet pad for one minute.

FIFTH: Take out capsule 2. There is a glass vial inside the capsule that must be broken. Use the heel of your boot, and butt of your weapon, or a rock to break the vial. When the vial breaks, shake the capsule hard 12 times so that everything in the capsule is well mixed.

Now, puncture the capsule with the spike on the kit cover and wet another piece of gauze. Slip the capsule back into the kit case (puncutred end up) so that you can work with both hands, and swab the contaminated skin with the set solution 2 gauze for 2-3 minutes. When you have finished, bury the used gauze and if used, the scraping sticks. You have now completed the skin decon procedures. Now throw away the M258 Decon Kit.

ADDITIONAL PRACTICE

The following examples will provide additional practice in identifying work activities from various resource documents. Identify (underline or list) each work activity and compare your work with the feedback provided. Should you have questions about identifying work activities, discuss them with a colleague or course manager.

ADDITIONAL PRACTICE 1

List the work activities.

ARMAMENT SUBSYSTEM, HELICOPTER, 20 MILLIMETER AUTOMATIC GUN: M35

MAINTENANCE ALLOCATION CHART

	(2) Functional group	(3) Maintenance functions											(4) Tools and equipment	(5) Remarks
		Inspect	Test	Service	Adjust	Align	Calibrate	Install	Replace	Repair	Overhaul	Rebuild		
1	Armament Subsystem M35	O	O	O	O	O	..	F	..	O	D		1-E, 1-I	
2	Electrical Cable Assemblies, Special Purpose	O	F	..	..	..	..	..	O	F	..			
3	Drive Assembly, Gun	O	O	O	..	..	..	..	O	F	D			

Symbols ..... The assignment of each item's maintenance operation to the lowest level of maintenance is recorded in the appropriate column by the maintenance level symbol "C" for operator / crew, "O" for organizational, "F" for direct support, "H" for general support, and "D" for depot maintenance.

FEEDBACK FOR ADDITIONAL PRACTICE 1

Here is a list of work activities from the Armament Subsystem Maintenance Allocation Chart. (NOTE: The list was developed by matching the maintenance functions or action verbs with the functional group or object.)

1. Inspect Armament Subsystem M35.
2. Test Armament Subsystem M35.
3. Service Armament Subsystem M35.
4. Adjust Armament Subsystem M35.
5. Align Armament Subsystem M35.
6. Install Armament Subsystem M35.
7. Repair Armament Subsystem M35.
8. Overhaul Armament Subsystem M35.
9. Inspect special purpose electrical cables assemblies.
10. Test special purpose electrical cables assemblies.
11. Replace special purpose electrical cables assemblies.
12. Repair special purpose electrical cables assemblies.
13. Inspect gun drive assembly.
14. Test gun drive assembly.
15. Service gun drive assembly.
16. Replace gun drive assembly
17. Repair gun drive assembly
18. Overhaul gun drive assembly.

ADDITIONAL PRACTICE 2

Underline the work activities.

1. General. The lower ball joints carry the weight of the vehicle which keeps the ball firmly seated and the joint constantly loaded during operation. When the vehicle is raised in such a manner as to release the ball joint of the vehicle weight, the ball joint will be noticeably loose. This looseness will probably be due to normal operating clearance. Late model ball joints are of the lube-for-life type and may be easily distinguished from early model types which incorporated grease fittings and required regular lubrication intervals. These ball joints are interchangeable and when replacement is determined, the lube-for-life should be installed.

2. Inspection. Inspect lower ball joint vertical travel as shown in figure 2-335.

a. Check the measurement of ball joint with vehicle resting on wheels.

b. Raise vehicle to remove all vehicle weight from front suspension ball joints. Recheck the measurement of ball joints.

c. If the measurement with the load released is more than 1/8 inch (early model lube fitting type) greater than the measurement taken in step a, replace the lower ball joint.

NOTE

Late model lube-for-life type ball joints should not show any signs of excessive vertical or lateral free play or broken and cracked seal boot.

3. Removel.

a. Remove coil spring (para 2-145).

b. Remove three bolts and locknuts securing lower arm to lower ball joint (fig. 2-366).

c. Remove cotter pin and nut securing lower ball joint and seal to wheel spindle support. Remove ball joint (fig. 2-337).

d. Remove three nuts and bolts securing upper arm to upper ball joint (fig. 2-338).

e. Remove cotter pins and nut securing upper ball joint and seal to wheel spindle support. Remove ball joint (fig. 2-339).

4. Installation. Install ball joints by reversing removal operations. Torque the following attaching parts to the values shown:

Lower arm ball joint mounting nut (3/8-24)	35-40 lb-ft.

FEEDBACK FOR ADDITIONAL PRACTICE 2

1. General. The lower ball joints carry the weight of the vehicle which keeps the ball firmly seated and the joint constantly loaded during operation. When the vehicle is raised in such a manner as to relieve the ball joint of the vehicle weight, the ball joint will be noticeably loose. This looseness will probably be due to normal operating clearance. Late model ball joints are of the lube-for-life type and may be easily distinguished from early model types which incorporated grease fittings and required regular lubrication intervals. These ball joints are interchangeable and when replacement is determined, the lube-for-life type should be installed.

2. Inspection. Inspect lower ball joint vertical travel.

a. Check the measurement of ball joint with vehicle resting travel.

b. Raise vehicle to remove all vehicle weight from front suspension ball joints. Recheck the measurement of ball joints.

c. If the measurement with the load released is more than 1/8 inch (early model lube fitting type) greater than the measurement taken in step a, replace the lower ball joint.

NOTE

Late model lube-for-life type ball joints should not show any signs of excessive vertical or lateral free play or broken and cracked seal boot.

3. Removal.

a. Remove coil spring.

b. Remove three bolts and locknuts securing lower arm to lower ball joint.

c. Remove cotter pin and nut securing lower ball joint and seal to wheel spindle support. Remove ball joint (fig. 2-337).

d. Remove three nuts and bolts securing upper arm to upper ball joint (fig. 2-338).

e. Remove cotter pins and nut securing upper ball joint and seal to wheel spindle support. Remove ball joint (fig. 2-339).

4. Installation. Install ball joints by reversing removal operations. Torque the following attaching parts to the values shown:

Lower arm ball joint mounting nut (3.8-24) 35-40 lb-ft.

ADDITIONAL PRACTICE 3

Underline the work activities.

POSTING CHANGES TO PUBLICATIONS

General rules for posting:

a. Be accurate and neat in your posting. A publication that is incorrectly or illegibly posted is as worthless as one which has not been posted.

b. Use only a sharp black lead pencil. Posting can then be erased easily if future changes or corrections are necessary.

c. Print or write the authority for changing a basic publication in the outside margin of the page (away from the binding edge) by the changed portion. This authority usually is a numbered change, for example, C 1, but may be another publication.

FEEDBACK FOR ADDITIONAL PRACTICE 3

NOTE: This work activity is non-equipment oriented.

POSTING CHANGES TO PUBLICATIONS

General rules for posting:

a. Be accurate and neat in your posting. A publication that is incorrectly or illegibly posted is as worthless as one which has not been posted.

b. Use only a sharp black lead pencil. Posting can then be erased easily if future changes or corrections are necessary.

c. Print or write the authority for changing a basic publication in the outside margin of the page (away from the binding edge) by the changed portion. This authority usually is a numbered change, for example, C 1, but may be another publication or message.

WRITING TASK STATEMENTS FROM IDENTIFIED WORK ACTIVITIES:

In most instances the work activities identified in resource documents will have to be rewritten in the task statement format (action verb, object-acted-upon, qualifying phrase). In many cases the resource document will describe, in detail, the steps necessary to perform a task. When this occurs, you must combine those steps and write a statement which represents the entire task. The following two examples are taken from work activities identified earlier in this module.

EXAMPLE 1 (Refer to page 4 of this module for the complete example)

21. STANDARD FIELD WIRE SPLICE

Steps in making splice:

a. Load the magazine

b. Place the sleeve in the crimping chamber.

c. Cut the conductors.

d. Strip the insulation from each conductor

e. Insert the bared wires in the corresponding ends of the sleeve.

f. Crimp the sleeve.

TASK: Splice field wire with the wire splicing kit MK-356.

The steps have been combined and rewritten as a single task statement.

EXAMPLE 2

(Work activities are underlined)

OPERATING STANDARD NUMBER 3

Recognize or detect chemical agent contamination and perform simple decontamination of your weapon, clothing, personal equipment, individual weapon and position, vehicle and crew served weapon.

- Detection. You cannot depend on your physical senses to locate the contamination, but your unit will have a chemical agent detector kit that can be used to detect the contamination. You will be issued a book of M8 detector paper which you should keep in the outside pocket of your mask carrier with your M13 Decon Kit. M8 paper will give you an idea whether the gas is blister gas or nerve gas by the color change of the paper when contact is made. When these liquid gases are detected, the paper will turn from off-white to:

1. RED: For blister gas
2. DARK GREEN OR BLACK: For nerve gas (persistent)
3. YELLOW: For nerve gas (nonpersistent) (this gas may be in liquid form for a short time.) These colors are shown on the inside cover of the M8 book.

If you must go through an area that may be contaminated, attach a piece of M8 paper to your trouser leg or shirt sleeve (with tape, string or anything to hold it on), this will let you know that you may be contaminated so you can take immediate action.

- Decontamination. You will have two kits that you can use for deconning yourself, clothes and weapon; the M258 Skin Decontamination Kit and the

M13 Individual Decontaminating and Reimpregnating Kit. The M258 kit, as you can see, looks a lot like the M13 kit, except that the M258 kit has web strap and a snap clip attached to the back so it can be attached to your mask carrier or pack harness. Inside the cover is a metal cutter blade or spike. Contents of the M258 kit are:

1. 4 gauze pads.
2. 2 scraping sticks.
3. 2 large plastic capsules hold the decon solutions. They are labeled 1 and 2; number 1 is the smaller capsule.

The M258 kit will decon both nerve and blister gases on your skin. The gauze pads are to soak up liquid gas from your skin, and to swab the decon solutions on your skin. The scraping sticks are for scraping off liquid that won't soak up into the gauze pads. The recommended way to carry the M258 kit is to slip the web strap of the kit over the D-ring strap of the mask carrier, or clip it to the front of the shoulder harness.

When you see liquid contamination of your skin (or if a buddy sees it and tells you) take the following steps IMMEDIATELY:

FIRST: STOP BREATHING AND PUT ON YOUR MASK

SECOND: Open your M258 kit. Take the T-handle of the cover and push it through the web strap of the kit so that you don't lose it.

THIRD: Take out one piece of gauze and soak up the liquid on your skin. If one piece isn't enough to soak up all the liquid, use another one. If the contamination won't soak up into the gauze because it is thick or "greasy", use one or both scraping sticks as shown below, to get the contamination off your skin. Be careful where you throw the used gauze and scraping sticks - they are contaminated, and you don't want them lying around where you can recontaminate yourself.

FOURTH: Take out capsule 1 and punch a hole in the side near the top with the spike attached to the cover of the kit.

Next, take a gauze pad and wet it with solution from capsule.

Now, put the capsule back into the case with punctured end up, so you have both hands free to work, and swab or wipe the contaminated skin with the wet pad for one minute.

FIFTH: Take out capsule 2. There is a glass vial inside the capsule that must be broken. Use the heel of your boot, the butt of your weapon, or a rock to break the vial. When the vial breaks, shake the capsule hard 12 times so that everything in the capsule is well mixed.

Now, puncture the capsule with the spike on the kit cover and wet another piece of gauze. Slip the capsule back into the kit case (punctured end up) so that you can work with both hands, and swab the contaminated skin with the set solution 2 gauze for 2-3 minutes. When you have finished bury the used gauze and , if used, the scraping sticks. You have now completed the skin decon procedures. Now throw away the M258 Decon Kit.

EXAMPLE 2 - OPERATING STANDARD NO. 3

The following task statements were written from the work activities:

Task 1: Recognize/detect chemical agents with the M8 paper.

Task 2: Put on a protective mask.

Task 3: Decontaminate yourself, weapon, clothing and personal equipment.

Many of the underlined work activities are the steps involved with the above tasks. For example, "take out one piece of gauze and soak up the liquid on your skin" and "take out capsule 2," are steps in performing task No. 3 above. This type information will be useful later in the analysis of individual tasks.

WHAT TO DO:

Review the work activities you identified in the earlier additional practice exercise. Rewrite each work activity into one or more task statements. Compare your work with the feedback that follows.

TASK STATEMENTS FOR ADDITIONAL PRACTICE 1

The following task statements were identified from the Maintenance Allocation Chart:

1. Inspect Armament Subsystem M35.
2. Test Armament Subsystem M35.
3. Service Armament Subsystem M35.
4. Adjust Armament Subsystem M35.
5. Align Armament Subsystem M35.
6. Install Armament Subsystem M35.
7. Repair Armament Subsystem M35.
8. Overhaul Armament Subsystem M35.
9. Inspect Special Purpose Electrical Cables Assemblies.
10. Test Special Purpose Electrical Cables Assemblies.
11. Replace Special Purpose Electrical Cables Assemblies.
12. Repair Special Purpose Electrical Cables Assemblies.
13. Inspect Gun Drive Assembly.
14. Test Gun Drive Assembly.
15. Service Gun Drive Assembly.
16. Replace Gun Drive Assembly.
17. Repair Gun Drive Assembly.
18. Overhaul Gun Drive Assembly.

TASK STATEMENTS FOR ADDITIONAL PRACTICE 2

1. Inspect lower ball joint vertical travel.
2. Remove lower ball joints.
3. Install lower ball joints

TASK STATEMENT FOR ADDITIONAL PRACTICE 3

- Post changes to publications.

If you have any questions about selecting resource documents, identifying work activities or writing task statements, discuss them with a colleague or course manager. If not, you are ready for the Criterion Test.

SIGN OFF

COURSE MANAGER

JA-1

DEVELOP A TASK INVENTORY

OBJECTIVE:

Use the results of your own goal analysis, document reviews, and interviews to develop a task inventory for an officer or enlisted specialty you work with.

The inventory must consist of at least 30 tasks clustered by duty position title (and skill level if appropriate).

CRITERION TEST:

Develop a task inventory of tasks for an MOS or specialty you work with.

Use the results of your own goal analysis, document reviews, and interviews to develop the task inventory.

The inventory must consist of at least 30 tasks clustered by duty position title (and skill level if appropriate).

DEVELOP A TASK INVENTORY

In the three modules you have taken prior to this module, you learned three techniques to use when you are in the process of building a task inventory for an MOS or specialty. These techniques are:

- Goal Analysis
- Review of Resource Documents
- Interviews

As a result of using one or all of these techniques, a list of all tasks a soldier might perform in a specialty or MOS can be developed. This list (or task inventory) then becomes a basic document for use in the job analysis process. For example, the task inventory becomes the basic survey tool used in the Army Occupational Survey Program (AOSP) conducted by MILPERCEN. The task inventory is also used as a data collection tool for local surveys. All tasks selected for training are selected from the task inventory. The task inventory becomes the basic instrument used to collect job data from job incumbents and supervisors. After information is collected on all the tasks in the inventory, decisions can be made on what tasks will be trained by the school.

What does a task inventory look like? A task inventory is a long list of all the tasks which might be performed by a soldier in the MOS or specialty you are working with. Usually task inventories are long - they can consist of hundreds of tasks. Some people call task inventories "cookbook lists" because they include anything and everything a

a soldier might be called upon to perform in a particular MOS or specialty.

Look at the example below. It is part of a task inventory for the 63B (Wheel Vehicle Mechanic). The entire inventory consists of 633 tasks.

SAMPLE TASK INVENTORY

63B - Wheel Vehicle Mechanic

Test Ignition Distributor
Replace Beam Selector Switch
Repair Horn Wire
Adjust Alternator
Test Starting Motor
Replace Alternator Drive and Pulley
Inspect Steering System
Replace Radiator Lines and Fittings
Replace Gasoline Choke Control Assembly
Troubleshoot 1/4 Ton Series Steering System for Malfunctions
Inspect Engine Electrical Systems
Review Equipment Inspection Worksheet (DA Form 2404)
Replace Water Pump
Test Regulator
Replace Diesel Engine Fuel Shut-off Cable Assembly
Troubleshoot 2 1/2 Ton Series Steering System for Malfunction
Replace Propeller Shafts
Troubleshoot 1/4 Ton Series Power Train for Malfunctions
Replace Generator Pulley
Replace Tachometer
Replace Clutch Linkage
Inspect Body/Cab/Frame/Towing Attachments
Inspect Engine Assembly
Replace Engine Cover Gaskets
Troubleshoot 2 1/2 Ton Series Spring and Shock Absorbers

SAMPLE TASK INVENTORY

63B - Wheel Vehicle Mechanic

Adjust Headlights
Inspect Assigned Vehicle for Serviceability
Troubleshoot 2 1/2 Ton Series Power Train for Malfunctions
Troubleshoot 5 Ton Series Brakes for Malfunctions
Replace Air Warning Buzzer
Replace Slave Receptacles
Replace Power Train Universal Joints
Replace 1/4 Ton Gasoline Intake Fuel Filter
Replace Shock Absorbers
Service Engine Assembly
Replace Push Button
Troubleshoot 1 1/4 Ton Series Gasoline Fuel Systems
Replace Diesel Final Filter
Test Chassis Wiring Harness
Replace Power Train
Replace Low Pressure Diesel Fuel Lines and Fittings
Replace Ground Straps
Replace Clutch Pedal Pad
Conduct Vehicle Before/During/After Operation Check
Troubleshoot 1/4 Ton Series Body/Cab/Towing Atch
Troubleshoot 5 ton Series Diesel Fuel Systems
Replace Brake Drum
Adjust Clutch Linkage
Adjust Hand Parking Brake
Bleed Brake System
Adjust Fan Belts
Test Batteries
Replace Fan Belts
Replace Radiator Hoses
Replace Spark Plugs
Service Wheel Bearing
Troubleshoot 1/4 Ton Series Gasoline Engine Malfunctions
Test Head and Tail Lights
Replace Head and Tail Lights
Replace Wheel Bearing
Replace Batteries
Service Spark Plugs
Replace Engine Oil Filter Element
Adjust Alternator Belt
Replace Wheel Seals
Adjust Brake Shoe
Adjust Point Set
Adjust Spark Plugs
Adjust Wheel Bearing

SAMPLE TASK INVENTORY

63B - Wheel Vehicle Mechanic

Replace Generator
Inspect Engine Cooling Systems
Adjust Gasoline Engine Carburetor
Inspect Brake Systems
Replace Alternator
Troubleshoot 2 1/2 Ton Series Diesel Engines
Replace Radiator
Replace Battery Cables
Adjust Service Brake Shoes
Replace Hand Parking Brake
Service Engine Oil Filter Element
Replace Master Cylinder
Replace Instrument Gauges
Troubleshoot 2 1/2 Ton Series Brakes for Malfunctions
Troubleshoot 1/4 ton Series Brakes for Malfunctions
Replace Alternator Belt
Replace Directional Signal Relay Control Assembly
Replace Wheel Cylinder
Adjust Throttle Control Assembly
Troubeshoot 1/4 Ton Series Gasoline Fuel Systems
Etc.
.
.
.
633

Review these important points about the inventory:

- All tasks are written in Action Verb and object format.

- The inventory is made up of all tasks a 63B might perform - therefore it can be quite long. (The sample above comes from an inventory of 633 total tasks.)

- The inventory will be used as an instrument to collect data from job incumbents and supervisors.

- The tasks on the inventory should be categorized by duty position title.

- The tasks should be listed in alphabetical order under each duty position title.

- The tasks selected for training are drawn from this inventory.

The above inventory is shown as a simple listing of tasks. It is a first cut at a task inventory. Looking at this list there is no way to identify the skill level or duty position for any of the tasks. This inventory would be incomplete until the tasks were clustered by duty position. After data is collected from the field, there may be a need to revise the inventory to reflect current job status.

Where does a task inventory come from? It is the result of a research effort by the analyst. Strategies such as a goal analysis, document reviews, and interviews are used to draw up the task inventory. Building a task inventory may take the analyst days or weeks. The analyst should use all available strategies to ensure that the inventory has the most complete listing of tasks possible.

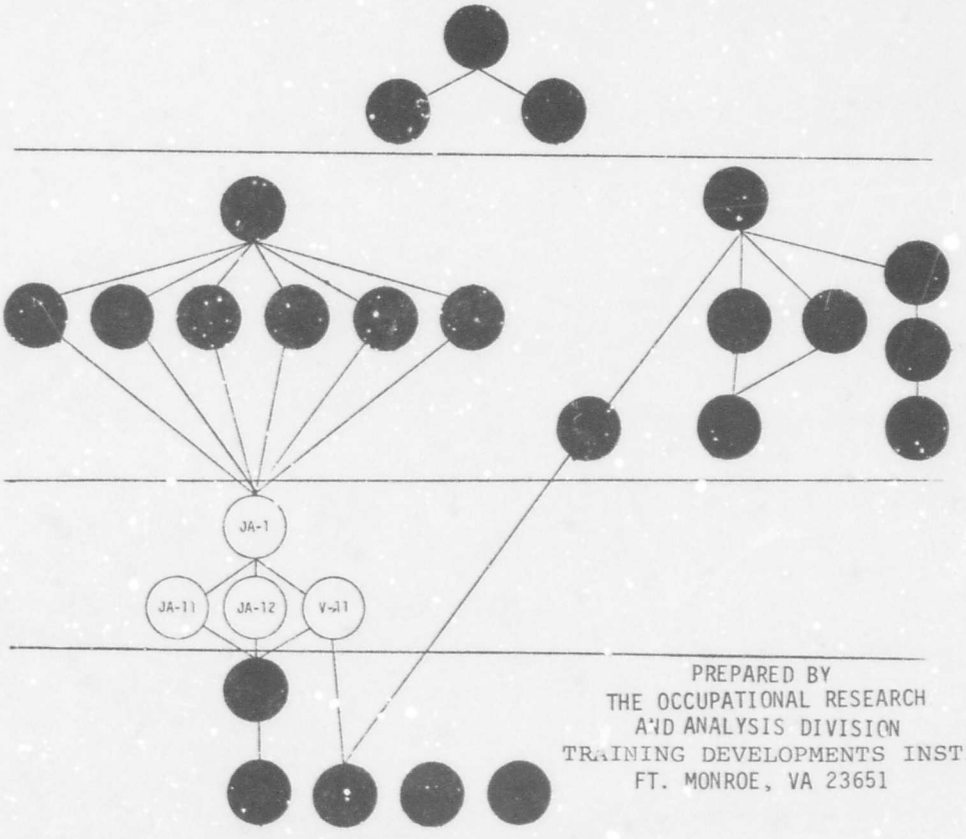
Any questions? If so - see a course manager. If not, go on to the criterion test. In the criterion test you will be asked to develop a task inventory.

TRAINING DEVELOPMENTS INSTITUTE
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION

JOB ANALYSIS MODULES

CRITERION TESTS

VOLUME 4A



PREPARED BY
THE OCCUPATIONAL RESEARCH
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TRAINING DEVELOPMENTS INSTITUTE
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JOB ANALYSIS MODULES

MODULES	TITLE
JA-11	Goal Analysis
JA-12	Review Resource Documents
V-11	Conduct Information Gathering Interview
JA-1	Develop a Task Inventory

SIGN-OFF

COURSE MANAGER

V-11

CRITERION TEST

Locate and discuss with one or more colleagues common work experiences. Choose an area in which you have skill and knowledge. Using the information available in this module and Module V-III, plan and conduct an information-gathering interview about the selected duty area. Record the interview for critique by a course manager. The interview must comply with the guidelines in modules V-III and V-II. Following the interview, write a series of task statements which reflect the tasks performed in the work activity.

SIGN-OFF

COURSE MANAGER

JA-11

CRITERION TEST

GOAL ANALYSIS

---

1. Pick a goal oriented task or duty area statement from an area you are responsible for analyzing. Some examples:

   - Reduce the amount of supplies in the pipeline.
   - Be familiar with small arms storage procedures.
   - Establish a command consultation program.
   - Prevent crimes.
   - Increase the combat effectiveness of the division.
   - Lead a discussion group.

2. Have your goal statement approved by a course manager before you begin.
3. Perform an analysis of your goal.

NOTE TO COURSE MANAGER

Check the participants' goal statement before the analysis begins. Ensure the goal is related to an officer or enlisted specialty for which the participant is proponent. Be sure it is a goal (not a performance) and important to the job analysis or task analysis effort for the appropriate officer or enlisted specialty.

Pairs of participants may work together, but no more than two people may work together. Each person is responsible for producing a goal analysis.

Sign-Off

Course Manager

JA-12

CRITERION TEST

REVIEW RESOURCE DOCUMENTS

Using the enclosed extracts from various resource documents, identify (underline or list) each work activity. For each work activity identified, write one or more statements which reflect the tasks to be performed in the work activity.

RESOURCE DOCUMENT 1

FRONT SHOCK ABSORBERS

a. Removal.

(1) Raise vehicle and position support under lower suspension arm.

(2) Remove two bolts securing lower shock bracket to suspension arm.

(3) Turn mounting bracket 1/4 turn to remove from inside of suspension arm.

(4) Remove locknut securing top of shock absorber to crossmember.

(5) Lift off top washer and mounting bushing. Remove shock absorber through opening in lower suspension arm.

(6) Remove shock absorber mounting locknut, washer, and bushing if shock absorber is to be replaced.

b. Installation. Install front shock absorbers by reversing removal operations. Torque the following attaching parts to the values shown:

Shock absorber lower mounting nut (7/16-20)	15-20 lb-ft.
Shock absorber upper mounting nut (7/16-20)	15-20 lb-ft.
Lower control arm to shock absorber bracket, mounting bolt (3/8-24)	40-45 lb-ft.

IGNITION SYSTEM

2-67. Description and Data

a. Description. The ignition system consists of distributor, coil, ballast resistor, spark plugs, and spark plug cables. The distributor, ignition coil, and ballast resistor are located in a single housing mounted on the right side of the engine block. The distributor is driven by the oil pump from the camshaft. The primary or low-voltage circuit, consists of the batteries, ignition switch, breaker points, primary capacitor, breaker point capacitor, ballast resistor, and the primary windings of the ignition coil. The secondary, or high voltage circuit, consists of the secondary windings of the coil, distributor rotor, distributor cover, cap assembly, spark plugs and spark plug cable assemblies. The ignition system is waterproof and includes devices for suppressing radio interference.

NOTE

In later model vechicles, new model coils, breaker points, and resistors are supplied. When replacing any of these items, the new replacement parts should be used.

b. Data

2-68. Organizational Maintenance

Periodic inspection and lubrication of the ignition system are the responsibility of the using organization. See LO 9-2320-218-12 for detailed instructions.

2-69. Distributor Replacement

a. Removal.

(1) Mark cover to identify spark plug cables for installation. Disconnect.
(2) Disconnect primary cable connector at receptacle.
(3) Remove clamp and remove vent hoses. Remove distributor mounting screw, flat washer and lockwasher located at slotted hole in adapter.
(4) Lift distributor out of adapter

RESOURCE DOCUMENT 3

Tractor Canopy Installation, Removal and Stowage

Installation

a. Put the right, left, and center legs in their sockets. Put the sides with holes to the front of the truck.

b. Put up the crossframe by attaching it to the legs. Turn the sides with holes forward.

c. Install the outside bows. They have curtain rods for the side curtains.

d. Install the center bows. Put the slightly curved part toward the front. All bows slip into the welded brackets on top of the windshield.

e. Install the side curtain brackets. Hold the curtain rods to the brackets with wing nuts.

f. Unroll the canaopy and hold it so the flaps are toward the outside of the truck and the rear windows are at the bottom.

g. Stand in the operator's compartment and thread the rope bead into the rope retainer on top of the windshield.

h. Feed the rope bead into the rope retainer while your assistant pulls the canopy across the front of the truck. Then flip the canopy over the top bows.

i. Install two angles at the back of tne operator's compartment and assistant operator's compartment. Hold with ten bolts. Attach the canopy to the fasteners on the angles.

j. Use flaps to fasten the canopy to the side bows and legs.

k. Run the rope bead through the rope retainers at the sides of the windshield.

l. Use wing bolts to hold the lower front corner to the dash.

m. Secure the canopy to the power unit using the web straps.

n. If you want to put on the side curtains, remove the wing nut at the end of the curtain rod and move the rod to the back.

o. Put the curtain rings on the rod. Put the rod back and tighten the wing nuts.

p. Hold down the side curtains with web straps and fasteners.

q. If you want the curtain open, pull it back and secure with the web straps.

Removal:

Remove the side curtains, canopy and frame in the opposite way that you installed them.

Requisitioning Procedure

a. Resupply is the term used for furnishing you publications by requisition after initial distribution has been completed. It is important to know how to order publications which you did not receive on initial distribution, know how to replace worn out ones, and know how to establish initial distribution. Use DA Form 17 for all resupply requisitions. Read the instructions on the reverse of the form carefully before filling out your requisition. You also will find helpful instructions printed in the center bulletins. The Publications Centers can give you better and faster service if the information on your requisition forms is complete and accurate.

b. Authorized publications which were not received on initial distribution, and required replacements of previously issued publications, may be requisitioned from the Publications Centers at any time. Any organization with an established account may submit requisitons. Remember to order forms from your post publications stockroom or oversea command publications center. Only publications stockrooms or oversea command publications centers can requisition forms from the Publications Centers.

c. If you find you are submitting requisitions frequently, review your initial distribution requirements on the DA Form 12-series as discussed in paragraphs 16 through 20 - they may be too low. Talk with the officers and noncommissioned officers of your unit who are the primary users of publications and forms. Ask them if they are receiving the publications and forms they need, and if they are in the proper quantities. Also, find out if they are receiving publications and forms which they do not need. If changes to your subscription forms are needed, fill out the changed forms as instructed in paragraph 18 and send them promptly to the appropriate Publications Center.

The sooner this is done, the sooner the unit will start receiving its revised requirements automatically.

DA Form 17

a. Use. DA Form 17 (Requistion for Publications and Blank Forms) and DA Form 17-1 (continutaiton sheet) may be used for two purposes -

(1) For resupply requisitions.

(2) To requistion a publication which should have been issued on automatic initial distribution, but was not received.

b. Preparation. Follow the instructions on the reverse of the form. Figure 8 is a completed sample requisiton. After you prepare DA Form 17, recheck it for the following:

(1) Page number and number of pages. Did you fill in the page number and number of pages?

(2) Account number. Have you included your account number with proper center? Omission of your account number will delay the processing of your requisition. If you do not have an account number, leave this block blank.

(3) Item 1, Type of requisition. If you indicated your requisition to be "special," did you provide a justification in item 2?

(4) Item 3, required date. Did you consider the roundtrip mail time between your location and the Publications Center and allow for processing time at the Center, depending upon the number of items in the requisition? Did you use the correct Julian date? The Julian date consists of five digits, the first two representing the year and the last three the calendar day of that year numbered sequentially from 1 through 365 (366 in Leap Year) beginning on 1 January. Examples: 10 Jan 68 - 68010; 2 Jul 68 - 68184. (Calendar day is indicated on U.S. Government calendars.)

(5) Item 4. Did you check the appropriate box?

Resource Document 4 cont.

(6) Item 5, To. Did you address your requisition to the appropriate Publications Center? The items stocked by each center are listed in appendix B. Publications, stockrooms and oversea command publications centers ordering forms should requisition them from the Publications Center upon which they are based for supply. The assigned areas of supply are shown in appendix C.

Personnel Research Test Forms are stocked only at the Baltimore Publications Center. Forms not available from either Publications Center are identified in the numberical lists in DA Pamphlet 310-2 as LRA (Local Reproduction Authorized), S&I (Stocked and Issued) by a specified agency, S&U (Stocked and Used). The S&U forms are not issued to activities other than those cited in the index.

(7) Item 6, Ship to. Is your address given exactly as it appears on your DA Form 12? Did you include your ZIP code?

(8) Item 7, Requirements. Did you number the line items consecutively (col. a); indicate the correct publication numbers and list items by category and in numberical order within category (col. b); and enter the number of copies needed (col. d)? Column c is for use by publications stockrooms and oversea command publications centers when ordering blank forms. The appropriate unit of issue of forms (cut sheet, pad, set, card, etc.) must be entered.

(9) Item 8. Make sure the requisition is signed before it is sent to the Publicaitons Center. Only an original copy is required by the center.

Travel Payment Forms

a. Forms Used.

(1) DD Form 1351 (Travel Voucher) (fig. 1-1).

(2) DD Form 1351-2 (Travel Voucher or Subvoucher) (figs 1-2,1-3, and 1-4).

(3) DD Form 1351-2c (Travel Voucher or Subvoucher Continuation Sheet).

(4) DD Form 1351-4 (Voucher or Claim for Dependent Travel and Dislocation or Trailer Allowance) For additional instructions on preparation, required statements, approvals, substantiation, payments, and income tax withholding, see chapters 9, 11, and 12.

(5) DD Form 1351-6 (Multiple Travel Payments List)

(6) Standard Form 1164 (Claim for Reimbursement for Expenditures on Official Business) (fig. 7-1).

b. Instructions for Preparation.

(1) General. All vouchers will be prepared by use of typewriters or ball point pens with black, blue or blue-black ink. Lead pencils will not be used. The original voucher will not be a carbon impression. The voucher will be completed to show the name, grade, social security account number and official duty station of the payee. The surname, in CAPITAL letters, will be entered before the first name and middle initial. When payment is made in cash, the payee will be required to sign in the block for receipt of cash on the original voucher. If payment is to be made by check, the check number will be placed in the appropriate block on the voucher. The check will be payable to the claimant; it will not be payable to a bank or an assignee. If the member desires to have his check mailed to a financial institution for deposit, he will show the name and address of the institution and his depositor account number, if any, in the address

block of DD Form 1351-2. Attach all original related forms and documents to the original voucher. Attach duplicate to the duplicate voucher. For the delivery of checks, see Section IV, Chapter 4, AR 37-103.

(2) Elapsed time and travel time. The voucher will be annotated to show elapsed time, travel time and official duty time authorized in accordance with Chapter 6. Also, member will be asked to furnish sign out and sign in dates if they are different than the dates of departure or arrival.

(3) Accounting classification. The applicable accounting classification(s) obtained by converting the movement designator code shown in the orders will be entered on travel vouchers in the block for accounting classification(s). When orders show an accounting classification, the complete classification shown (or the corrected one if the cited one is incorrect) will be entered on travel vouchers in the block for accounting classification(s).

(4) Number of copies. The travel vouchers are carbon interleaved forms; however, extra copies may be required to comply with subparagraph c. When extra copies are needed they may be reproduced locally.

(5) Subvoucher referencing. The voucher (and all subvouchers) will be stamped with the D.O. Voucher No. as required by Chapter 6, AR 37-103. All subvouchers covered by a summary voucher will be numbered consecutively beginning with "1". Each summary voucher will show the number of subvouchers attached.

(6) Signature of claimant. A travel voucher must be signed by the claimant, who then becomes responsible for the claim as validity, for payments not received, and for factual, complete, and accurate statements and in formation included on the voucher. The voucher will not be signed by the claimant until it has been prepared to show itinerary and reimbursable expenses, and all supporting documents are attached. Local finance and accounting officers are not authorized to settle claims signed under power of attorney (paragraph 1-64).

5-57. Entry on DD Form 1588 (Record of Travel Payments)

a. Usually the DD Form 1588 will be maintained by the finance and accounting officer who pays the member his regular pay and allowances.

b. The travel clerk completing computation of the travel advance will pull the DD Form 1588 of the traveler from the files or initiate a new DD Form 1588 if none exists. When the DD Form 1588 is forwarded to the Disbursing Branch, a charge out card will be placed in the file to preclude subsequent preparation of a duplicate DD Form 1588. Advance payment entries may be made in colored ink or annotated by a colored marker. All details of the advance except the D.O. Vocher Number will be entered on the DD Form 1588. In addition to the other required data, the remarks section of DD Form 1588 will contain the appropriation symbol (e.g. 2172020) charged with the advance; in the case of specific station funds, the form will include the fiscal station number (e.g. S15-014). The expected date of completion of the travel will be included in the entry. Also, the permanent station will be shown if the traveler is assigned elsewhere. The DD Form 1588 will be attached to the voucher, and when the advance travel payment is made, the D.O. Voucher Number will be entered on the DD Form 1588. The "TVL RCRD POSTED BY" block on the travel voucher will be initialed by the person making the final entry to indicate that all necessary entries have been posted to the DD Form 1588.

RESOURCE DOCUMENT 7

Section II. MAINTENANCE ALLOCATION CHART

(1) Group No.	(2) Functional group	(3) Maintenance functions											(4) tools and equipment	(5) Remarks
		Inspect	Test	Service	Adjust	Align	Calibrate	Install	Replace	Repair	Overhaul	Rebuild		
1.	Armament Subsystem M35	0	0	0	0	0	.	F	.	0	D			
2.	Electical Cable Assemblies, Special Purpose	0	F	.	.	.	.	.	0	F	.			
3.	Drive Assembly, Gun	0	0	0	.	.	.	.	0	F	D			
4.	Feed Chute Assemblies	0	.	0	.	.	.	.	0	0	.			
5.	Feeder Assembly, Delinking XM87	0	0	0	0	.	.	.	0	F	D			

SIGN-OFF

COURSE MANAGER

JA-1

CRITERION TEST

DEVELOP A TASK INVENTORY

Develop a task inventory of task for an officer or enlisted specialty you work with. All tasks must be in the action verb object format.

Use the results of your own goal analysis, document reviews, and interviews to develop that task inventory.

The inventory must consist of at least 30 tasks clustered by duty position title (and skill level if appropriate).

Be prepared to discuss and explain your inventory with a course manager.

JOB ANALYSIS MODULES

FEEDBACK SHEETS

VOLUME 4B

V-11

SIGN-OFF

COURSE MANAGER

SELF-EVALUATION

The following check list should be completed as soon after your interview as possible.

It should be used as a self-feedback for improvement of interviewing skills.

GENERAL	OK	NEEDS IMPROVEMENT
1. Talking more than the subject.	____	____
2. Being brief and concise.	____	____
3. Using open-ended questions.	____	____
4. Thinking before talking.	____	____
5. Use of silence.	____	____
6. Interrupting the subject.	____	____
7. Establishing rapport	____	____
ACTIVE LISTENING SKILLS		
1. Summarizing frequently	____	____
2. Clarifying confusing issues.	____	____
3. Maintaining eye contact.	____	____
4. Reflecting what the subject says.	____	____
CONDUCTING THE INTERVIEW		
1. Showing that I understand the subject	____	____
2. Using appropriate terminology.	____	____
3. Allowing the subject to speak.	____	____
4. Dealing with emotional issues.	____	____
5. Avoiding critizing the subject.	____	____
6. Use of encouraging questions	____	____

CONTROLLING THE INTERVIEW

1. Keeping on the subject. ____ ____

2. Dealing with subject's anger or hostility. ____ ____

3. Dealing with subject's resentment. ____ ____

4. Avoiding incidental remarks. ____ ____

SELF-EVALUATION

Note to Course Manager: The participant must present to you an audio recording of his/her interview and a list of task statements extracted from the interview data. The interview must use appropriate techniques for establishing and maintaining rapport; appropriate questioning techniques such as open-ended questions, comparative questions, probing, and encouraging questions; appropriate techniques for maintaining control of the interview situation. There should be no "leading questions" in the interview. The task list from the interview must conform to guidelines in Module TS-1, Writing Task Statements. The Course Manager must be satisfied that the task list is comprehensive and describes the duty area.

The self-evaluation check list on the next page should be completed by the participant.

Sign-Off

Course Manager

JA-11

GOAL ANALYSIS

NOTE TO COURSE MANAGER

After the participant finishes the goal analysis, check to ensure that the participant has

- Divided the goal into observable behaviors (either tasks or elements of task as appropriate).
- Understood the "size" of the Original goal (task or duty area).

In addition, read the following extract from R.F. Mager Criterion Referenced Workshop (Self-Evaluation, GA-1 Perform Goal Analysis):

> **"Participants must be willing to agree that the results of their analyses as written down are complete. This means they are willing to agree that if a student can perform according to the written statements, the goal is achieved to their satisfaction. If they insist that part of their evaluation of goal achievement must remain subjective, then the analysis is not yet complete.**
>
> **In such a case it would be wise either to suggest further work on the analysis or to help the participant to see that subjective evaluations (those based on unspecified criteria) are not fair to the sutdent and should be either described or deleted.**
>
> **You may find that a participant will report trying to analyze a goal he or she thought important, only to find that the goal evaporated into thin air. Reinforce such reports, as this is a sign that the person has learned something important (namely, that not all goal statements have substance).**
>
> **You may want to accept for this test the analysis done during work on the module. This is acceptable so long as you are assured that the work was completed by the person submitting it.**
>
> **Should you decide to encourage students to work in pairs on this task, they should, of course, submit two analyses."**

SIGN-OFF

COURSE MANAGER

JA-12

FEEDBACK

REVIEW RESOURCE DOCUMENTS

The work activities in each Resource Document have been either underlined or listed. A composite task list by Resource Document is included.

RESOURCE DOCUMENT 1

FRONT SHOCK ABSORBERS

a. Removal.

(1) Raise vehicle and position support under lower suspension arm.

(2) Remove two bolts securing lower shock bracket to suspension arm.

(3) Turn mounting bracket 1/4 turn to remove from inside of suspension arm.

(4) Remove locknut securing top of shock absorber to crossmember.

(5) Lift off top washer and mounting bushing. Remove shock absorber through opening in lower suspension arm.

(6) Remove shock absorber mounting locknut, washer, and bushing if shock absorber is to be replaced.

b. Installation. Install front shock absorbers by reversing removal operations. Torque the following attaching parts to the values shown:

Shock absorber lower mounting nut (7/16-20)	15-20 lb-ft.
Shock absorber upper mounting nut (7/16-20)	15-20 lb-ft.
Lower control arm to shock absorber bracket, mounting bolt (3/8-24)	40-45 lb-ft.

IGNITION SYSTEM

2-67. Description and Data

a. Description. The ignition system consists of distributor, coil, ballast resistor, spark plugs, and spark plug cables. The distributor, ignition coil, and ballast resistor are located in a single housing mounted on the right side of the engine block. The distributor is driven by the oil pump from the camshaft. The primary, or low-voltage circuit, consists of the batteries, ignition switch, breaker points, primary capacitor, breaker point capacitor, ballast resistor, and the primary windings of the ignition coil. The secondary, or high voltage circuit, consists of the secondary windings of the coil, distributor rotor, distributor cover, cap assembly, spark plugs and spark plug cable assemblies. The ignition system is waterproof and includes devices for supressing radio interference.

NOTE:

In later model vechicles, new model coils, breaker points, and resistors are supplied. When replacing any of these items, the new replacement parts should be used.

b. Data

2-68. Organizational Maintenance

Periodic inspection and lubrication of the ignition system are the responsibility of the using organization. See LO 9-2320-218-12 for detailed instructions.

2-69. Distributor Replacement

a. Removal.

(1) Mark cover to identify spark plug cables for installation. Disconnect.
(2) Disconnect primary cable connector at receptacle.
(3) Remove clamp and remove vent hoses. Remove distributor mounting screw, flat washer and lockwasher located at slotted hole in adapter.
(4) Lift distributor out of adapter

RESOURCE DOCUMENT 3

Tractor Canopy Installation, Removal and Stowage

Installation

a. Put the right, left and center legs in their sockets. Put the sides with holes to the front of the truck.

b. Put up the crossframe by attaching it to the legs. Turn the sides with holes forward.

c. Install the outside bows. They have curtain rods for the side curtains.

d. Install the center bows. Put the slightly curved part toward the front. All bows slip into the welded brackets on top of the windshield.

e. Install the side curtain brackets. Hold the curtain rods to the brackets with wing nuts.

f. Unroll the canaopy and hold it so the flaps are toward the outside of the truck and the rear windows are at the bottom.

g. Stand in the operator's compartment and thread the rope bead into the rope retainer on top of the windshield.

h. Feed the rope bead into the rope retainer while your assistant pulls the canopy across the front of the truck. Then flip the canopy over the top bows.

i. Install two angles at the back of the operator's compartment and assistant operator's compartment. Hold with ten bolts. Attach the canopy to the fasteners on the angles.

j. Use flaps to fasten the canopy to the side bows and legs.

k. Run the rope bead through the rope retainers at the sides of the windshield.

l. Use wing bolts to hold the lower front corner to the dash.

m. Secure the canopy to the power unit using the web straps.

n. If ycu want to put on the side curtains, remove the wing nut at the end of the curtain rod and move the rod to the back.

o. Put the curtain rings on the rod. Put the rod back and tighten the wing nuts.

p. Hold down the side curtains with web straps and fasteners.

q. If you want the curtain open, pull it back and secure with the web straps.

Removal:

Remove the side curtains, canopy and frame in the opposite way that you installed them.

Requisitioning Procedure:

a. Resupply is the term used for furnishing you publications by requisition after initial distribution has been completed. It is important to know how to order publications which you did not receive on initial distribution, know how to replace worn out ones, and know how to establish initial distribution. Use DA Form 17 for all resupply requisitions. Read the instructions on the reverse of the form carefully before filling out your requisition. You will find helpful instructions printed in the center bulletins. The Publications Centers can give you better and faster service if the information on your requisition forms is complete and accurate.

b. Authorized publications which were not received on initial distribution, and required replacements of previously issued publications, may be requisitioned from the Publications Centers at any time. Any organization with an established account may submit requisitons. Remember to order forms from your post publications stockroom or oversea command publications center. Only publications stockrooms or oversea command publications centers can requisition forms from the Publications Centers.

c. If you find you are submitting requisitions frequently, review your initial distribution requirements on the DA Form 12-series as discussed in paragraphs 16 through 20 - they may be too low. Talk with the officers and noncommissioned officers of your unit who are the primary users of publications and forms. Ask them if they are receiving the publications and forms they need, and in the proper quanities. Also, find out if they are receiving publications and forms which they do not need. If changes to your subscription forms are needed, fill out the change forms as instructed in paragraph 18 and promptly send them to the appropriate Publications Center. The sooner

Resource Document 4 cont.

this is done, the sooner the unit will start receiving its revised requirements automatically.

DA Form 17

a. Use. DA Form 17 (Requistion for Publications and Blank Forms) and DA Form 17-1 (continutaiton sheet) may be used for two purposes -

(1) For resupply requisitions.

(2) To requistion a publication which should have been issued on automatic initial distribution, but was not received.

b. Preparation. Follow the instructions on the reverse of the form. Figure 8 is a completed sample requisiton. After you prepare DA Form 17, recheck it for the following:

(1) Page number and number of pages. Did you fill in the page number and number of pages?

(2) Account number. Have you included your account number with proper center? Omission of your account number will delay the processing of your requisition. If you do not have an account number, leave this block blank.

(3) Item 1, Type of requisition. If you indicated your requisition to be "special," did you provide a justification in item 2?

(4) Item 3, required date. Did you consider the roundtrip mail time between your location and the Publications Center and allow for processing time at the Center, depending upon the number of items in the requisition? Did you use the correct Julian date? The Julian date consists of five digits, the first two representing the year and the last three the calendar day of that year numbered sequentially from 1 through 365 (366 in Leap Year) beginning on 1 January. Examples: 10 Jan 68 - 68010; 2 Jul 68 - 68184. (Calendar day is indicated on U.S. Government calendars.)

(5) Item 4. Did you check the appropriate box?

(6) Item 5, To. Did you address your requisition to the appropriate Publications Center? The items stocked by each center are listed in appendix B.

Publications stockrooms and oversea command publications centers ordering forms should requisition them from the Publications Center upon which they are based for supply. The assigned areas of supply are shown in appendix C.

Personnel Research Test Forms are stocked only at the Baltimore Publications Center. Forms not available from either Publications Center are identified in the numberical lists in DA Pamphlet 310-2 as LRA (Local Reproduction Authorized), S&I (Stocked and Issued) by a specified agency, S&U (Stocked and Used). The S&U forms are not issued to activities other than those cited in the index.

(7) Item 6, Ship to. Is your address given exactly as it appears on your DA Form 12? Did you include your ZIP code?

(8) Item 7, Requirements. Did you number the line items consecutively (col. a); indicate the correct publication numbers and list items by category and in numberical order within category (col. b); and enter the number of copies needed (col. d)? Column c is for use by publications stockrooms and oversea command publications centers when ordering blank forms. The appropriate unit of issue of forms (cut sheet, pad, set, card, etc.) must be entered.

(9) Item 8. Make sure the requisition is signed before it is sent to the Publicaitons Center. Only an original copy is required by the center.

Travel Payment Forms

a. Forms Used.

(1) DD Form 1351 (Travel Voucher)

(2) DD Form 1351-2 (Travel Voucher or Subvoucher)

(3) DD Form 1351-2c (Travel Voucher or Subvoucher) (Continuation Sheet).

(4) DD Form 1351-4 (Voucher or Claim for Dependent Travel and Dislocation or Trailer Allowance). For additional instructions on preparation, required statements, approvals, substantiation, payments, and income tax withholding, see chapters 9, 11, and 12.

(5) DD Form 1351-6 (Multiple Travel Payments List),

(6) Standard Form 1164 (Claim for Reimbursement for Expenditures on Official Business)

b. Instructions for Preparation.

(1) General. All vouchers will be prepared by use of typewriters or ball point pens with black, blue or blue-black ink. Lead pencils will not be used. The original voucher will not be a carbon impression. The voucher will be completed to show the name, grade, social security account number and official duty station of the payee. The surname, in CAPITAL letters, will be entered before the first name and middle initial When payment is made in cash, the payee will be required to sign in the block for receipt of cash on the original voucher. If payment is to be made by check, the check number will be placed in the appropriate block on the voucher. The check will be payable to the claimant; it will not be payable to a bank or an assignee. If the member desires to have his check mailed to a financial institution for deposit, he will show the name and address of the institution and his depositor account number, if any, in the address

block of DD Form 1351-2. Attach all original related forms and documents to the original voucher. Attach duplicate to the duplicate voucher. For the delivery of checks, see Section IV, chapter 4, AR 37-103.

(2) Elapsed time and travel time. The voucher will be annotated to show elapsed time, travel time and official duty time authorized in accordance with chapter 6. Also, member will be asked to furnish sign out and sign in dates if they are different than the dates of departure or arrival.

(3) Accounting classification. The applicable accounting classification(s) obtained by converting the movement designator code shown in the orders will be entered on travel vouchers in the block for accounting classifications(s). When orders show an accounting classification, the complete classification shown (or the corrected one if the cited one is incorrect) will be entered on travel vouchers in the block for accounting classification(s).

(4) Number of copies. The travel vouchers are carbon interleaved forms; however, extra copies may be required to comply with subparagraph c. When extra copies are needed they may be reproduced locally.

(5) Subvoucher referencing. The voucher (and all subvouchers) will be stamped with the D.O. Voucher No. as required by chapter 6, AR 37-103. All subvouchers covered by a summary voucher will be numbered consecutively beginning with "1". Each summary voucher will show the number of sub-vouchers attached.

(6) Signature of claimant. A travel voucher must be signed by the claimant, who then becomes responsible for the claim's validity, for payment not received, and for factual, complete, and accurate information and

statements included on the voucher. The voucher will not be signed by the claimant until it has been prepared to show itinerary and reimbursable expenses, and all supporting documents are attached. Local finance and accounting officers are not authorized to settle claims signed under power of attorney (paragraph 1-64).

5-57. Entry on DD Form 1588 (Record of Travel Payments)

a. Usually the DD Form 1588 will be maintained by the finance and accounting officer who pays the member his regular pay and allowances.

b. The travel clerk completing computation of the travel advance will pull the DD Form 1588 of the traveler from the files or initiate a new DD Form 1588 if none exists. When the DD Form 1588 is forwarded to the Disbursing Branch, a charge out card will be placed in the file to preclude subsequent preparation of a duplicate DD Form 1588. Advance payment entries may be made in colored ink or annotated by a colored marker. All details of the advance except the D.O. Vocher Number will be entered on the DD Form 1588. In addition to the other required data, the remarks section of DD Form 1588 will contain the appropriation symbol (e.g. 2172020) charged with the advance; in the case of specific station funds, the form will include the fiscal station number (e.g., S15-014). The expected date of completion of the travel will be included in the entry. Also, the permanent station will be shown if the traveler is assigned elsewhere. The DD Form 1588 will be attached to the voucher, and when the advance travel payment is made, the D.O. Voucher Number will be entered on the DD Form 1588. The "TVL RCRD POSTED BY" block on the travel voucher will be initialed by the person making the final entry to indicate that all necessary entries have been posted to the DD Form 1588.

RESOURCE DOCUMENT 7

Section II. MAINTENANCE ALLOCATION CHART

(1) Group No.	(2) Functional group	(3) Maintenance functions											(4) tools and equipment	(5) Remarks
		Inspect	Test	Service	Adjust	Align	Calibrate	Install	Replace	Repair	Overhaul	Rebuild		
1.	Armament Subsystem M35	0	0	0	0	0	.	F	.	0	D			
2.	Electical Cable Assemblies, Special Purpose	0	F	.	.	.	.	.	0	F	.			
3.	Drive Assembly, Gun	0	0	0	.	.	.	.	0	F	D			
4.	Feed Chute Assemblies	0	.	0	.	.	.	.	0	0	.			
5.	Feeder Assembly, Delinking XM87	0	0	0	0	.	.	.	0	F	D			

COMPOSITE TASK LIST

Resource Document 1

Remove front shock absorber.

Install front shock absorber.

Resource Document 2

Remove distributor.

Resource Document 3

Remove/Install Tractor Canopy.

Resource Document 4

Review initial distribution requirements on DA Form 12 series.

Prepare DA Form 17 for publications not received on automatic initial distirbution.

NOTE: This is one of the more difficult resource documents from which to extract work activities and write task statements. If you had no problems here, you are well on your way to being competent in this module.

Resource Document 5

NOTE: The entire document deals with the preparation of various forms. Task statements should be written to identify each specific form, rather than,"Prepare travel payment forms."

Prepare DD Form 1351, Travel Voucher.

Prepare DD Form 1351-2, Travel Voucher or Subvoucher.

Prepare DD Form 1351-2c, Travel Voucher or Subvoucher Continuation Sheet.

Prepare DD Form 1351-4, Voucher or claim for Dependent Travel and Dislocation or Trailer Allowance.

Prepare DD Form 1351-6, Multiple Travel Payment List.

Prepare Standard Form 1164, Claim for Reimbursement for Expenditures on Official Business.

Resource Document 6

Prepare/initiate a DD Form 1588, Record of Travel Payments.

Resource Document 7 (Task List)

Inspect armament subsystem M35.

Inspect special purpose electrical cable assemblies.

Inspect gun drive assembly.

Inspect feed chute assemblies.

Inspect XM 87 delinking feeder assembly.

Service armament subsystem M35.

Service gun drive assembly

Service feed chute assemblies.

Service XM87 delinking feeder assembly.

Adjust armament subsystem M35.

Adjust XM87 delinking feeder assembly.

Align armament subsystem M35.

Install armament subsystem M35.

Replace special purpose electrical cable assemblies.

Replace gun drive assembly.

Replace feed chute assemblies.

Replace XM87 delinking feeder assembly.

Repiar armament subsystem M35.

Repair special purpose electrical cable assemblies.

Repair gun drive assembly.

Repair feed chute assemblies.

Repair XM87 delinking feeder assembly.

Overhaul armament subsystem M35.

Overhaul gun drive assembly.

Overhaul XM87 delinking feeder assembly.

Test M35 Armament subsystem.

Test special purpose electrical cables assemblies.

Test gun drive assembly.

Test XM87 delinking feeder assembly.

Install M35 armament subsystem.

SIGN-OFF

COURSE MANAGER

JA-1

FEEDBACK

DEVELOP A TASK INVENTORY

Check your inventory:

- Are there at least 30 tasks?
- Are the tasks clustered by duty position title (and skill level if appropriate)?

Your tasks should all be written in the action verb and object format.

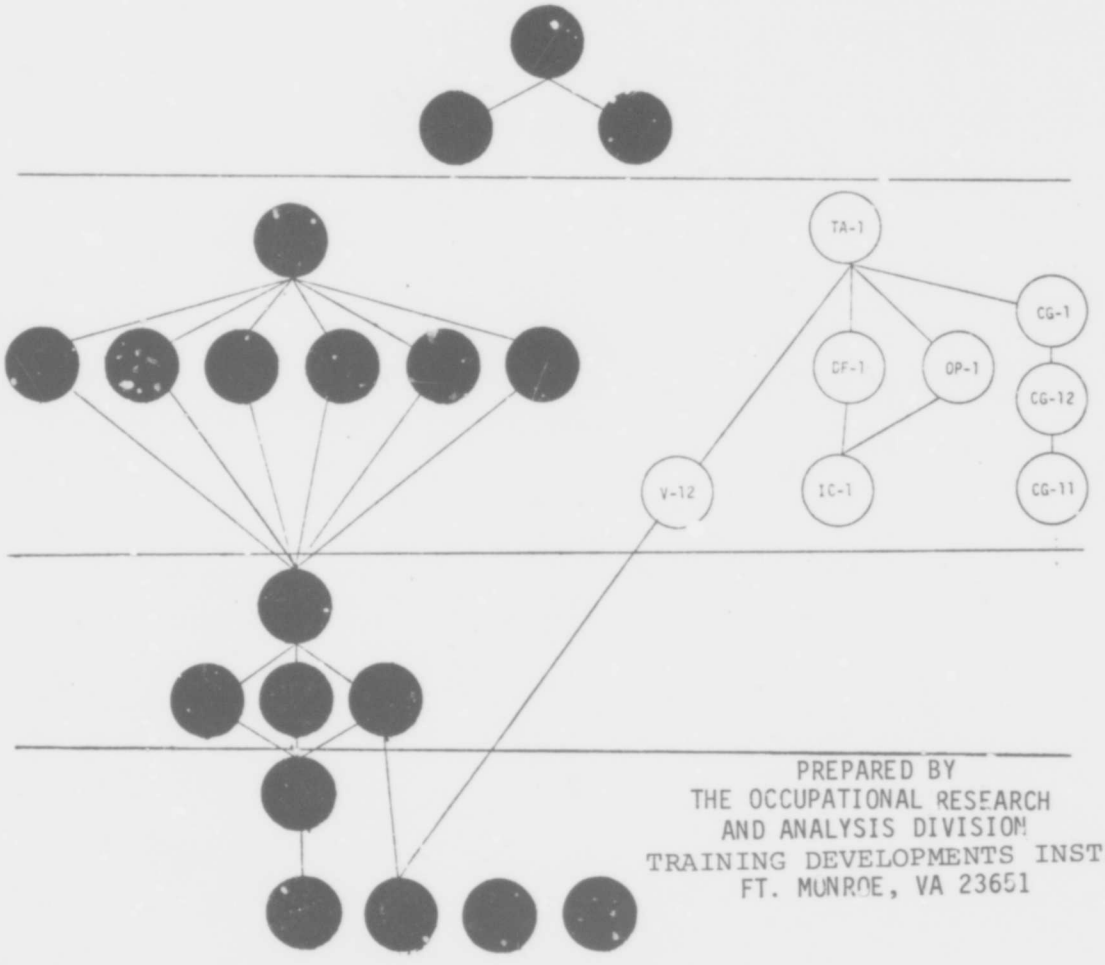
Be prepared to discuss your inventory with a course manager. Be sure you can define the strategies you used to build the inventory. You should be able to explain the source of your task statements.

NOTE TO COURSE MANAGER: Ask the student how the inventory was developed. The student should be able to explain the origin of all tasks on the inventory. Do not sign the student off on this module until you are satisfied he/she has the ability to develop a task inventory on the job.

TRAINING DEVELOPMENTS INSTITUTE
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION

TASK ANALYSIS MODULES

VOLUME 5



PREPARED BY
THE OCCUPATIONAL RESEARCH
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TRAINING DEVELOPMENTS INSTITUTE
FT. MONROE, VA 23651

TASK ANALYSIS MODULES

MODULE	TITLE
V-12	Conduct Observation - Interview
DF-1	Develop Flowcharts
IC-1	Identify Chritiating Cues
CG-11	Plan a Consensus Group
CG-12	Describe Consensus Group Actions
CG-1	Participate in a Consensus Group
TA-1	Record Task Analysis
OP-1	Develop Stimulus - Response Tables (Optional)

OVERVIEW OF TASK ANALYSIS

Task Analysis is the final step in the analysis phase of the ISD Model. After the job has been analyzed and the task inventory has been reviewed to eliminate duplications, inaccurate task statements, and unimportant tasks, a list of tasks selected for training is the result. It is then the job of the analyst to "analyze" the tasks selected for training. The analysis of those tasks involves determining EXACTLY what steps the soldier must perform, what reference materials he uses, etc. There are several methodologies that the analyst may employ to accomplish the task analysis which are the subjects of this track.

DF 1 - Develop Flowcharts: You may have seen and used flowcharts in the past and never have realized it. A flowchart is a "diagram" of a step-by-step procedure. Different symbols are used to indicate what kind of action/decision is employed. In many instances the soldier reaches a decision of which course to pursue. If he gets a "yes" he does one thing, if he gets a "no" then he does something else. The flowchart depicts those actions/decisions.

OP-1 - Develop Stimulus Response Tables (Optional)

(Paradigm pronounced as PAIR-UH-DIME): Stimulus-Response Tables are simply a listing of a Stimulus (what makes something happen) and a Response (what is the resultant action). This is an excellent method for analyzing a task that is controlled by many outside influencing factors.

V-12 - Conduct an Observation/Interview: In many cases the analyst will not be a subject matter expert and will have to rely on the expertise of a job holder to show/tell him how the task is performed. Although it may sound simple, the business of observing and interviewing are highly technical skills that must be utilized extremely carefully in order to obtain all the valid data available.

CG 11 - Plan for Consensus Group Analysis and CG 1 - Participate in a Consensus Group: One of the best methods for obtaining information about a task, especially for one which may be little known or rarely performed is to use a group of experts or job holders that have done the task before. If conditions/standards/and or performance are vague or subject to wide implementation, a group of folks can be put together to arrive at a final "consensus" on how the task ought to be performed. These two modules will teach you how to select the group members, how to control the precedings and participate as a member of a group to achieve the best results.

TA 1 - Record Task Analysis: The final module in the task analysis track is how to record all your task analysis data on a standard form. Although job and task analysis is still a "manual" operation, computer assistance is on the way. By standardizing the format, the change over will be relatively simple. With 22 TRADOC activities doing job and task analysis, it is possible that there would be 22 separate ways of recording the data.

These modules can be done before or after the job analysis track. The only prerequisite requirement is that you complete the introductory modules below the line. Once the analyst has a "valid" task in his hands, he can start the task analysis.

SIGN-OFF

COURSE MANAGER

V-12

CONDUCT OBSERVATION INTERVIEW

OBJECTIVE:

Given an example of a job incumbent performing a task, conduct an observation/interview and collect data to do an analysis of that task. At a minimum, your analysis must include:

- Task Statement (action observed)
- Standards of performance for the task
- Conditions for the task
- Initiating Cues
- Elements or steps in the task
- Indication when the task is complete

CRITERION TEST:

Ask a course manager to provide you with a demonstration of a task being performed. Conduct an observation/interview and collect enough data so that an analysis of the task can be done. At a minimum, your analysis must include:

- Task Statement (action observed)
- Standards of performance for the task
- Conditions for the task
- Initiating Cues
- Elements or steps in the task
- Indication when the task is completed.

The course manager must be in agreement with your analysis.

OBSERVATION/INTERVIEW

INTRODUCTION

One of the best ways to document how people perform tasks is to observe and interview them at work. Direct observation combined with an interview is a powerful technique. It provides on-the-spot action and gives the analyst the chance to ask questions of a job holder as he/she operates in the real world of work. The analyst actually has the chance to see the real thing happening and like Howard Cosell, he can "Tell it like it is."

The perfect task analysis is a record of exactly what the worker does and how he/she does it. This is the goal of all analysts, but this is not an easy undertaking. All analysts are individuals each with a unique personality. There is great danger of recording data which is inaccurate. In fact, if several observers describe the same task performance, their reports may vary because of their personal biases, unique perceptions, emotional involvements, or poor memories. Analysts must screen these elements out of their observations and interviews, and provide objective reports when observing workers on the job.

A skilled observer/interviewer must have practice, experience, and use a basic set of skills during observations.

Practice and experience are closely related: they both take time. This module provides a small degree of practice. More practice and experience will come on the job as more tasks are observed and more interviews are conducted. The main goal of this module is to provide a set of basic observation skills for analysts. Basic interview skills were covered in an earlier module.

HERE IS HOW TO PREPARE FOR THE OBSERVATION PORITION

If you are preparing to perform task analysis by the observation/ interview method, you must consider the following factors:

1. Attention

Any observer must learn to "pay attention." How is this done? Here are three requirements:

- Place yourself in a state of readiness to observe specific task related facts and to ignore other facts.

EXAMPLE

> An analyst is observing a mechanic perform an installation task. About halfway through the performance of the task, the analyst begins to wonder about putting in a suggestion to change the installation procedure.

- Cultivate interest in the job and task area to be observed. This helps the observer watch with an active, inquiring mind, and rivets the observer's attention.

EXAMPLE

Analysts may read about the job, and examine the target population and the role it plays in the field. Studying existing training material used by the target population is also helpful.

- Develop self-control so that observations can be made with minimal interference from the observer.

EXAMPLE

It is allowable to ask questions about a task and the requirements for its performance, but questions such as "Do you like working here?" or "What's that funny tool over there used for?" are inappropriate.

PRACTICE EXERCISE

In two or three sentences, tell how you would train and prepare yourself to "pay attention" to tasks you observe. Discuss your comments with fellow participants. Write your sentences in the space below.

2. Sensation

Depending on the particular type of task being observed, some or all of the five senses (touch, taste, smell, sight, and hearing) may be used during the observation. But the senses are limited and we may need to aid them with devices. For example, the senses are not reliable for making exact measurements of distance, speed, size, or intensity. Therefore, when preparing an observation, it may be necessary to gather or prepare some of the following types of devices:

- Score cards
- Rating Scales
- Checklists
- Schedules
- Mechanical Instruments:
  - Rulers
  - Meters
  - Stop Watches

PRACTICE EXERCISE

List three to four ways you could aid your five senses during observations of tasks in your area of proponency. Briefly explain your answers. Discuss them with a colleague.

	DEVICE	EXPLANATION
1.	_____	_____

	DEVICE	EXPLANATION
2.	_____	_____
3.	_____	_____
4.	_____	_____

3. Perception

When looking at the same object or action, everyone does not "see" the same thing. When preparing to see what really is happening during an observation, remember:

- Past experience can cause an observer to jump to a conclusion.
- Anticipating an event can cause a false observation.
- Strong personal interests can cause the observer to see only those things he wants to see.
- Emotions, motivations, prejudices, mental sets, sense of values, physical condition in the observer can affect the quality of the observation.
- A person tends to see what he knows.

PRACTICE EXERCISE

Get together with a colleague and observe some object or action. Record what you observe and compare notes.

Discuss the differences in what you each "saw." Bring in a course manager for comment if desired.

These differences are due to the attention, sensation, and perception of the observer. Use these processes as starters to "tune-in" to the job at hand. You may develop your own preparation routine as you gain experience doing observation analyses.

HOW TO OBSERVE

What should an analyst look for when assigned to observe a task? He observes task performance and records key elements of data about the task. He must observe and record the following data about the task:

1. Initiating Cues - The signals which tell the worker when to start the task.

2. Conditions - What environment, tools, references, etc, impact on the performance of the task.

3. Actions - Those steps or processes the worker uses when performing the task.

4. Standards - How well the task is done (only if time is a built-in factor).

How can an analyst screen what is observed so that the information recorded is actually a task analysis? He must organize the data observed into a written version of the task. Even if the analyst were able to film everything that occurs, he would still need to present a documented task analysis to the training developers for their design and development functions. The analyst should always ask himself the following:

"What kind of task am I observing?,

"Does the task require discriminations and perceptions?",

"Is it essentially psychomotor (physical), or a problem solving/decision making (mental) task?

Many tasks require discriminations and perceptions on the part of the worker. The chart on the next page points out some areas to be observed.

TASKS INVOLVING MOTOR ACTIONS

If the analyst sees the worker do any of the following actions:	The analyst should record:
• ACTIVATES SWITCHES	• to what setting • where is switch located
• ADJUSTING CONTROLS	• in what direction • where is control located
• PERFORMING COORDINATED - BODY MOVEMENTS	• what is name of movement • description of movement
• PERFORMING FINE PSYCHOMOTOR COORDINATION	• description of coordination required.
• CONVERTS DATA FROM ONE FORM TO ANOTHER	• are tables used • are conversions made in the workers head

Remember: Observations without interviews are practically worthless. Only through the interview can you determine the mental steps or decisions the worker performed during the task. However, care must be taken that the interview does not interfere with or alter the steps performed by the worker. Recall from the earlier module on basic interviewing that you must plan first. We cannot train you in every possible situation, this comes with experience. Your ability to coordinate observation with interview will increase with time. For now it is best to start with short, relatively simple and familiar tasks until you gain experience and confidence. You may wish to complete observations with only a few questions. Afterwards, you may want to conduct a formal interview with the subject.

On the following pages are some helpful guides and hints for coordinating observations with interviews.

TASK PERFORMANCE:

- Tell the soldier that you are now going to observe him performing the task. Explain that you are going to stop him each time he performs a step or action so you can ask him certain questions that will help you to specifically report actual performance.
- Tell him/her that a certain initiating cue has occurred. Ask him/her to do what he/she does first when performing the task.
- Record a description of that first step or action.
- Ask him/her the following questions (and record the answers):
  - Why did you do that? (What action causes you to do that?)
  - Are there any circumstances that would have lead you to perform that step differently? If so, what circumstances?
  - Are there any different circumstances that would have lead you to do the same thing (take the same action)?
    - . What are those circumstances?
    - . What would you have done differently?
  - Did you have to compute, calculate or think about anything before you did that?
- Record each subsequent step and ask the same questions about each one.
- When the soldier indicates that he/she has performed the last step, ask him the following question and record his response:
  - How do you know for sure that you have completed the task?

Some tasks involve mostly motor actions. The chart on page 8 shows you some things to look for in these types of tasks:

All of the preceding items are actions any observer should be alert to during an observation. In addition, the analyst should be alert to the following items during an observation:

- Special tools used
- Test equipment required
- Supply items used
- Personnel requirements
- Forms used
- Equipment condition required
- Notes, cautions and warnings to remember.

HINTS ON AVOIDING ERRORS IN TASK OBSERVATION

As mentioned in the introduction, observation can be a powerful tool in task analysis. However, observation needs to be used properly. The following should help:

- The statement of the job or task observed must be complete and consist only of information about what was observed. Do not add information, or give sketchy information.
- The observer must establish knowledge of the job, understanding of the job and worker, and rapport with the worker.

- The observer must observe more than once. A single job observation will not suffice for a task analysis. The task must be observed more than once as performed by different workers.

The job aid on the following page will help you make decisions about the location of the observation/interview.

LOCATION OF THE OBSERVATION/INTERVIEW JOB AID

If the Location Selected for the Observation/ Interview Is:	And:	Then:
Identical to the actual performance location.		• Record a description of the actual location • Proceed with the observation/interview
Similar to the actual performance location	A location identical to the actual performance location is <u>not</u> available	• Record a description of the actual location • Record a description of the similar location • Proceed with the observation/interview
	A location identical to the actual performance location is available	• Move to the identical location • Record a description of the actual location • Proceed with the observation/interview
Dissimilar to the actual performance location	A location identical to the actual performance location is available	• Move to the identical location • Record a description of the actual location • Proceed with the observation/interview
	A location identical to the actual performance location is <u>not</u> available but a similar location is	• Move to the similar location • Record a description of the actual location • Record a description of the similar location • Proceed with the observation/interview
	Locations identical and similar to the actual performance location are <u>not</u> available	• Record the reasons for the problem • Proceed to the next task

OBSERVATION/INTERVIEW CHECKLIST

( ) 1. **INTRODUCTION**

- Tell the soldier who you are and who you represent.
- Inform the soldier that the purpose of your observation/interview is to obtain information concerning how a task is performed so training can be developed to teach others how to do it; assure him that you are not there to evaluate his performance.

NOTE: AT NO POINT SHOULD YOU CORRECT THE SOLDIER OR CRITICIZE HIS PERFORMANCE.

- Tell the soldier the Task Title that will be the subject of the observation/interview.
- Ask him if he performs that task.

If the Soldier Responds that:	Then:
He performs the task.	Proceed with the observation/interview.
He is not sure if he performs the task.	Explain the task to him so that he can answer the question.
He does not perform the task.	Stop the observation/interview and proceed to your next subject.

- Obtain and record the following personal data from the soldier:
  - Name
  - Grade
  - Unit
  - Time-in-Service
  - Experience performing the task (how long the soldier has been performing the task)

( ) 2. <u>ENVIRONMENTAL CONDITIONS</u>:

- Ask the soldier if the location selected for the observation/interview is identical or very similar to the location where he normally performs the task.

- Description of the environment should include such items as
  - Level of illumination
  - Space available
  - Approximate temperature
  - Presence or absence of precipitation

( ) 3. COMPLETE PERFORMANCE :

- Ask the soldier to perform the task as he would in the field. Tell him not to stop unless he has made an error which would take considerable time to correct.

- Time the performance and record the time (avoid being too obvious).

- Record the performance in general outline form in the detail that time allows without asking the soldier to stop.

- If the soldier stops for any reason, have him start again (time the subsequent performance).

( ) 4. PERFORMANCE CONDITIONS:

- Ask the soldier (based on his experience) what is required to perform the task. Ask him specifically about:

  - tools or tool kits required to perform the task (obtain specific descriptions)

  - equipment that is required to perform the task (obtain specific descriptions).

  - references which are always available on-the-job site and are required to perform the task.

- Record any item cited by the soldier.

( ) 5. SUPERVISION:

- Ask the soldier how frequently his immediate supervisor is present when he performs the task:

  - never present
  - sometimes present
  - always present

- Record the soldier's answer.
- If the soldier indicated that his supervisor is "sometimes present," ask him to estimate the percentage of times his supervisor is present. Record that figure.

( ) 6. INITIATING CUE(S).

- Ask the performer what happens to let him know that he should start performing the task.

NOTE: This information is particularly difficult to obtain in some cases because performers are frequently not sure themselves. You may have to ask a series of questions. If you are having problems, try these questions:

1. Does anyone ever order you to perform this task? Who?
2. Is this task always performed after another task? If so, what is preceding the task?
3. If you were trying to teach another soldier to perform this task on the job, what would you tell that soldier to look out for?
4. Can you think of anything that happens to you on the job that always occurs right before you perform the task?

( ) 7. TASK PERFORMANCE:

- Tell the soldier that you are now going to observe him performing the task. Explain to him that you are going to stop him each time he performs a step or action to ask him

- Record each subsequent step and ask the same questions about each one.

- When the soldier indicates that he has performed the last step, ask him the following question and record his response:

- How do you know for sure that you have completed the task?

See the chart on the next page for tasks requiring discriminations and perceptions.

( ) 8. PERFORMANCE STANDARD

- Ask the soldier the following question:

  Based on your experience, what are the most important differences between someone who performs this task well and another soldier who performs the task poorly?

- Record the soldier's response.

( ) 10. TERMINATION

- Thank the soldier for his cooperation and assure him that he has made a contribution to the Army training program.

- Provide the soldier with your name and AUTOVON telephone number and ask him to call you if he thinks of anything about the task which he did not mention during the interview.

TASKS REQUIRING DISCRIMINATIONS AND PERCEPTIONS

The analyst should see if the worker responds to any of the following:	EXAMPLE:
• Gross Indicators	Light goes on/off meter readings.
• Quantitative Values	Meter must read a certain value. RPM must be 1500. Fuel tanks must be 80% full.
• Relative Motion	Something must move in a specific direction.
• Oscilloscope Waveform Patterns	X Amplitude Y Frequency Z Shape
• Physical Defects	Detect frayed wires. Detect bent parts. Detect rusted covers.
• Discriminate Odors	Oil/Gas Leaks. Burnt food.
• Presence/Absence of Sounds or Vibrations.	Rattlefree acceleration Smooth hum of motor
• Pitch or Other Characteristics of a Sound	High frequency Low frequency

certain questions that will help you to specifically report actual performance.

- Tell him that one of the initiating cues identified above has occurred. Ask him to do what he does first when performing the task.

- Record a description of that first step or action.

- Ask him the following questions (and record his answers):

  - Why did you do that? (What happened that told you to do that?)

  - Are there any circumstances that would have lead you to perform that step differently? If so, what circumstances?

  - Are there any different circumstances that would have lead you to do the same thing (take the same action)?
    What are those circumstances?
    What would you have done differently?

  - Did you have to compute, calculate or think about anything before you did that?

  - How do you know this step has been completed?

PRACTICE EXERCISE

Now practice using the Job Aid in conducting an observation/ interview. Ask a colleague to perform a simple task (sharpen a pencil, clean his glasses, etc). Conduct an observation/interview to detail performance of the task. Record necessary information (in writing) on separate sheets of paper when indicated by the job aid.

When you have completed this practice exercise and feel comfortable using the Job Aid, start the Criterion Test.

SELF-EVALUATION

The following check list should be completed as soon after your interview as possible.

It should be used as a self-feedback for improvement of interviewing skills.

GENERAL	OK	NEEDS IMPROVEMENT
1. Talking more than the subject.	____	____
2. Being brief and concise.	____	____
3. Using open-ended questions.	____	____
4. Thinking before talking.	____	____
5. Use of silence.	____	____
6. Interrupting the subject.	____	____
7. Establishing rapport	____	____
ACTIVE LISTENING SKILLS		
1. Summarizing frequently	____	____
2. Clarifying confusing issues.	____	____
3. Maintaining eye contact.	____	____
4. Reflecting what the subject says.	____	____
CONDUCTING THE INTERVIEW		
1. Showing that I understand the subject	____	____
2. Using appropriate terminology.	____	____
3. Allowing the subject to speak.	____	____
4. Delaying with emotional issues.	____	____
5. Avoiding critizing the subject.	____	____
6. Use of encouraging questions	____	____

CONTROLLING THE INTERVIEW

1. Keeping on the subject. _____ _____

2. Dealing with subject's anger or hostility. _____ _____

3. Dealing with subject's resentment. _____ _____

4. Avoiding incidental remarks. _____ _____

REVIEW EXERCISE

The following review is designed to help you prepare for the criterion test.

Answer the following statements with either "agree" or "disagree."

1. During an observation interview, the interviewer should do about 65 to 75 percent of the talking.

2. Interviews need not be conducted during an observation.

3. Some or all of the five senses (hearing, seeing, smelling, tasting, feeling) may be used during an observation interview.

4. Past experiences can prevent accurate perceptions of what you see during an observation interview.

5. Emotions, motivations, prejudices and mental states can all effect the quality of information collected in an observation interview.

6. Very little planning is needed for the observation interview.

7. Rapport is not an essential part of observation interviews.

Check your work with the feedback on the following page.

FEEDBACK

1. Disagree. Too much conversation will interfere with the subject's ability to perform the task.

2. Disagree. Observations without interviews are almost always useless.

3. Agree.

4. Agree.

5. Agree.

6. Disagree. You should plan for every observation interview.

7. Disagree. Rapport is very important to the collection of accurate information.

SIGN-OFF

COURSE MANAGER

IC-1

IDENTIFY INITIATING CUES

OBJECTIVE:

Given one or more resource documents describing tasks, identify the initiating cues described for the tasks and any missing or incomplete initiating cues.

CRITERION TEST:

Using the attached extracts from resource documents describing tasks, list all initiating cues described and put a question mark for any obviously missing initiating cues. Beside any cue that is incomplete, put a check (✓). You will be allowed two errors.

IDENTIFY INITIATING CUES

A cue is a hint to perform an action. A line spoken by an actor is the "cue" for another actor to come on stage. A factory whistle at 4 o'clock is a signal, or cue, for the workers to go home.

"Initiate" means "to cause the beginning of." Therefore, "initiating cue" can be defined as follows:

INITIATING CUE

Things in one's surroundings which stimulate any of the senses (smell, taste, touch, hearing, sight) and causes a person to begin performing a purposeful task.

EXAMPLES:

Initiating Cue		Work Activity
Dripping faucet	(Initiates)	Replace the washer
Smell of burning insulation	(Initiates)	Check wiring for overload

PRACTICE EXERCISE I

Indicate (✓) which of the following would stimulate one of your senses.

_____Mom's fresh baked apple pie.

_____A bright flashing light.

_____An open cess pool.

_____Very strong coffee.

CHECK FEEDBACK ON NEXT PAGE.

FEEDBACK 1

Probably all of them would!

✓ Mom's fresh baked apple pie. (smell)

✓ A bright flashing light. (sight)

✓ An open cess pool. (smell)

✓ Very strong coffee. (smell, taste)

Any questions? If not, go on to PRACTICE EXERCISE 2.

PRACTICE EXERCISE 2

The following statements contain descriptions of initiating cues or tasks. Label each part as an initiating cue (IC) or a TASK.

1. Oil pressure light comes on _____
2. Telephone rings _____
3. Change a flat tire _____
4. Tea kettle "Whistles" _____
5. Reset the ignition points _____

CHECK FEEDBACK ON NEXT PAGE

FEEDBACK 2

1. Oil pressure light comes on IC
2. Telephone rings IC
3. Change a flat tire TASK
4. Tea kettle "whistles" IC
5. Reset the ignition points TASK

Any questions? If not, go on.

PRACTICE EXERCISE 3

See if you can label the initiating cue (IC) and TASK in the following statements. (Remember, an initiating cue is a hint to start doing something.)

1. Administer CPR _____ if the patient's pulse stops _____.
2. When the telephone rings _____, answer the phone _____.
3. When the supervisor gives you a work order _____, you will do the repairs indicated on the forms _____.
4. Clear the weapon _____ if the rifle misfires _____.
5. If the coffee is too bitter _____, make a fresh pot _____.

CHECK FEEDBACK ON NEXT PAGE

FEEDBACK 3

1. Administer CPR TASK if the patient's pulse stops IC.
2. When the telephone rings IC, answer the phone TASK.
3. When the supervisor gives you a work order IC, you will do the repairs indicated on the forms TASK.
4. Clean the weapon TASK if the rifle misfires IC.
5. If the coffee is too bitter IC, make a fresh pot TASK.

Any problems? If so, see your course manager. If not, continue on with module.

Recognizing the initiating cue for a task is as important for a soldier as performing the task. The following example illustrates this point:

> PFC Jones goes to work at 0700 hours. He stops off at the Motor Pool and picks up the General's sedan. On the way to Post Headquarters, the oil light comes on. PFC Jones stops the car, gets out, and changes the front tire.

This may be a ridiculous example, but it makes a point. PFC Jones can change a tire, but obviously does not know <u>when</u> to change a tire. In other words, PFC Jones does not know the initiating cues for the task, "change a tire"; or the task, "check the oil."

PRACTICE EXERCISE 4

For some tasks there may be more than one initiating cue. List all cues that you can think of which would initiate the task "change a tire."

CHECK FEEDBACK ON NEXT PAGE

FEEDBACK 4

Here are some cues that you may have listed:

1. Car pulls to one side when driven.
2. Sound of rubber flapping on pavement.
3. Car vibrates when driven.
4. Sight of a flat tire.
5. A popping sound and car becomes difficult to control.

In many instances the same cue may (appear to) initiate several different tasks. If the temperature gauge in a vehicle reads "hot," you might need to replace a broken water hose, replace the thermostat, repair or replace the radiator, replace the radiator cap, etc. An initiating cue which appears to start several different tasks really starts a trouble-shooting procedure. For the initiating cue mentioned above, you would actually go through a series of checks. If you saw that the water hose was broken, you would replace it. In other words, an initiating cue may start a troubleshooting check which would produce one or more other initiating cues to start repair or replacement tasks.

INITIATING CUE

"Automatic Transmission Slips When Pulling off from a Dead Stop."

TASK

Check fluid level in transmission

INITIATING CUE

Fluid level is low

TASK

Add fluid

TASK

Inspect for signs of leakage

INITIATING CUE

Leaks

TASK

Notify supervisor

PRACTICE EXERCISE 5

See if you can list at least three tasks (or "checks") that could be initiated by this cue:

"Engine turns over, but will not start"

1.

2.

3.

CHECK FEEDBACK ON NEXT PAGE

FEEDBACK 5

You may have listed some others, but we have these as some of the possible tasks:

1. Check fuel gauge level.
2. Test ignition coil.
3. Test for spark at plug (wires).
4. Check carburetor.
5. Check distributor/points/rotor cap.
6. Check fuel pump.

NOTE: Each of these tasks will yield further information (cues) about the problem. However, tasks such as "check starter" yield no cues since we know the engine is turning over. We are not deciding the order in which the tasks are performed. Precise ordering of tasks is beyond the scope of this module.

Let's examine one of these tasks - "Check distributor." The distributor cap may be cracked or wet; the points may be pitted or poorly gapped; or the rotor may be broken. (Points may need to be cleaned, replaced, or reset.) What distributor initiating cues would tell you to do each of these tasks?

INITIATING CUE	TASK
1. Cracked distributor cap	Replace distributor cap
2. Points are dirty	Clean points
3. Pitted points	Replace points
4. Points do not open/close when cranking	Reset points

Initiating cues may be identified through a review of the publications which describe tasks. These publications include but are not limited to:

- Technical Manuals (TM)
- Field Manuals (FM)
- Army Regulations (AR)
- Circulars and Pamphlets
- Programs of Instruction (POI)
- Soldier's Manuals (SM)

Most initiating cues found in the above publications will not be labeled as cues. Therefore, you should look for statements that say WHEN ..., then do ...; or IF ..., then do ...

Many initiating cues are not stated in publications, thus you must observe and/or interview experienced job holders. During this process, the worker must perceive you as an analyst, as opposed to someone evaluating his/her work performance. Interviewing will be covered in detail in a separate module.

In Combat Armys jobs, many of the initiating cues which occur on the battlefield, for example live fire, chemical or biological agents, casualties, must be simulated in the training environment. In these instances, it is necessary to document both the battlefield cue (live fire), and the simulated cue (an artillery simulator).

PRACTICE EXERCISE 6

Ready to practice? Read the following and list the initiating cues that tell a soldier to put on a protective mask if a biological attack is suspected.

A biological attack may be suspected if you see—

	*Shells* that explode less powerfully than HE rounds.
	Aircraft spraying - a mist or fog.
	*Vectors* - insects that are new in your area, or large swarms of insects.
	Aerial bombs - bombs or containers that contain bomblets pop rather than explode and cause only minor damage.
	*Aerosol generators* - any kind of device that is spraying a mist or fog.
	Guided missiles and rockets - bomblets that seem to have little immediate effect.
	*Miscellaneous* - many people sick for no known reason.

You have 9 seconds to put your mask on and clear it. You have another 6 seconds to get the hood in place. Remember, the faster you get your mask on and cleared, the less gas or fewer germs you will breathe.

CHECK FEEDBACK ON NEXT PAGE

FEEDBACK 6

1. Sound of shells exploding less powerfully than HE rounds.
2. Sight of aircraft spraying a mist or fog.
3. Sight of insects new in your area.
4. Sight of large swarms of insects.
5. Sound or sight of bombs or containers that pop rather than explode.
6. Sight of bombs that cause only minor damage.
7. Sight of any device that is spraying a mist or fog.
8. Sight of guided missiles and rockets that seem to have little immediate effect.
9. Many people sick for no known reason.

ACTIVITY 7

The following troubleshooting table contains tasks and initiating cues. On the next page is a worksheet listing the various tasks. For each task, write the initiating cue or cues found in the troubleshooting table. Put a question mark in place of any initiating cues which are missing.

TROUBLESHOOTING TABLE

MALFUNCTION	PROBABLE CAUSE	CORRECTIVE ACTION
Range scale light on computer M13 or M13A1 does not illuminate	a. No power source to computer	a. Check power source Tighten or replace computer electrical connector receptacle.
	b. Lamp defective	b. Replace lamp
	c. Range scale light receptacle loose or making poor contact	c. Tighten or replace receptacle or replace conical spring
	d. Defective wiring	d. Check computer wiring
	e. Contact dirty or not making contact	e. Clean or slightly bend contact

PRACTICE EXERCISE 7 WORKSHEET

TASK	INITIATING CUE(S)
1. Check power source	1.
2. Tighten computer electrical connector receptacle	1.
	2.
3. Replace computer electrical connector receptacle.	1.
	2.
4. Replace lamp	1.
	2.
5. Tighten range scale light receptacle	1.
	2.
6. Replace range scale light receptacle.	1.
	2.

7. Replace conical spring 1.

2.

8. Check computer wiring 1.

9. Clean contact 1.

2.

10. Adjust contact 1.

2.

CHECK FEEDBACK ON NEXT PAGE.

FEEDBACK 7

Perhaps you noticed when trying to identify the initiating cues in this troubleshooting table that the information was jumbled up and some pertinent data was missing. This table was taken from an actual Technical Manual and is, therefore, representative of publications you'll have to deal with as an analyst. If the initiating cues had been identified before the development of the manual, the table would be more valuable to soldiers who have to use the TM in performing their job.

Here is what we found:

TASK	INITIATING CUE(S)
1. Check power source.	Range scale light does not illuminate.
2. Tighten computer electrical connector receptacle.	Range scale light does not illuminate. ? (You may have said that the electrical receptacle is loose, but that was not actually stated in the table.)
3. Replace computer electrical connector receptacle.	Range scale light does not illuminate. ? (Again, the cues that would tell you when the electrical connector receptacle is bad are not spelled out.)
4. Replace lamp.	Range scale light does not illuminate. Lamp is defective. (Incomplete. It doesn't tell you how you know the lamp is defective.)
5. Tighten range scale light receptacle.	Range scale light does not illuminate. Light receptacle loose.

6.	Replace range scale light receptacle.	Range scale light does not illuminate. ?
7.	Replace conical spring.	Range scale light does not illuminate. Light receptacle is making poor contact. (Here again, this isn't a very clear cue.)
8.	Check computer wiring	Range scale light does not illuminate. (Notice that the chart never tells you what to do if the wiring is defective. You may have added a task "replace wiring" with the associated incomplete initiating cue, "wiring is defective.")
9.	Clean contact.	Range scale light does not illuminate. Contact is dirty.
10.	Adjust contact	Range scale light does not illuminate. Contact is not making contact.

If you had little difficulty with these two activities, you may want to proceed to the criterion test. If you want more practice, go to PRACTICAL EXERCISE 8

PRACTICE EXERCISE 8

The worksheets on the following pages list tasks found in the following troubleshooting table. On the worksheets, write the initiating cue(s) for each task listed. If an initiating cue is missing from the table, put a question mark in place of the cue. Note that same cue may be used to initiate more than one task.

TROUBLESHOOTING TABLE

MALFUNCTION	PROBABLE CAUSE	CORRECTIVE ACTION
Ammo selector handle binds when changing position of cam follower	a. Defective seal causing seizure of shaft.	a. Replace seal
	b. Incorrect position of cams	b. Reposition spacers and cams
	c. Other malfunction not indicated	c. Refer computer to depot maintenance

MALFUNCTION	PROBABLE CAUSE	CORRECTIVE ACTION
Reset indicator light does not illuminate.	a. Lamp defective.	a. Replace lamp
	b. Defective interrupter switch.	b. Replace switch
	c. Interrupter switch bracket stuck in position.	c. Free bracket or replace spring
	d. Reset indicator light assembly defective	d. Replace reset indicator light assembly.
	e. Superelevation handcrank remains in manual position.	e. Disassemble superelevation handcrank assembly, clean, and, if necessary, replace encased seal and handcrank compression spring.

PRACTICE EXERCISE 3 WORKSHEET

TASK	INITIATING CUE(S)
1. Replace seal	1.
	2.
2. Reposition spacers and cams	1.
	2.
3. Refer computer to depot maintenance	1.
	2.
4. Replace reset indicator lamp	1.
	2.
5. Replace reset indicator light switch	1.
	2.
6. Free interrupter switch bracket	1.
	2.
7. Replace interrupter switch bracket spring	1.
	2.
	3.

8. Replace reset indicator light assembly

1.

2.

9. Disassemble superelevation handcrank assembly.

1.

2.

10. Clean handcrank assembly.

1.

2.

3.

11. Replace encased seal

1.

2.

3.

4.

12. Replace handcrank compression spring

1.

2.

3.

4.

CHECK FEEDBACK ON NEXT PAGE

FEEDBACK 8

TASK	INITIATING CUES
1. Replace seal	Ammo selection handle binds when changing position of cam follower.
	Defective seal. (Actually, the cue should be more specific; such as "seal has holes in it")
2. Reposition spacers and cams	Ammo selector handle binds when changing position of cam follower.
	Incorrect position of cams.
3. Refer computer to depot maintenance.	Ammo selector handle binds when changing position of cam follower.
	No other malfunction can be isolated.
4. Replace reset indicator lamp	Reset indicator light does not illuminate.
	Lamp defective. (Incomplete. How do you know when the lamp is defective?)
5. Replace reset indicator light switch	Reset indicator light does not illuminate.
	Defective interrupter switch. (How do you know it's defective?)
6. Free interrupter switch bracket.	Reset indicator light does not illuminate.
	Interrupter switch bracket stuck in position.
7. Replace interrupter switch bracket spring.	Reset indicator light does not illuminate.
	Interrupter switch bracket stuck in position.
	Bracket cannot be freed (the trouble-shooting chart didn't actually say this; you have to infer it).

8. Replace reset indicator assembly.	Reset indicator light does not illuminate. Reset indicator light assembly defective. (Again, this is not a well-stated cue.)
9. Disassemble superelevation handcrank assembly.	Reset indicator light does not illuminate. Superelevation handcrank remains in manual position.
10. Clean superelevation handcrank assembly.	Reset indicator light does not illuminate. Superelevation handcrank remains in manual position. Superelevation handcrank assembly has been disassembled.
11. Replace encased seal.	Reset indicator light does not illuminate. Superelevation handcrank remains in manual position. Superelevation handcrank assembly has been disassembled and cleaned. ?, (How do you know when it is "necessary" to replace the encased seal?)
12. Replace handcrank compression spring.	Reset indicator light does not illuminate. Superelevation handcrank remains in manual position. Superelevation handcrank assembly has been disassembled and cleaned. ? (How do you know when it is "necessary" to replace the spring?)

If you are still having difficulty, seek assistance from a colleague or a course manager. When you are ready, take the Criterion Test.

SIGN-OFF

Course Manager

DF-1

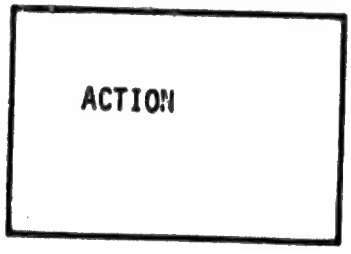
DEVELOP FLOWCHARTS

OBJECTIVE: Given a narrative summary (from either a resource person or publication) of the performance content of a task, develop a flowchart which shows the initiating cues, actions and decisions in that task.

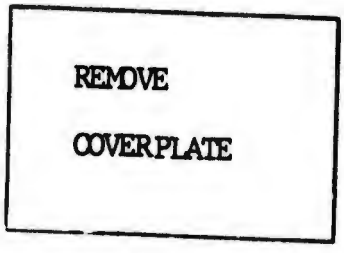
CRITERION TEST: Given a narrative of the performance content of a task, develop a flowchart which shows the initiating cues, actions, decisions and termination of the task.

INTRODUCTION

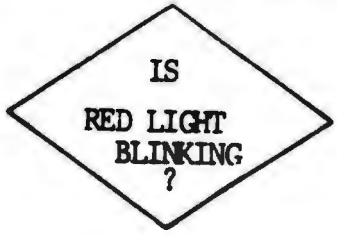
One of the duties of an analyst is to convey to the designer/developer the way tasks are performed. Flowcharts provide the analyst a way of systematically documenting the actions and decisions a soldier would follow when performing a task. This module is designed to help you acquire the skills necessary to develop flow charts. You have already used flowcharts in some modules in this course. Let us now look at the symbols used in flowcharting.



The rectangle shows a step or element in the performance of the task. This is called an ACTION and can be either observed (overt) or invisible (mental/ covert). Actions are usually brief statements. An example of an action is shown below.

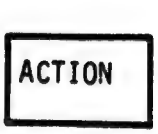


The diamond shows a DECISION the soldier must make before proceeding to the next step. DECISIONS are always written as a question (usually with a YES or NO answer). An example of a DECISION is shown below.



PRACTICE EXERCISE

See if you can mark each of the following as an ACTION (rectagle) or a DECISION (diamond).



1. Depress the accelerator. _____ _____
2. Is the fuel gage on empty? _____ _____
3. Measure the oil level. _____ _____
4. Does the meter read 200 psi? _____ _____
5. Add 1 qt of oil. _____ _____

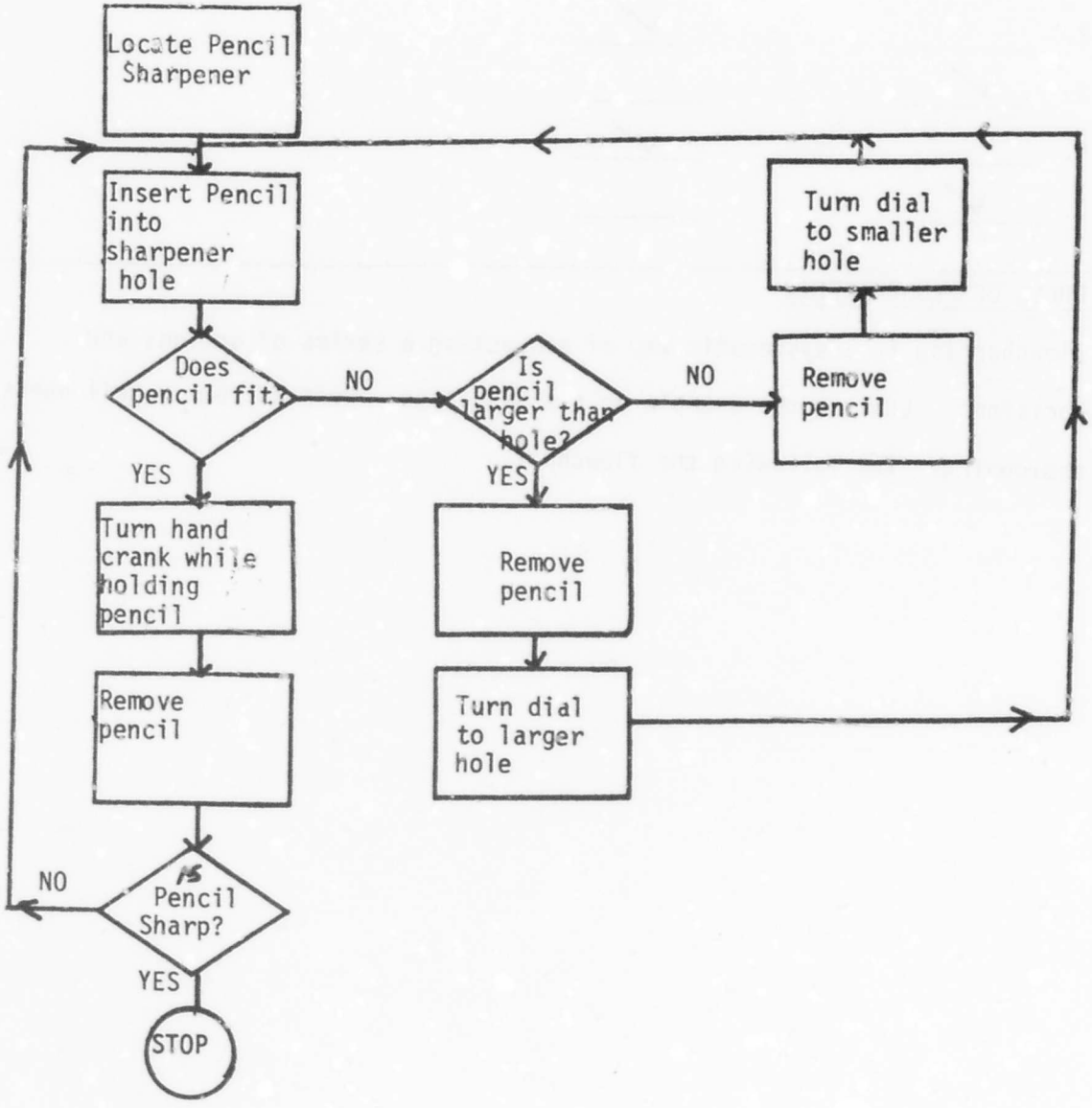
FEEDBACK

	ACTION	DECISION
1.	✓	
2.		✓
3.	✓	
4.		✓
5.	✓	

RULES OF FLOWCHARTING

Flowcharting is a systematic way of connecting a series of actions and decisions. Look at the example on the next page. Pretend your pencil needs sharpening. Try following the flowchart.

TASK: SHARPEN PENCIL



Here are the RULES to follow when developing a flowchart.

1) Use only rectangles for ACTIONS.

2) Use only diamonds for DECISIONS.

3) Only <u>one</u> line can EXIT a rectangle or ACTION.

4) Only one YES line <u>and</u> one NO line can EXIT a diamond or DECISION.

5) All ACTIONS must be written as statements.

6) All DECISIONS must be written as questions.

7) DECISIONS should be answered with a YES or NO.

8) Lines should not cross one another.

A description of some task elements follows. See if you can pick out the elements and put them into flow chart format.

1. Collect all items needed to make a cup of expresso. Put 6-ounces of water into the lower pot. Snap the filter into the upper pot.

DO YOUR FLOWCHART HERE

CHECK FEEDBACK ON THE NEXT PAGE.

FEEDBACK

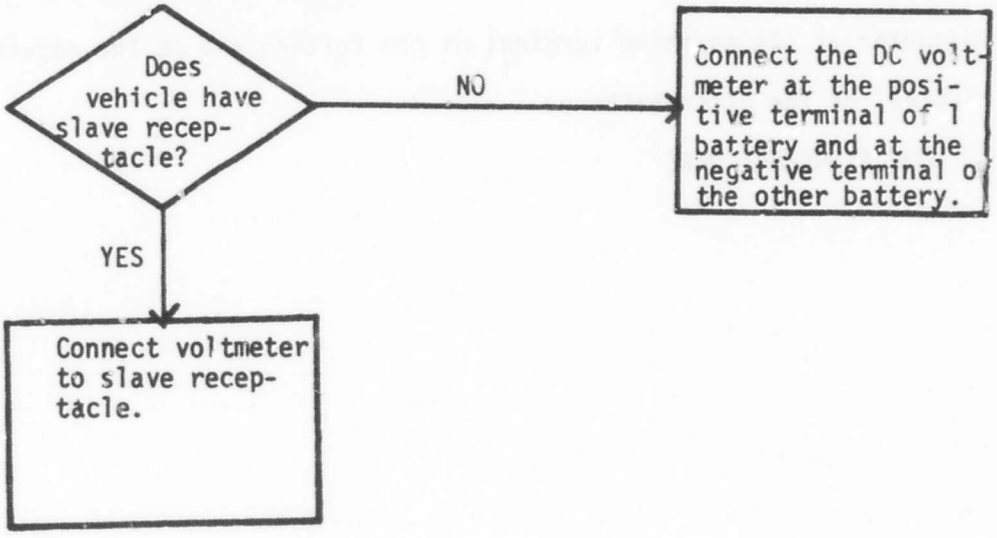

COLLECT ALL
NEEDED ITEMS
PUT 6 OZ WATER
IN LOWER POT
SNAP FILTER
INTO UPPER POT

2. If a vehicle has a slave receptacle, connect DC voltmeter at the receptacle. If it does not have a slave receptacle, connect the DC voltmeter at the positive terminal of one battery and at the negative terminal of the other battery.

DO YOUR FLOWCHART HERE

CHECK FEEDBACK ON THE NEXT PAGE.

FEEDBACK



How did you do? If you have any questions, discuss them with another course participant or a course manager.

The two previous examples were obviously not complete tasks. To document all of the performance content of a task using the flow charting method, the analysis must have the following:

- A complete TASK STATEMENT.
- The INITIATING CUES.
- All the steps necessary to accomplish successfully the task.
- Indication of when the task is completed.

PRACTICE EXERCISE

Here is a set of analysis data for a task performed by a CHAPARRAL Gunner (MOS 16P). See if you can put the task data into flow chart format. If you are unsure where to put the initiating cue or how to show when the task is completed, do not worry. We will show you those things in the feedback section.

- Task Statement: Given a CHAPARRAL weapon system, a target (aircraft), squad leader's command to "acquire target" and daylight conditions, engage aircraft. Aircraft must be destroyed.

- Once given the verbal command to "acquire target," the gunner must perform the following actions:

1. Acquire the target.
2. Track the target.
3. Listen for the missile tone (if no tone, tracking continues).
4. Get permission to fire from the squad leader (if no permission, tracking continues).
5. Check to see if the hold-fire lamp is out (if on, continue tracking.)
6. Press trigger switches if missile tone can be heard; squad leader gives permission to fire, and hold-fire lamp goes out.
7. After pressing trigger switches, check to see if missile was launched. If missile was launched, check to see if target was destroyed.

NOTE: If missile was not launched or if target was not destroyed, select another missile and begin again with acquire target action.

The task is successfully completed when the target is destroyed. The gunner should then return to the primary target line (PTL).

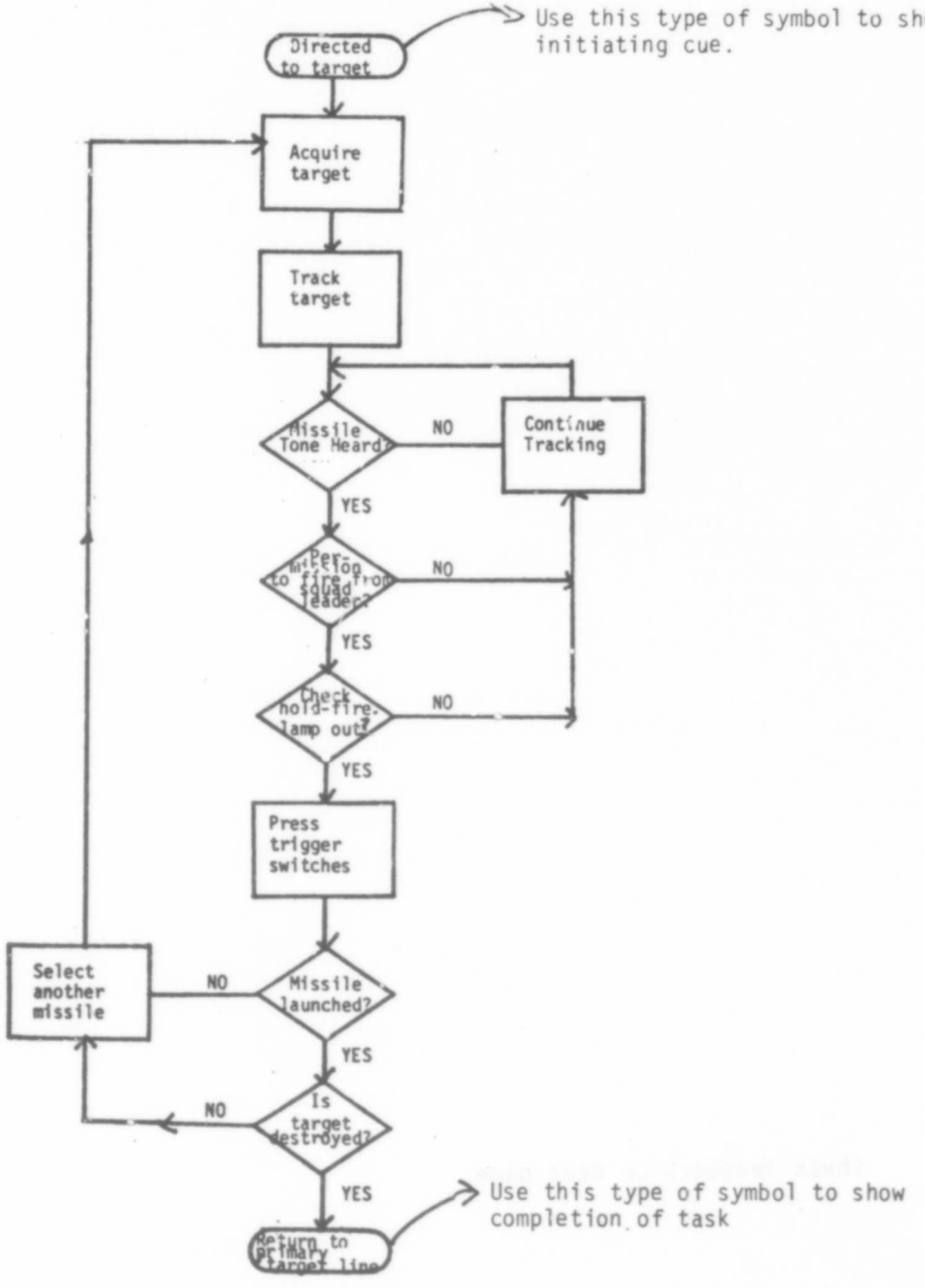
FEEDBACK

Here is our flow chart.

DUTY POSITION: CHAPARRAL Gunner

TASK: Engage target (aircraft) with a CHAPARRAL missile.

INITIATING: Gunner directed to target by verbal command of squad leader.



USE THE SPACE BELOW FOR FLOWCHART.

Check feedback on next page.

Try doing a flowchart on a task of your own choice.

Choose one from your own experience like getting ready for work or changing a tire.

Be sure to list the initiating cue and indicate when the task is complete.

Have a colleague check your owrk.

USE THE SPACE BELOW FOR YOUR FLOWCHART .

If you have any questions see a course manager. If not, go on to the Criterion Test.

SIGN-OFF

COURSE MANAGER

OP-1

DEVELOP STIMULUS-RESPONSE TABLES (PARADIGM BEHAVIOR)

OBJECTIVE:

Given a narrative description of the behaviors that occur during performance of a task, construct a paradigm that represents those behaviors in the appropriate sequence.

CRITERION TEST:

Given a narrative description of the behaviors that occur during performance of a task, construct a paradigm that represents those behaviors in the appropriate sequence.

NOTE TO PARTICIPANT: Read this note if your supervisor has assigned you this module.

Your need for this module depends upon the work structure at your school. The skill of developing stimulus-response tables is not a pure analyst skill. In fact, the skill of developing stimulus-reponse tables rest somewhere between the ANALYSIS and DESIGN phases of the ISD model - You should take this module if:

- You work on a task force and at some time your job will change from an analyst to course designer/writer.
- You will be involved in developing scorable units for SQT exams.

PREVIEW

The actual behavior involved in performing a task must be recorded in a format which the training designer can understand and use in designing training that actually teaches soldiers how to perform the task.

Early in the task analysis process, a decision must be made concerning the level of detail required in describing performance. In those cases where a very detailed level of description is needed, you will use a paradigm (par-a-dime) to describe task performance behavior. To paradigm a task means to break the task down into stimulus-response terms (see green light -- push auto accelerator). The decision to paradigm will usually be made jointly by an analyst and a designer.

As an analyst you may be expected to transform a narrative description of task performance irto paradigm form based on:

- a review of literature
- an observation/interview
- final review of data by a consensus group

In all three cases, behavior is paradigmed using the same procedures. You should focus your attention on mastering the procedures as presented in this module.

First, examine the terms you must understand to paradigm.

A STIMULUS tells you "when" to do something. At the beginning of a task, the stimulus is the same as the initiating cue. The RESPONSE is what you do because of the stimulus. That response may be OVERT or COVERT. OVERT responses are those that can be seen. For instance, you can see someone write a letter, wash a window, or drive a car. On the other hand, you can not see someone think, decide which party to attend, or add 2 + 2. COVERT responses are those behaviors which cannot be observed. In other words, they are mental responses.

STIMULUS (When) _____ RESPONSE (Do)

"Turn on the light" is a response. What tells you when you should turn on the light? You turn on the light when the room is dark. In S-R terms, that behavior would be described as follows:

S _____ R

Room is dark — Turn on light

PRACTICE EXERCISE

The following statements contain a STIMULUS and a RESPONSE. Label each part of the statement as stimulus (S) or response (R).

1. When the ashtray is full_____, empty the cigarette butts into the appropriate trash can_____.
2. Shut off the motor immediately___if the oil light comes on____.
3. Stop work____when the whistle blows____.
4. Pull the trigger____on the command, "Fire."_____
5. When you see 3 + 3___, think 6___.

FEEDBACK

1. When the ashtray is full__S__, empty the cigarette butts into the appropriate trash can__R__.
2. Shut off the motor immediately__R__if the oil light comes on__S__.
3. Stop work__R__when the whistle blows__S__.
4. Pull the trigger__R__on the command, "Fire."__S__
5. When you see 3 + 3__S__, think 6__R__.

The RESPONSE is the performer's action whereas the STIMULUS is part of the performer's environment.

PRACTICE EXERCISE

Label each of the following as a stimulus (S) or response (R):

1. Climbing a ladder _____
2. When the light is red____
3. The light turns green____
4. The screw is loose_____
5. Tighten the screw_____

FEEDBACK

1. Climbing a ladder R
2. When the light is red S
3. The light turns green S
4. The screw is loose S
5. Tighten the screw R

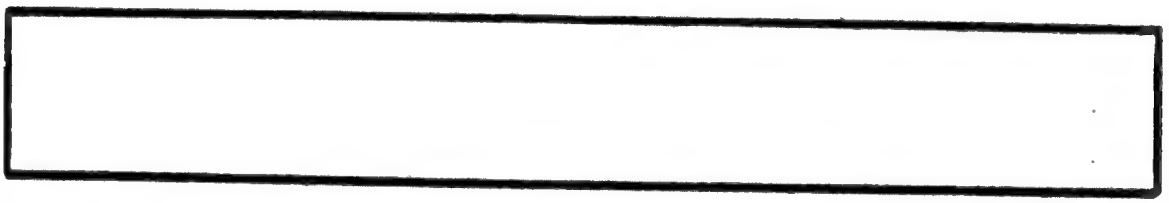
In paradigming, the stimulus is always written first. Look at the examples below.

1. S → R
   Red light — Step on brake
2. S → R
   Dirty clothes — Wash clothes
3. S → R
   4 X 2 — Multiply 4 X 2
4. S → R
   Point on pencil breaks — Sharpen pencil

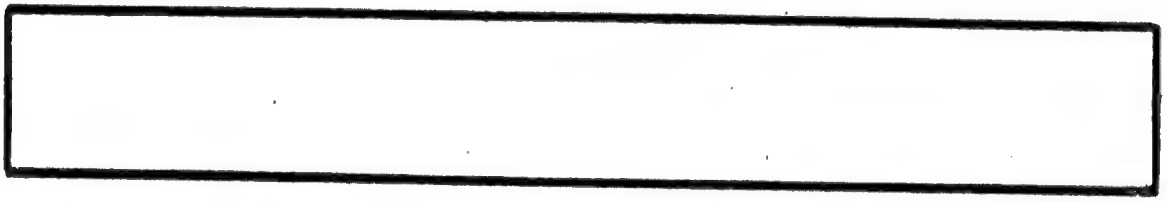
ACTIVITY 1

Try your hand at paradigming the following examples:

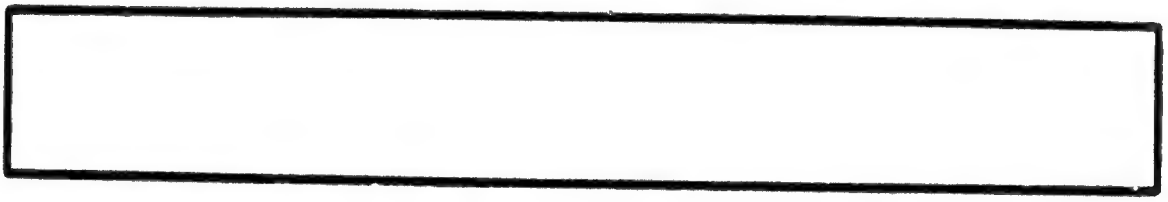
1. When you get a copy of the test, write your name in the upper right corner.



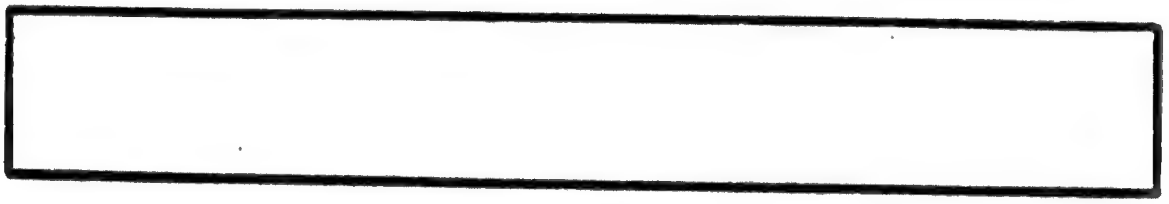
2. Give the course manager the completed critique sheet.



3. After you have put the key in the ignition switch, turn the key.



4. Since the walls in your new apartment are dirty, you decide to paint the apartment.



ACTIVITY 1 FEEDBACK

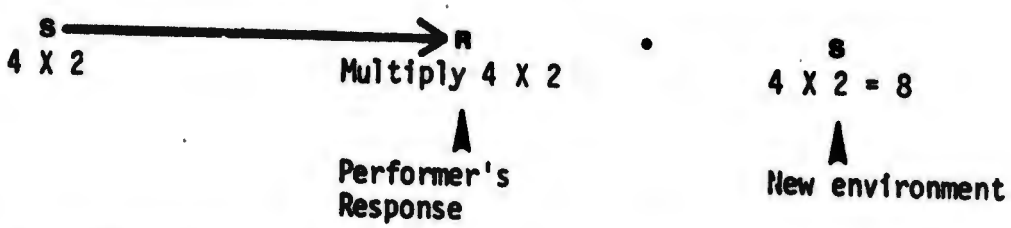
1. S: Test copy → R: Write name in upper right corner

2. S: Completed critique sheet → R: Give critique sheet to course manager

3. S: Key in ignition → R: Turn key

4. S: Dirty walls → R: Decide to paint apartment

At this point you have learned to discriminate between stimulus and response and how to paradigm simple behavior. Let us look a little farther. Once the performer does something, the environment changes. When the environment changes, the performer has a new stimulus.



The • means "produces" or "results in." Look at these examples.

Complete these S → R examples.

1. S → R • S

S	R	S
Telephone rings	Pick up receiver	_____

2. S → R • S

S	R	S
Dark room	Turn on light	_____

3. S → R • S

S	R	S
Dirty window	Spray cleaner on window	_____

FEEDBACK

1. S → R • S

S	R	S
Telephone rings	Pick up receiver	Receiver at ear

2. S → R • S

S	R	S
Dark room	Turn on light	Lighted room

3. S → R • S

S	R	S
Dirty window	Spray clearner on window	Wet window

ACTIVITY 2

See if you can write the S⟶R elements for these statements.

1. Fill in all the information requested on the blank form.

2. Divide 6 by 2.

3. Color the picture on this page.

ACTIVITY 2 FEEDBACK

1. S (Blank form) → R (Fill in information) • S (Completed form)

2. S (6 ÷ 2) → R (Think how many 2's in 6) • S (6 ÷ 2 = 3)

3. S (Uncolored picture) → R (Color the picture) • S (Colored picture)

S → R CHAINS

You have seen how S → R units can result in another stimulus (S). Very often that new stimulus calls for another response. Therefore, you could have a series or a chain of behaviors. CHAINS are usually sequential procedures which require no decision making Later you will see how we can mix a decision with a chain.

Look at this example:

S (Locked Door) → R (Unlock the door) • S (Unlocked door) → R (Open door) • S (View of room)

R (Look for light switch) • S (Light switch) → R (Flip on light switch) • S (Well-lighted room) etc.,etc

---

PRACTICE EXERCISE

Try these two simple CHAINS.

1. Write your name in block 1, your address in block 2, and sign in block 16.

2. Add 3 + 2 + 4 + 1.

FEEDBACK

1. S (Block 1) → R (Write name) • S (Name in Block 1) → R (Write address in Block 2) • S (Address written in Block 2) → R (Sign in Block 16) • S (Signature)

2. S (3+2+4+1) → R (Add 3+2) • 5 • S (Add 4 to 5) → R (9) • S (Add 1 to 9) → R (10)

DESCRIBE DISCRIMINATIONS

Sequential behaviors (chains) often have discriminations (decision-making behaviors) that have to be made somewhere in the sequence.

DISCRIMINATION can be defined as two or more stimuli that cause different responses. Look at the example below.

If you are military, fill out Form X. If you are civilian, fill out Form Y.

S: Military Personnel	R: Fill out Form X
S: Civilian Personnel	R: Fill out Form Y

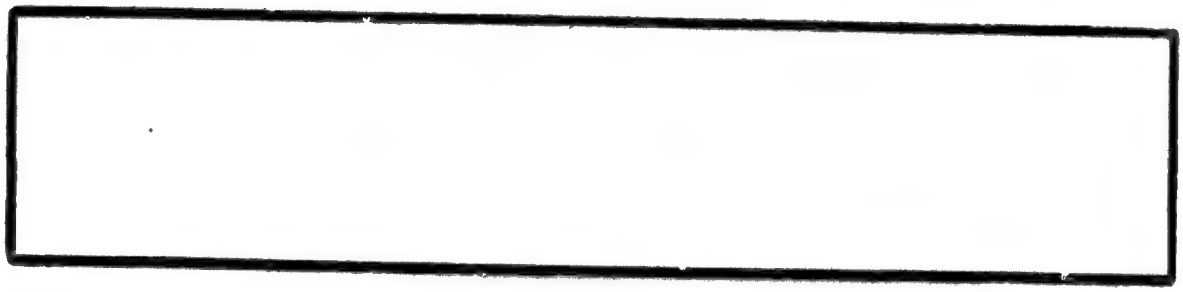
Notice that there are two stimuli which have to be discriminated in order to make the correct response.

PRACTICE EXERCISE

Describe these discriminations in S→R terms:

1. If your yearly income is less than $10,000, complete Blocks 5, 6 and 7. If your income is between $10,000 and $20,000, complete Blocks 3, 9 and 10. If your income is over $20,000, complete Blocks 11, 12 and 13.

2. If the widget is red, write 1 in Block 5 of Form 13. If the widget is blue, write 2 in Block 5 of Form 13. And, if the widget is green, write a 3 in Block 5 of Form 13.



FEEDBACK

1. S → R
   Less than $10,000 — Complete Blocks 5, 6 and 7

   S → R
   $10,000 - $20,000 — Complete Blocks 8, 9 and 10

   S → R
   Over $20,000 — Complete Blocks 11, 12 and 13

2. S → R
   Red Widget — Write 1 in Block 5, Form 13

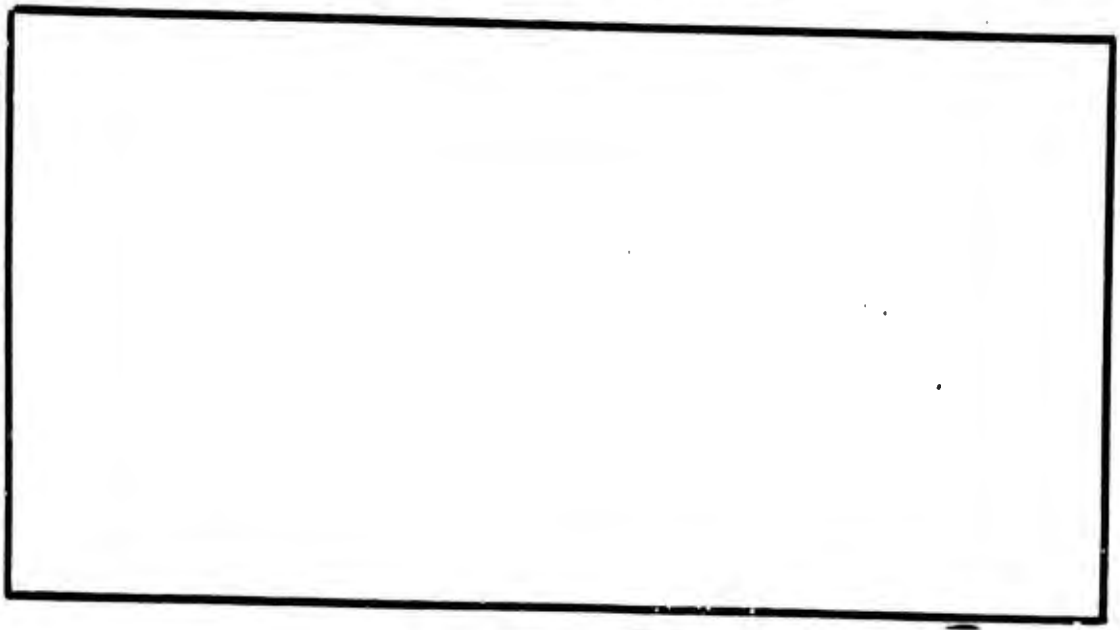
   S → R
   Blue Widget — Write 2 in Block 5, Form 13

   S → R
   Green Widget — Write 3 in Block 5, Form 13

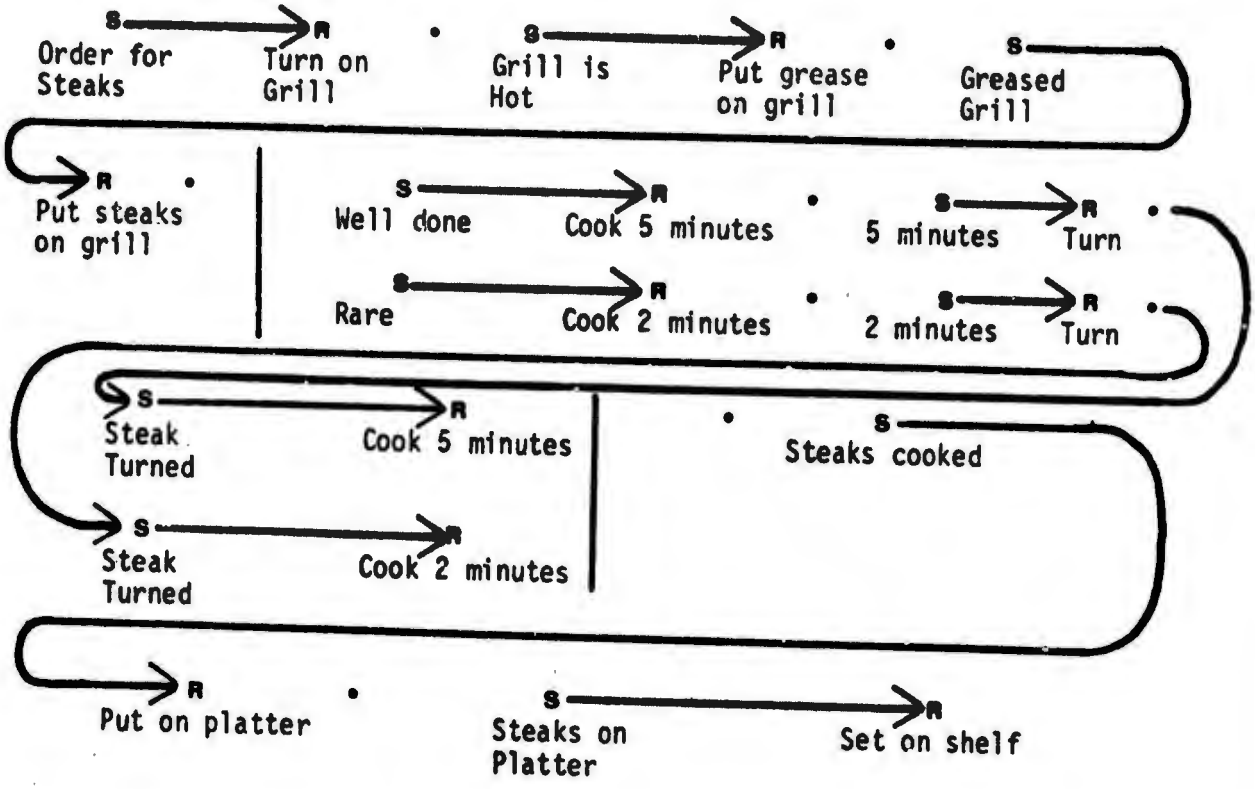
ACTIVITY 3

Describe this task in S→R terms. (HINT: Combine CHAIN and DISCRIMINATION).

You have an order for a well-done steak and a rare steak. Turn on the grill. When it is hot, put two tablespoons of grease in the center of the grill. Cook the well done steak 5 minutes on each side and the rare steak 2 minutes on each side. When each is done, put it on a platter and set it on the shelf for the waitress.



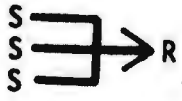
ACTIVITY #3 FEEDBACK:



NOTE: Did you find the discrimination within the chain?

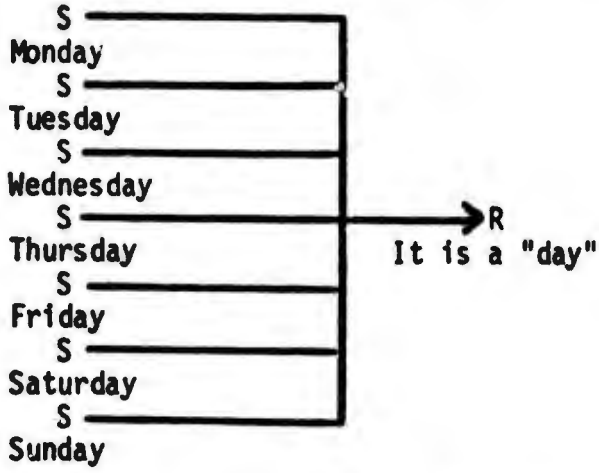
GENERALIZATIONS

In addition to chains and discriminations, there is one other type of behavior that you will have to be able to paradigm. This third type of behavior is called a GENERALIZATION. A generalization is two or more stimuli which call for the same response.

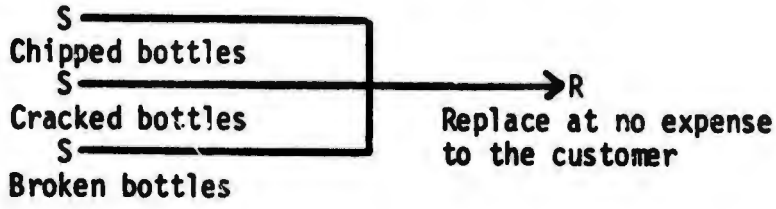


EXAMPLES

Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday are all called "days."



All chipped, cracked, or broken bottles are to be replaced at no expense to the customer.

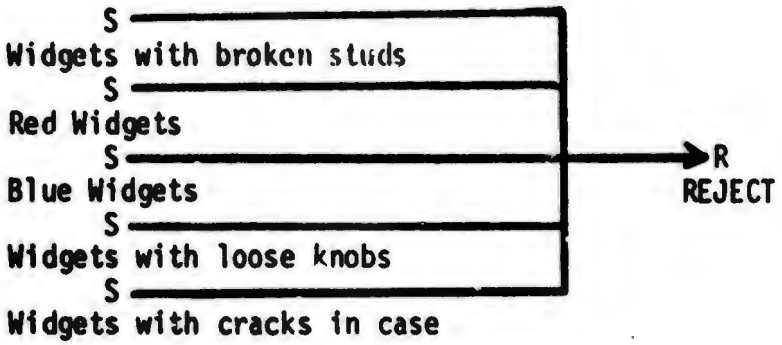


PRACTICE EXERCISE

See if you can describe in S-R terms the following:

Reject any widgets that have broken studs, any that are red or blue, any that have loose knobs, and any that have cracks in the case.

FEEDBACK

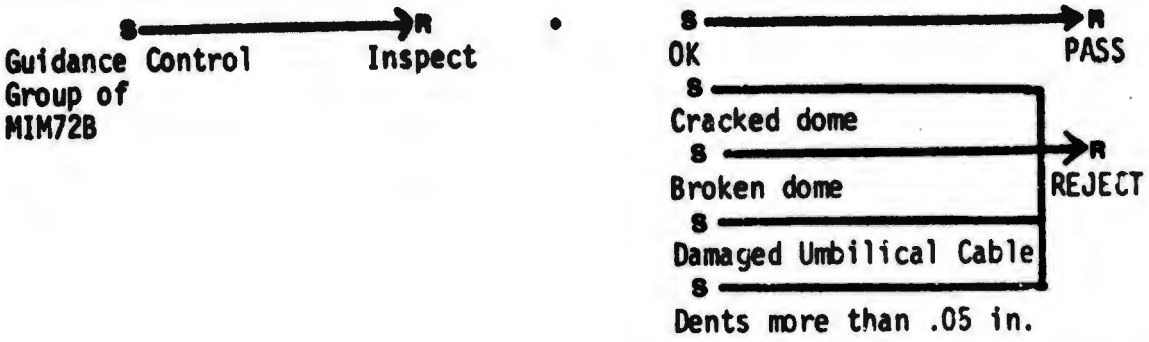


ACTIVITY 4

Describe the following in S-R terms.

You are inspecting the Guidance Control Group of the MIM72B missile. It should be rejected if the dome is cracked or broken, if the umbilical cable is damaged, or if there are dents in excess of .05 inches.

ACTIVITY 4 FEEDBACK



Your paradigm may not look exactly the same as ours. For instance, you may have combined cracked and/or broken dome into one stimulus. The statement only told you what to reject, but you should have shown on your paradigm what to do if nothing was wrong.

REVIEW

A PARADIGM describes behavior in S-R terms. A STIMULUS in the environment causes the performer to do something. What the performer <u>does</u> is called the RESPONSE. A paradigm can consist of ----

CHAIN

S→R • S→R • S→R • S→R • S→R

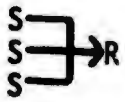
OR

DISCRIMINATION

S→R
S→R
S→R
S→R

OR

GENERALIZATION



OR

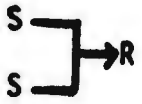
A COMBINATION

S→R • S→R

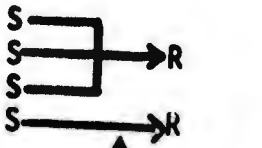
▲
CHAIN

S→R
S→R
S→R
S→R

▲
DISCRIMINATION



▲
GENERALIZATION



▲
GENERALIZATION AND DISCRIMINATION

GN-OFF

COURSE MANAGER

CG-11

PLAN A CONSENSUS GROUP

OBJECTIVE: Write a plan for a consensus group which addresses the following areas:

- Selection of consensus group members
- Selection of the group chairperson
- A Letter-of-Instruction (LOI)

CRITERION TEST: Select five or six tasks from your MOS or officer specialty (or an area you are competent in). Using those tasks, prepare a written plan for a consensus group.

- Selection of consensus group members
- Selection of the group chairperson
- A Letter-of-Instruction (LOI)

PREVIEW

A consensus group is a group of personnel, selected for their experience and knowledge of an MOS or officer specialty brought together to record and organize analysis data.

Analysis by consensus can be a valuable tool. Use of consensus groups is appropriate to all phases of front-end analysis. Consensus groups can be used to analyze data on individual tasks during task analysis. This module discusses the steps in planning and formation of a consensus group. group. There are three steps in planning for a consensus group:

1. Select members for the consensus group.
2. Select a chairperson.
3. Prepare a Letter-of-Instruction (LOI) to govern the operation of the group.

The method presented here is a common way of organizing a consensus group. You may have to modify this method to some degree, depending on the material covered and the "type" of personnel involved.

TERMINOLOGY

Current or recent task performer - a soldier who is:

- now performing or has performed in the past six months the task being analyzed.
- experienced in performing the task.
- a master or competent performer.

Current or recent supervisor of a task performer - a soldier who is:

- now supervising or has supervised in the past six months soldiers who performed in task being analyzed.
- either an immediate supervisor or no more than one level of supervision removed from soldiers who perform the task being analyzed.
- qualified in or has extensive knowledge of the MOS being analyzed.

Instructional Technologist - a person who is:

- experienced in applying current technology in the solution of training problems.
- thoroughly familiar with the Instructional Systems Design Model.
- experienced in the performance of job and task analysis.

Subject Matter Expert - a person who is:

- experienced in performing the task or teaching performance of the task being analyzed.

SELECTING THE GROUP

Use the following table in selecting members for your group.

IF:	AND:	AND:	SELECT THE FOLLOWING PERSONNEL:
The task is currently performed	→	→	• 1 Instructional Technologist • 2 Current or recent task performers • 1 Current or recent supervisor (first or second line) of task performers • 2 Subject Matter Experts
The task is new	It is similar to a task already performed	It does not involve a new piece of equipment	
		It does involve a new piece of equipment	• 1 Instructional technologist • 2 Current or recent task performers • 1 Current or recent supervisor (first or second line) of task performers • 2 Subject matter experts • 1 Representative of developmental
	It is not similar to a task already performed	It does not involve a new piece of equipment	• 1 Instructional technologist • 2 Subject matter experts
		It does involve a new piece of equipment	• 1 Instructional technologist • 2 Subject matter experts • 1 Representative from developmental agency

NOTE: The Skill Performance Aids program (formally ITDT) requires that the contractor provide certain training related input. At the same time that newly procured equipment systems are accepted by the Army. For

purposes of brevity, this program is not discussed. If you would like to have further information concerning Skill Performance Aids, ask a course manager.

PRACTICE EXERCISE

Which of the following personnel would you select for a consensus group for the task:

1. "Perform route reconnaissance ?"

   _____ a. Representative from a developmental agency.

   _____ b. Recent task performer.

2. A new maintenance procedure for the XM-1 main battle tank?

   _____ a. Subject matter expert.

   _____ b. Current supervisor of a task performer.

FEEDBACK

1. b 2. a

After the members of the group have been selected, a chairperson must be selected from among them.

Apply the following rule in selecting a chairperson.

> Always select the senior individual (military grade or civilian equivalent) who :
>
> - has previous experience in performing as a member of a consensus group/jury of experts.
> - is <u>not</u> an instructional technologist or representative from a developmental agency.

<u>PRACTICE EXERCISE</u>

You have been tasked with selecting members of a Consensus Group and a group chairperson to provide task analysis data concerning the task -

> "Process a Prisoner of War at a brigade forward collecting point"

Select <u>four</u> group members and <u>one</u> chairperson from among the following alternatives.

	Member	Chairperson
1. LTC Jones, current MP Battalion Commander	_____	_____
2. SFC Smith, Division MP Company Platoon SGT	_____	_____
3. Mr. Doe, GS-11, project officer on the PW task force, DCD.	_____	_____

4. MAJ Turner, instructional technologist _____ _____

5. SP4 Schwartz, member of a division MP Company until his reassignment twelve months ago. _____ _____

6. SGT Lynch, squad leader in a division MP Company _____ _____

FEEDBACK

	Member	Chair	
1.	_____	_____	(too far removed from immediate level of supervision)
2.	X	_____	(second level supervisor)
3.	X	X	(subject matter expert; senior member within above criteria)
4.	_____	_____	
5.	_____	_____	(more than 6 months out of the job)
6.	X	_____	(first level supervisor)

PREPARING A LETTER OF INSTRUCTION (LOI)

Before the consensus group meets, it is necessary to prepare an LOI concerning the operation of the group. The LOI must contain at a minimum the following:

1. Names of group members.
2. Name of the chairperson.
3. Title of each task to be reviewed by the consensus group.
4. Skill Level(s) or officer grade(s) at which each task is performed.
5. Job(s) or duty position(s) in which each task is performed.
6. Suspense date.
7. A list of resource publications available.
8. Purpose of the group. (More detailed information will be presented in the next section.)

The LOI should be addressed to the consensus group chairperson and copies furnished to each group member.

On the following page is an example of a typical LOI.

PRACTICE EXERCISE

Read the following LOI and identify those areas that have been omitted.

TO: Chairperson Consensus Group

Letter of Instruction

Subject: Operation of the Consensus Group.

1. Group members:

   1LT Jones

   SFC Martin

   SSG Rock

   Mr. Putz (GS-11, Educ. Technologist)

   WO2 Kawarski

2. Chair: WO2 Kawarski.

3. Task Title: Calibrate the MX-1 Blood-Gas Analyzer

4. Suspense Date: 1 Dec 1978.

5. Resources/Publications Available: Operator Manual for CX-1 Blood-Gas Analyzer (civilian model); factory specifications sheet for the MX-1.

6. The consensus group is to review the calibration procedure outlined in the civilian manual for the CX-1 and determine if the procedure is appropriate for the MX-1 (military model). If the procedure is different, the group is to arrive at a consensus of how to change the CX-1 procedure so that it can be used with the MX-1.

FEEDBACK

The LOI omitted the following:

- Skill Level(s) or officer grade(s) at which the task is performed.
- Job(s) or duty position(s) in which the task is performed.

PURPOSE OF THE CONSENSUS GROUP

As promised, we will now tell you the purposes for using a consensus group. Most groups work best when they are given data and asked to reach some group decision, rather than being directed to create new information. For example, a group might be given data about the performance content of a task and asked to reach a consensus about the order in which the steps are performed. This would be more appropriate than asking the group to analyze a task and document the performance content. The latter approach can be used, although in most instances it is not as efficient as other task analysis methods.

Here are some more ways in which a consensus group can be used :

1. Present the group with a flowchart showing how a task is performed. Ask the group to review the flowchart, making any necessary corrections based on a consensus.

2. Present the group with tasks in which the various steps have been documented. Ask the group to review the steps, deleting and adding the steps necessary for correct task performance.

3. Present the group with interview and observation data (a video tape of interviewer and job performer would be excellent) and ask them to reach a consensus on the steps necessary to perform the task.

PRACTICE EXERCISE

Here is a sample plan for a consensus group. Identify those areas which have been omitted.

CONSENSUS GROUP PLAN

1. Selection of group members. The tasks being analyzed concern an Air Defense weapon system which is currently in the final stages of development. Because these tasks are new, the following group members are needed:

NOTE: There are maintenance tasks for a weapon system similar to a currently existing REDEYE System.

1 - Instructional Technologist.

2 - Current REDEYE Operators.

1 - Recent supervisor.

1 - Representative of the developmental agency.

2. Selection of Chairperson: Select the person with the most rank.

3. LOI to the Chairperson.

Group Members:

Mr. Smith (GS-12, Inst. Technologist)

Dr. Brown (Tech Rep)

SFC Brookes

PFC Hanson

PFC Richardson

Chairperson: Mr. Smith.

TASK TITLES: Perform pre-operation checks on the B-2 missile launcher.

Calculate firing data for the B-2 missile guidance system.

Skill Levels: 1 and 2.

Suspense date: 15 Jan 79.

FEEDBACK

1. The chairperson should be the recent supervisor (SFC Brookes).
2. The LOI does not state the job(s) or duty position(s) in which each task is performed.
3. The LOI does not state the purpose of the consensus group.

If you have any questions about planning for a consensus group, discuss them with a colleague or course manager. If not, you are ready for the criterion test.

SIGN-OFF

COURSE MANAGER

CG-12

DESCRIBE CONSENSUS GROUP ACTIONS

OBJECTIVE:

Given situations which may occur during the conduct of a consensus group, state, in writing, whether the actions described are appropriate to the proper conduct of a consensus group.

CRITERION TEST:

In the left column is a series of situations that might occur in the conduct of a consensus group. For each situation, determine whether it is appropriate to the conduct of a task analysis by consensus group. If it is not appropriate, write what the correct action should be.

SITUATION	YOUR RESPONSE
1. A consensus group has been formed to analyze the critical tasks of skill level 1 of MOS XYZ. The group is made up of two E-8's, one O-3, and two civilian technologists.	1.
2. etc.	2.

CONSENSUS GROUPS

INTRODUCTION

Consensus is a method in which a group of personnel are brought together to analyze the duties and tasks that make up an MOS. The consensus approach can be a valuable analysis tool when used properly. This module discusses when to use the consensus method, how to form a consensus group, how to use a consensus group, and the advantages and disadvantages of the consensus method.

WHEN TO BEST USE THE CONSENSUS METHOD

The consensus method seems to work best when the group is given existing data and asked to make decisions on job and task requirements.

The consensus method is best used under the following conditions:

- When tasks for a new job must be analyzed.
- When there is a difference in the way job holders do things.
- When the set of skills to be learned by entry-level job holders is very large and must be prioritized for training.
- When there are critical behaviors which cannot be observed directly (supervisory behaviors).
- When observation is unsafe, impractical, or would probably color the situation.
- When a supplement to individual and observation interviews is desired.

HOW TO FORM A CONSENSUS GROUP

Consensus group members should be personnel selected for their experience, expertise, and knowledge of the job. Ideally, at least one member of the group should be trained in educational technology and experienced in the area of job and task analysis. The group as a whole must provide a balanced view of the job and tasks under analysis. The group should be structured so that a realistic view of job requirements and task requirements emerge. At all costs, avoid any consensus which consists solely of a unique view of the task. This can occur if only supervisors or master performers make up a group.

All this sounds great, but who are these people and where do we find them? Let us start with the job experts.

What makes an individual a candidate to participate in a consensus group? Well, it isn't length of time in the Army or length of time working in a job and task analysis shop. Actually, a combination of factors make a person a job expert. The members of a consensus group should be people with direct job experience as current or recent job holders and people who have supervised the job being analyzed. This means that for purposes of forming the group an E-2 or E-3 job incumbent may be as much of an expert as an E-7 who once held the job or who now supervises the job. The E-2 can describe how he/she does the job and the E7 can describe the job through the eyes of the master performer as well as the eyes of a supervisor. All members must be initially appraised of the fact that all have equal vote. Rank should not be used to persuade or coerce a decision. Group consensus can balance conflicting views and arrive at a mutual decision.

When forming a consensus group avoid selecting people who have job experience, but work in positions away from the job or tasks under analysis. Select people who are job incumbents or supervisors of job incumbents. This may mean finding active units near your analysis shop. It may require some TDY trips to get to the consensus group or to bring the group to you. The need for such trips should be identified early in the job and task analysis planning stages, so that funds can be budgeted for the necessary trips.

If you have any questions, discuss them with a course manager. If not, go on to the criterion test.

SIGN-OFF

Course Manager

CG-1

PARTICIPATE IN A CONSENSUS GROUP

OBJECTIVE: Participate in a consensus group.

CRITERION TEST:

You are to serve as a member of a consensus group consisting of four to six members. The group must reach a consensus on a task similar to the following:

SAMPLE:

TOP PROBLEMS INDIVIDUAL WORKSHEET

In 1971, a poll was taken among a random sample of fifty leading persons in the United States who were included in the *International Yearbook* and *Statesmen's Who's Who*. (These publications list leading scientists, statesmen, jurists, business executives, publishers, and leaders in other fields.) Each leader was asked to choose the five most urgent problems facing the nation and then to rank them in order of importance.

Below is a list of the top thirteen problems facing the United States according to that poll. Your task is to rank these problems in the same order of importance as the sample of fifty leading persons did. Write the number 1 by the problem that you think was ranked as the most important; place the number 2 by the second most important problem, and so on through the number 13, which is your estimate of what was considered to be the item ranked as the least important of the problems.

_____ Low productivity standards
_____ Pollution of air and water
_____ Overpopulation
_____ Unemployment
_____ Drug addiction
_____ Disease and poor health conditions
_____ Labor-management disputes
_____ Crime and lack of respect for law
_____ Racial tensions
_____ Government reform
_____ Inadequate housing
_____ Inflation
_____ Low educational standards

TOP PROBLEMS GROUP WORKSHEET

This is an exercise in group decision-making. Your group is to employ the method of *group consensus* in reaching its decision. This means that the estimate of the ranking for each of the thirteen problems facing the United States *must* be agreed upon by each group member before it becomes a part of the group decision. Not every ranking will meet with everyone's *complete* approval. Try, as a group, to make each ranking one with which *all* group members can at least *partially* agree. Some guides to use in reaching consensus are:

1. Avoid *arguing* for your own individual judgments. Approach the task on the basis of logic.
2. Avoid changing your mind only to reach agreement and to avoid conflict. Support solutions with which you are able to agree somewhat.
3. Avoid "conflict-reducing" techniques such as majority vote, averaging, or trading in reaching your decision.
4. View differences of opinion as a help rather than a hindrance in decision-making.

_____ Low productivity standards
_____ Pollution of air and water
_____ Overpopulation
_____ Unemployment
_____ Drug addiction
_____ Disease and poor health conditions
_____ Labor-management disputes
_____ Crime and lack of respect for law
_____ Racial tensions
_____ Government reform
_____ Inadequate housing
_____ Inflation
_____ Low educational standards

The group consensus-seeking tasks used in this module have been reproduced from A Handbook of Structured Experiences for Human Relations Training, Volumes I-VI, J. William Pfeiffer and John E. Jones, Editors, LaJolla, Calif; University Associates, Inc., 1977.

As a group member you are not to engage in any "horse trading," majority rule voting," or "averaging." The session should last no longer than 50 minutes.

OPTIONAL RESOURCES:

Synergy and Consensus Seeking Paper — Read All

INTRODUCTION

At the start of this course,the Senior Course Manager randomly assigned participants to groups of four to six members. As a group,you have been asked to schedule a time when everyone is available to complete the group consensus-seeking task.

Performing as a member of a consensus group is a skill which can not be acquired in isolation. Unlike other modules in this course, the consensus group relies on the interaction of group members. You must experience this relationship in a controlled environment where group performance can be evaluated and feedback provided to individuals.

We will not tell you how to react to situations which occur in a group setting. Certain assumptions were made about your target population such as previous group experience for example, participation in briefings, study groups, task forces, juries of experts, etc.

The group exercise builds on these experiences and helps you to compare group decision-making to individual decision-making while acquiring effective consensus-seeking behaviors.

If you must have additional information about the underlying dynamics of group consensus-seeking, ask a course manager to suggest additional resource material. An optional resource is listed at the beginning of this module.

INDIVIDUAL INSTRUCTIONS FOR THE CONSENSUS-SEEKING TASK

Please read the following prior to meeting with your group.

NORC: OCCUPATIONAL-PRESTIGE-RANKING TASK

Goals:

I. To compare the results of individual decision-making with the results of group decision-making.

II. To teach effective consensus-seeking behaviors in task groups.

Group Size:

About five participants.

Time Required:

Approximately 30 minutes.

Materials:

I. Pencils.

II. A copy of the NORC: Occupational-Prestige Ranking Worksheet for each participant.

III. A copy of the NORC: Occupational-Prestige-Ranking Worksheet for each group.

Physical Setting:

Participants should be seated around a square or round table during the group task phase.

Process:

I. Fill out the NORC: Occupational-Prestige-Ranking Worksheet, located on page 8, prior to the group meeting.

II. Then groups are formed. One copy of the Occupational-Prestige-Ranking Worksheet is given to each group and a member is designated to record group consensus on this sheet. Individuals are instructed <u>not</u> to change any answers. Three ground rules apply in this phase:

1. No averaging.
2. No "majority-rule" voting
3. No "horse-trading."

III. After about thirty minutes of group work, the course manager will explain the "correct" ranking. This ranking is based on a poll of 50 leading persons and can serve as a comparison to the group's work.

IV. When the group session is completed, obtain a copy of the Self-Evaluation and answer the questions in the Group Process Observation Guide which apply to your group. Turn this in to a course manager for sign-off.

V. If you have any questions, see a course manager before you begin.

NORC: OCCUPATIONAL-PRESTIGE-RANKING WORKSHEET

Instructions: Rank the following occupations according to the prestige attached to them in the United States. Place the number 1 in front of the occupation you believe most people would think most prestigious. Rank-order the remaining occupations through 15, the least prestigious.

_____ Author of novels
_____ Newspaper columnist
_____ Policeman
_____ Banker
_____ U.S. Supreme Court justice
_____ Lawyer
_____ Undertaker
_____ State governor
_____ Sociologist
_____ Scientist
_____ Public school teacher
_____ Dentist
_____ Psychologist
_____ College professor
_____ Physician

Instructions: After each individual has ranked his/her list, the group reaches a consensus on the rank order of each occupation.

Remember the ground rules:

- No horse trading.
- No "majority-rule" voting.
- No averaging.

SELF-EVALUATION OF THE CONSENSUS GROUP

One means of acquiring and sharpening consensus group skills is to record your own observations and analyze what happened in your group. Learning to observe and recognize the things that influence a group's ability to perform a consensus-seeking task will increase your awareness of your own behaviors and contributions to a group.

CONTENT VS. PROCESS

When you observe and listen to what is being talked about in a group, you are focusing on the content. When you observe how the group is handling communications (who talks the most, the least, who talks to whom, who leads, etc), you are focusing on the group process.

Each observation is important but for different reasons. When you return to your job and use a consensus group, you will be extremely interested in the content since this will provide important information on the performance content of tasks.

Right now, you are learning about how groups work and how you can become a competent consensus group member. For these reasons, you must now be concerned more with group process.

We are going to provide you with a Group Process Observation Guide or in short, a way of finding out how your group handled communications. These are five areas in which you may provide your responses. You need not answer every question in each section. If a question does not apply, leave it blank. Keep your answers short and to the point (one or two short sentences will do). Do your evaluation separately from other group members. Avoid sharing answers or comments.

Once you have finished your evaluation form, hand it to the course manager who is evaluating your group. He will review your form and provide appropriate feedback.

GROUP PROCESS OBSERVATION GUIDE

Directions for use: Answer only those questions which apply to your group.

I PARTICIPATION

A. Who talked the most?

B. Did everyone have opportunities to participate?

C. Were some members excluded?

D. Was an effort made to draw members out of the discussions?

E. Did a few people dominate?

F. Did the non-talkers appear to be listening?

G. Were there efforts to draw members into the discussions?

II LEADERSHIP

A. Was a leader assigned?

B. Did a leader emerge?

C. Was leadership shared?

D. Who attempted to structure the group?

E. Who dominated the group?

III ROLES

A. Who initiated ideas for solutions?

B. Were ideas and solutions supported and by whom?

C. Did anyone block other members ideas or solutions?

D. Who helped push for decisions?

E. Who gave support and encouragement through words or gestures?

IV DECISION MAKING

A. Did the group get a lot of ideas suggested before beginning to decide or did it begin deciding on only a single idea?

B. Did everyone agree to the decisions made?

C. Who helped influence decisions of others?

V COMMUNICATION

A. Did people feel free to talk?

B. Was there any interrupting or cutting people off?

C. Did people listen to others?

D. Was there clarification of points made?

E. Was there any attempt to hold together various ideas?

F. Did people openly confront one another and give honest feedback?

SIGN-OFF

Course Manager

TA-1

RECORD JOB AND TASK ANALYSIS DATA

OBJECTIVE:

Given a task selected for training and all relevant data collected in the job and task analysis, fill out a TRADOC Form 550, Job and Task Analysis Worksheet for the task.

CRITERION TEST:

Using a task for which your school is proponent and for which job and task analysis data has been collected, fill out a TRADOC Form 550, Job and Task Analysis Worksheet for the task. All applicable blocks of the form must be completed.

INTRODUCTION

You have now successfully completed instruction in several skills required of a job and task analyst and are ready to bring it all together. On the following pages you will find a filled out TRADOC Form 550, Job and Task Analysis Worksheet. This form provides a convenient place to document all of the data collected in a typical analysis effort for one task. The worksheet is attached to the end of this module.

On the following pages is a filled out sample Job and Task Analysis Worksheet*. After each section is a brief explanation of the entry. If you need additional information consult with a colleague or course manager.

When completing these forms, you should keep in mind that the job you are analyzing (in which many tasks exist) is part of a specialty/CMF. To insure you file the tasks properly under the job(s)/specialty(ies) which include this task annotate/record the CMF/specialty number along with the job title in block 1E.

*In some instances the data on this form were created by TDI-ORA staff for training purposes. The proponent school is not responsible for errors that may have occurred in this training material.

JOB AND TASK AN

(TRADOC R

Task Number:

Task Title:

1. Task Data:

A. Title: Supervise Maintenance of Guided Missile System Training Set M76 (Redeye)

B. Number:

C. Condition: Simulated Shop Conditions

D. Standard: IAW TM 9-6920-428-34

E. Job Title: SHORADS TECH MOS 224BV

F. Supervisory Job? (Yes) (No)

G. Supervision Required to Perform this Task? (Yes) (No)
Comments

H. ARTEP Derivative? (Yes) (No)
Comments

I. SQT Candidate? (Yes) (No)
Comments

J. MOS Candidate? (Yes) (No)
Comments

K. Common Task? (Yes) (No) Proponent: USAMMCS

L. Shared Task? (Yes) (No) Proponent:

1A. Enter the name of the task.

1B. Enter the task number.

1C. Enter a description of the job conditions. Attach additional sheets if necessary.

1D. Enter a description of the job standards. Attach additional sheets if necessary.

1E. Enter the name of the duty position in which the task is performed.

1F. Is this duty position a supervisor job? Does a soldier in this duty position supervise subordinates?

1G. Does the soldier require supervision to perform this task?

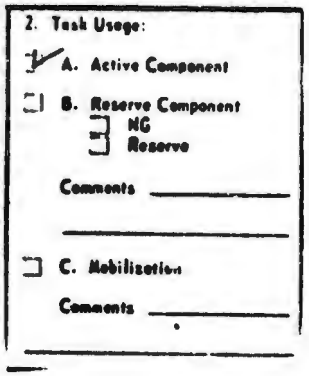
1H. Was this task derived from an ARTE?? Note the ARTEP.

1I. Is this task a candidate for inclusion in a future SQT?

1J. Is this task a candidate for inclusion in a future MOS?

1K. Is this a common task? Note the proponent school.

1L. Is this a shared task? Note the proponent school.



2. Indicate if the task is performed by A. Active Component; B. Reserve Component (NG or Reserve); or C. If it is part of mobilization. Add any comments where necessary.

3. Type Analysis: New ☒ Revision

If Revision, Why? MOS undergoing revision

4. Admin Data:

A. Date Initiated 15 May 79

B. Completion Date

C. Analyst's Name M. Cadet

Rank WO4 Specialty 224B

Office File Symbol ATSK-TD-PD

Telephone Number

D. Interschool Coordinate Comments

3. Indicate if this is a new or revised analysis. Indicate the rationale if it is a revised analysis.

4. Administrative Data should include the date the analysis project was started; date completed; analyst's name; rank or grade; specialty if military; office file symbol; telephone number; and indicate if it was necessary to coordinate with another service school.

5. Survey Data/Field Feedback:

A. AOSP. Date Inventory Submitted to MODD _____

MODD Coordination Comments _____

Date Report Received _____

B. Field/In-House. Coordination Comments Submitted May 78; Received Sept 78.

C. Miscellaneous Feedback and Sources. Comments _____

5A. List date task list was submitted to MODD for use in an AOSP survey. Add any necessary comments.

5B. List date most recent field or in-house survey was completed. Add any necessary comments.

5C. List any comments or feedback received about either AOSP or in-house surveys.

6. References:

A. Used In Analysis TRADOC Reg 351-4, AR 611-202, FM 9-59, TOE 9-550, TM 9-6920-428-34, TM 9-6920-428-15

B. Required to Accomplish Task TM 9-6920-428-34

6A. List all references used in the analysis project.

6B. Annotate those references required to perform the task.

7. Job Aid Recommended? (Yes) (No)✓
Comments _____

8. Hazard Potential:
A. Training: LOW
B. Job Performance: AVERAGE

9. Safety Certification Requirements:
NONE

11. Instructional Site Recommendation:

A. Analyst's Recommendation:	☐ Job	✓ Institution	☐ Unknown
B. Site Selection Board:	☐ Job	✓ Institution	☐ Unknown
C. Final Recommendation:	☐ Job	✓ Institution (Form _____)	

7. Indicate if a job aid is recommended for this task.

8A. Annotate any potential hazards that may occur in training the task.

8B. Annotate any hazards that are known to exist on-the-job and that may interfere with performance of the task.

9. List any safety certificates necessary before a job incumbent can perform the task. Include certifying authority.

11A. Recommendation of the analyst.

11B. Recommendation of the site selection board.

11C. Final site at which task is to be trained.

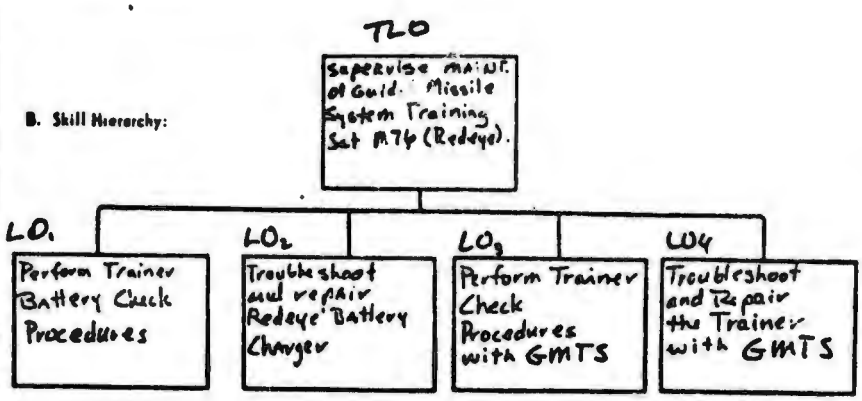
12. Equipment Used with to Perform Task:

12. List all equipment the soldier must have to perform the task.

13. Enabling Skills and Knowledges Required (Functional or Specific) for Task (Attach additional sheet, if required).

A. Baseline Entry Level:

B. Skill Hierarchy:



13. List all enabiing skills and knowledges required to perform the task. Include a skill hierarchy of the task.

14. Task Selection Data (Fill in only those used):

A. S/I Factor Data:

(1) Percent Performing 13%

(2) Time between Training and Task Performance 3-6 Months

(3) Frequency of Performance Daily

(4) Time Spent Performing Task 5

(5) Consequences of Inadequate Performance Serious (5)

(6) Probability of Inadequate Performance Low (7)

(7) Task Delay Tolerance Low (7)

(8) Task Difficulty Very Easy (1)

Range of scores 1-7.

B. Training Emphasis Data:

C. DIF Data:

D. Peacetime/Wartime Data:

E. Other:

15. Miscellaneous Data Comments: As indicated in Block 10, supervise the Maint. of Guided Missile System Training Set MTG consists of four(4) Learning Objectives. A separate TRADOC Form 550 will be prepared with inclosures so as to identify & address each Learning objective, and to provide a heirarchy of skills and performance elements.

TRADOC Form 550 PREVIOUS EDITION MAY BE USED UNTIL EXHAUSTED

14. Enter the data accoording to the model(s) used.

15. Annotate any data for which a space is not available.

16c. Performance Elements Steps: (Diagrams, if desired/required, should be attached, as applicable).

1. Apply System Power (GMTS)
2. Inspect Trainer.
3. Check Background Noise.
4. Install TRAINER ON GMTS.
5. Perform Trainer Check Procedure.
6. Identify fault.
7. Verify fault.
8. Repair fault.
9. Perform Trainer Check Procedure.
10. Turn Power Off.
11. Remove Trainer from GMTS.

16. List all steps or elements required to perform the task on the job.

17. Cues:

1. Request for Maintenance

2. As directed by supervisor.

17. List all initiating cues for the task.

18. Conditions:

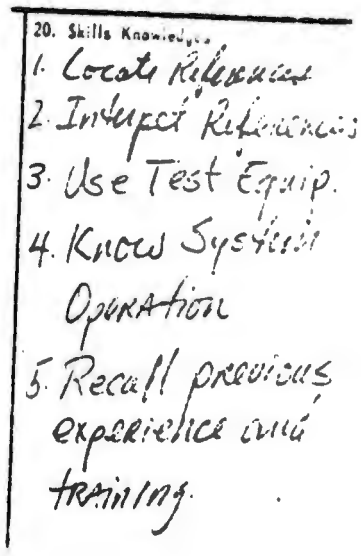
Simulated Shop Conditions

18. List all job conditions for the task.

19. Standards:

IAW TM9-6920-428-34 Chapter 4, para 4-5

19. List all job standards for the task.



20. List all skills and knowledges as they relate to the steps or elements of the task.

If you have any questions about how to fill out a Job and Task Analysis Worksheet, refer to the appropriate chapter of TRADOC Pamphlet 351-4, Job and Task Analysis Handbook, or consult with a colleague or course manager.

If you have no questions, go to the criterion test.

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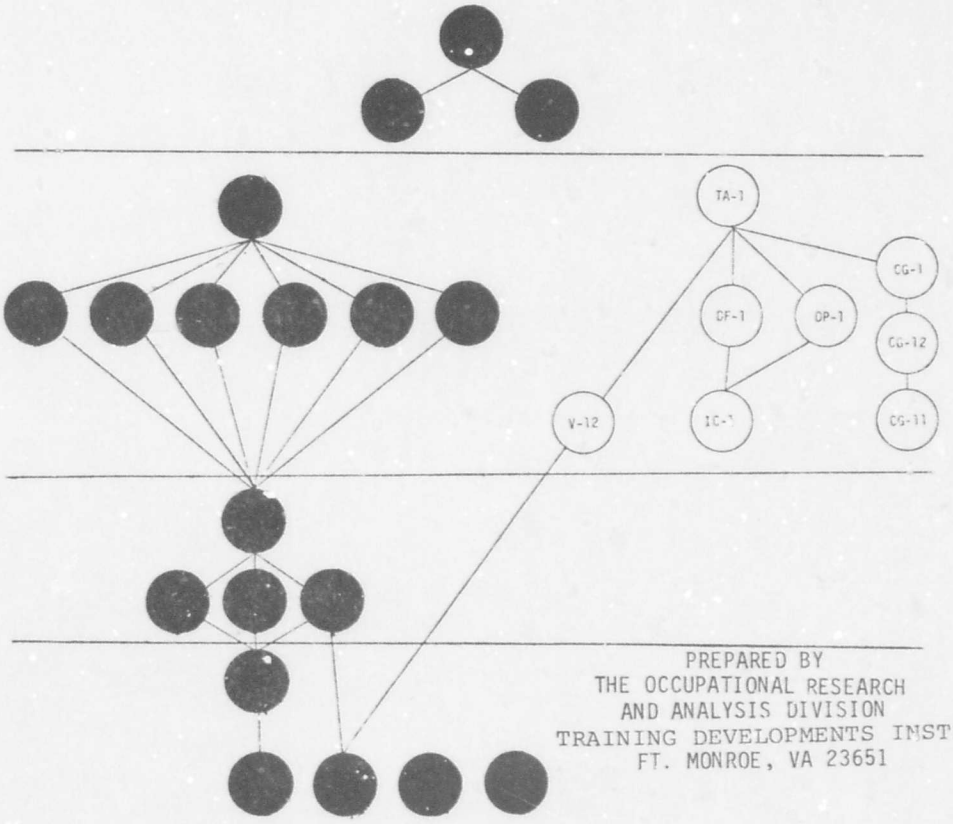
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION

TASK ANALYSIS MODULES

CRITERION TESTS

VOLUME 5A



PREPARED BY
THE OCCUPATIONAL RESEARCH
AND ANALYSIS DIVISION
TRAINING DEVELOPMENTS INSTITUTE
FT. MONROE, VA 23651

TASK ANALYSIS MODULES

MODULE	TITLE
V-12	Conduct Observation - Interview
DF-1	Develop Flowcharts
IC-1	Identify Chritiating Cues
CG-11	Plan a Consensus Group
CG-12	Describe Consensus Group Actions
CG-1	Participate in a Consensus Group
TA-1	Record Task Analysis
OP-1	Develop Stimulus - Response Tables (Optional)

SIGN-OFF

Course Manager

V-12

CRITERION TEST

CONDUCT OBSERVATION INTERVIEW

Ask a course manager to provide you with a demonstration of a task being performed (either on video tape or in person) Use the observation interview method to perform a task analysis. As a minimum your analysis must include:

- Task statement (action observed).
- Standards of performance..
- Condition of task performance.
- Initiating cues.
- Elements or steps in the task.
- Indication when the task is completed.

The interview portion must be conducted according to guidelines in tne Basic Interviewing Module V-111.

The course manager must be in agreement with your analysis.

SIGN-OFF

COURSE MANAGER

IC-1

CRITERION TEST

IDENTIFY INITIATING CUES

From the following extracts, taken from resource documents, identify the initiating cues for each listed task and label any obviously missing initiating cues with a question mark. Place a check (✓) beside any incomplete initiating cue. You may not make over <u>two</u> errors.

EXTRACT #1

TROUBLESHOOTING THE SHELTER ELECTRICAL EQUIPMENT

Troubleshooting the electrical equipment may be accomplished by referring to figure 4-6* and performing continuity or voltage checks as required. When making voltage measurements, a reading of 22 to 26 vdc is considered normal. Readings lower than 22 vdc indicate weak batteries in the vehicle. Before replacing or recharging the batteries, make sure that all connections are clean and not corroded.

TASK: Perform continuity or voltage checks on the shelter electrical equipment.

INITIATING CUES:

*NOT INCLUDED IN THIS EXTRACT

TASK: Replace batteries

INITIATING CUES:

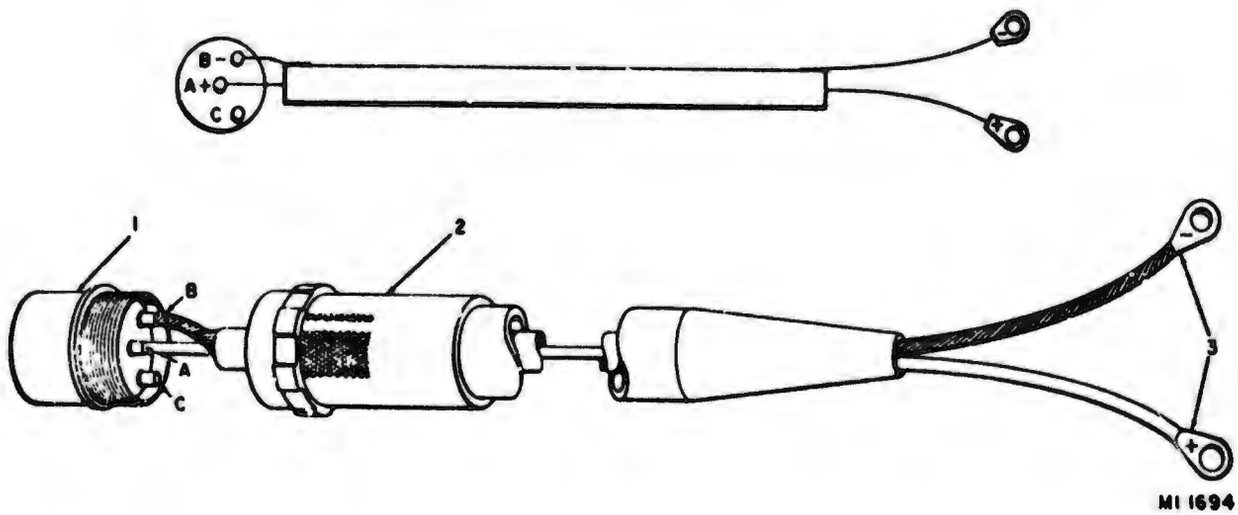
TASK: Recharge batteries

INITIATING CUES:

EXTRACT #2

MAINTENANCE OF THE POWER CABLE

Refer to figure 4-7 for repair of the power cable.



1. Connector 2. Cable 3. Lug, terminal

Figure 4-7. Maintenance of the power cable.

TASK: Reapir the power cable

INITIATING CUES:

EXTRACT #3

TROUBLESHOOTING THE IR TRANSMITTER

There are two indications of malfunctions in the IR transmitter.

a. The OPERATING RANGE meter fails to read within the band. If this occurs, replace the power supply/modulator (para 2-12)*. If this fails to correct the malfunction, replace the power supply/modulator battery cable.

b. The LAMP MOD indicator fails to read ON while the OPERATING RANGE meter reads within the band. If this indication occurs, replace the target source (para 2-12)*. If the indication persists after replacing the target source, then replace the power supply/modulator. If this fails to correct the malfunction, replace the target source cable.

TASK: Replace the power supply/modulator

INITIATING CUES:

TASK: Replace the power supply/modulator battery cable

INITIATING CUES:

TASK: Replace target source

INITIATING CUES:

TASK: Replace the power supply/modulator

INITIATING CUES:

*NOT INCLUDED WITH THIS EXTRACT

TASK: Replace the target source cable

INITIATING CUES:

EXTRACT 2

TASK: Repair power cable.

INITIATING CUE: None shown.

EXTRACT 3

TASK: Replace the power supply/modulator.

INITIATING CUE(S): Operating range meter fails to read within the band. The lamp MOD indicator fails to read ON while the Operating Range meter reads within the band. After replacing the target source.

TASK: Replace the power supply/modulator battery cable.

INITIATING CUE(S): Replacement of the power supply modulator fails to correct malfunctions (i.e., Operating Range meter fails to read within the band).

TASK: Replace target source.

INITIATING CUE(S): The lamp MOD indicator fails to read ON while the Operating Range meter reads within the band.

TASK: Replace the target source cable.

INITIATING CUE(S): Replacement of the target source and the power supply/modulator <u>does not</u> correct the malfunction (i.e., lamp MOD indicator fails to read ON while the Operating Range meter reads within the band).

SIGN-OFF

Course Manager

DF-1

CRITERION TEST

DEVELOP FLOW CHARTS

Use the task analysis data given below to develop a flow chart. The flow chart must show the following:

- Initiating Cue
- Actions
- Decision Points
- Task Completion

(NOTE: You may develop a flow chart using task analysis data from your proponent area. Get a course manager to approve your task.)

TASK ANALYSIS DATA (SAMPLE)*

TASK: Prepare incendiary hand grenades for remote ignition.

CONDITIONS: Given two (2) incendiary hand grenades and firing trains (electric or non-electric).

STANDARD: Within 30 minutes.

CUES: May be verbal command or phone call from the field.

ACTIONS:

1. Obtain materials (two grenades, firing trains, tools).
2. Check to see if grenades are modified grenades.
3. If the grenades are modified grenades, do this:
   a. Remove the fuse.

b. Puncture vent holes.

c. Rough the surface of the final fire mixture.

d. Fill the cavity with power

e. If electric ignition is to be used:

- Insert the electric squib
- Tape the grenades in place.

f. If electric ignition is not to be used:

- Insert non-electric assembly
- Tape the grenades in place.

g. Task is finished when soldier clears the area.

4. If the grenades are not modified grenades, do this:

a. If electric ignition is to be used:

- Raise safety lever
- Insert electric cap
- Tape grenades in place.

b. If electric ignition is not to be used:

- Tape grenades to ordnance.
- Attach pull wire to safety pin.

c. Task is finished when soldier clears the area.

*NOTE: The task analysis information has been edited for purposes of presentation in this module.

SIGN-OFF

COURSE MANAGER

OP-1

CRITERION TEST

DEVELOP STIMULUS RESPONSE TABLES

Given a narrative description of the behaviors that occur during performance of a task, construct a paradigm that represents those behaviors in the appropriate sequence.

PERFORMANCE DESCRIPTION

1. Inspect the brake assembly. First, remove the brake drum and look at the various parts. If there are broken springs, replace them. If the brake linings are worn, cracked, or soaked with brake fluid, replace them. If the brake drum is scored, send it to the machine shop for turning. If everything is OK, notify your supervisor.

2. Before you take the Criterion Test, you may want one more practice activity. If so, paradigm the following:

When pressure cannot be maintained in the body assembly of the mechanical azimuth indicator on a M551, place the periscope on the work bench. Then purge and charge the body assembly. Check the valve assembly for leaks. If there are leaks, repair the valve assembly. Check the machine thread plug for leaks. Replace the machine thread plug and gasket if there are leaks. If not, replace the optical instrument window.

INSPECT MISSILE RACKS

3. An inspector determines if tne missile racks on a TOW weapons system vehicle are in a condition of readiness to perform their mission satisfactorily for 90 days with normal maintenance support. If all parts of the missile racks are complete and operational, the inspector writes "GREEN" on the provided Form 2404 The inspector writes "AMBER" on the Form 2404 if one or more latch or tie-down strap assemblies are damaged, missing, or inoperative; if one or more cushion pads are damaged or missing; if a top rack assembly pin on either rack is damaged or missing; if one top rack assembly cannot be installed or removed; or if the top rack assembly is missing. The inspector writes "RED" on Form 2404 if one latch assembly is missing, broken or inoperative or if the racks are damaged to the extent that less than three missiles can be stowed.

SIGN-OFF

Course Manager

CG-11

CRITERION TEST

PLAN A CONSENSUS GROUP

Write a plan for a consensus group.

Select five or six tasks from your MOS or officer specialty (or an area you are competent in).

Using those tasks, prepare a written plan for a consensus group. The plan must address the following areas:

- Selection of Consensus Group Members
- Selection of the Group Chairperson
- A Letter-of-Instruction

SIGN-OFF

COURSE MANAGER

CG-12

CRITERION TEST

DIRECTIONS:

In the left column is a series of situations that might occur when conducting a task analysis by a consensus group. For each situation, decide whether it is appropriate to the conduct of a task analysis by consensus group. If it is not appropriate, write what the correct action should be.

SITUATION	YOUR RESPONSE
1. A consensus group has been formed to analyze the critical tasks of Skill Level 1 of MOS XYZ. The group is made up of two E-8, one O-3, and two civilian technologists.	
2. You are asked to participate in a consensus group which is being formed to "create new data on task performance."	
3. A new MOS is scheduled for approval. When developing job descriptions, experts from an existing and similar MOS are formed into a consensus group.	
4. Your boss asks you to get a project officer for the formation of a consensus group. He tells you to select "group from the academic departments."	
5. The chairperson of a consensus group turns to a member and says "Hey Jones, you have a good idea of what these tasks are all about- what's your opinion?	

6. The chairperson of the consensus group says, "I want two of you guys to conduct a group interview. When you get some data, come back and we'll all vote on it."

7. A consensus group is formed to analyze data on supervisory tasks.

8. You must select tasks for training from a skill level consisting of 193 tasks. Your boss asks your opinion on using a consensus group to select the tasks.

9. A request for TDY funds to support the formation of a consensus group is refused because it is "to expensive"! Besides, those groups in the field don't understand training.

10. You observe a consensus group in action. You note that the chairperson does not participate very much, but only makes summary statements and periodically presents a new topic for analysis.

SIGN-OFF

COURSE MANAGER

CG-1

CRITERION TEST

PARTICIPATE IN A CONSENSUS GROUP

The criterion test for this module is the consensus group activity contained in the module. Go to the FEEDBACK sheet for further guidance.

Check with a course manager if you have any questions.

TA-1

SIGN-OFF

COURSE MANAGER

CRITERION TEST

RECORD JOB AND TASK ANALYSIS DATA

Choose a task for which your school is proponent and for which job and task analysis data has been collected. This should be a task for which you completed the job and task analysis. Fill out a TRADOC Form 550, Job and Task Analysis Worksheet for the task. All applicable blocks of the form must be completed. Be prepared to justify any omission of data.

TASK ANALYSIS MODULES

FEEDBACK SHEETS

VOLUME 5B

Sign-Off

Course Manager

V-12

FEEDBACK

CONDUCT OBSERVATION INTERVIEW

NOTE TO PARTICIPANT: Be sure that your analysis includes the items listed on the Criterion Test. The course manager must agree with your analysis.

NOTE TO COURSE MANAGER: Be sure that the participants' analysis includes at least the following:

- Task statement (actions observed).
- Standards of performance.
- Condition of task performance.
- Initiating cues.
- Elements or steps in the task.
- Indication when the task is completed.

The interview portion must comply with the guidelines in the Basic Interviewing Module V-111.

SIGN-OFF

Course Manager

IC-1

FEEDBACK

IDENTIFY INITIATING CUES

The following initiating cues were identified:

EXTRACT 1

TASK: Perform continuity or voltage checks on the shelter electrical equipment.

INITIATING CUE(S): None indicated.

TASK: Replace batteries.

INITIATING CUE(S): Readings below 22 vdc.

TASK: Recharge batteries.

INITIATING CUE(S): Readings below 22 vdc.

SIGN-OFF

Course Manager

DF-1

FEEDBACK

DEVELOP FLOW CHARTS

NOTE TO COURSE MANAGER:

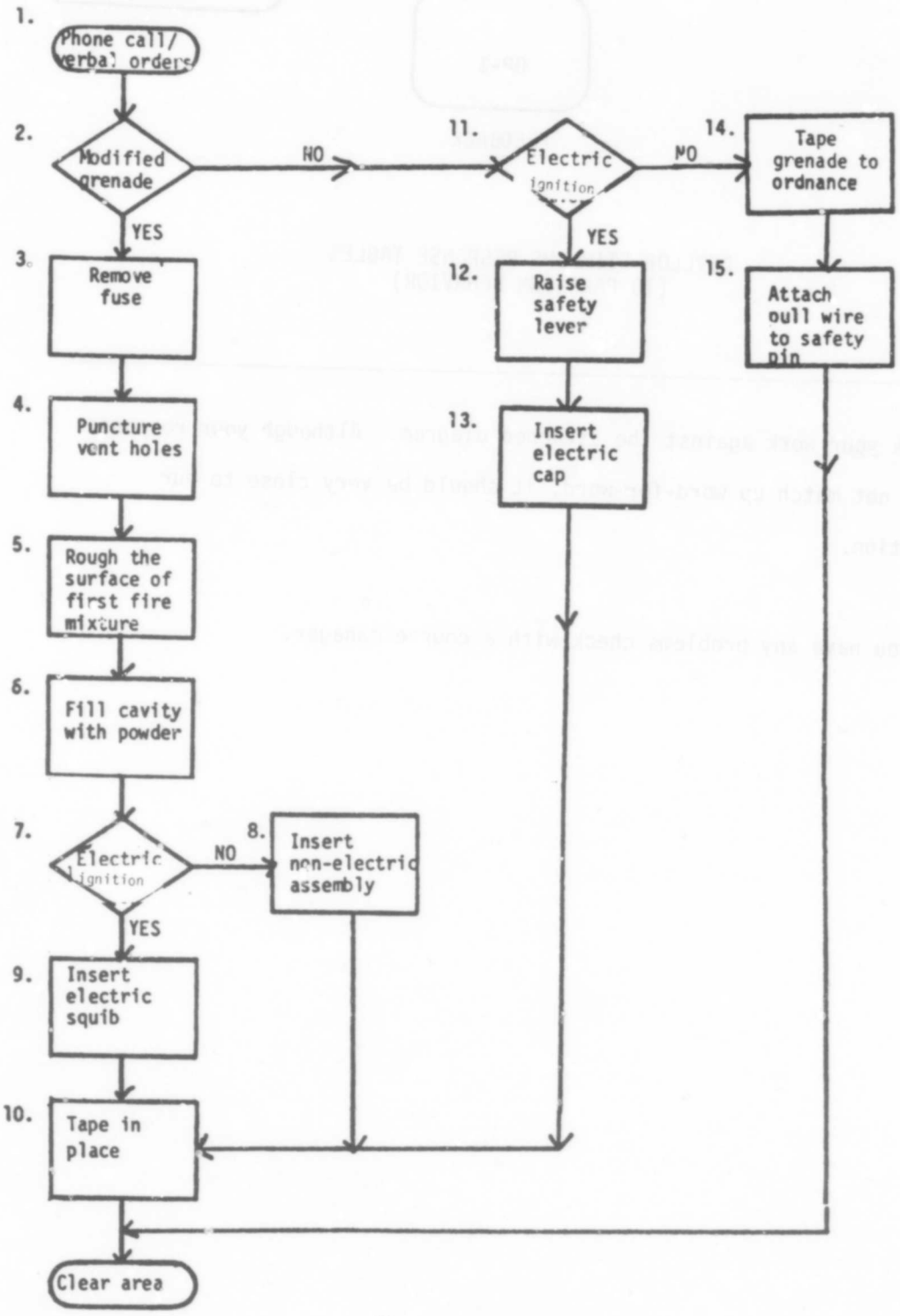
1. The participant may have developed a flow chart on a task from his or her area of proponency. If so, ask the participant to explain the flow chart in detail. Be sure that no actions or decisions were omitted.

As a minimum, the flow chart must include:

- Initiating Cue
- Actions
- Decision Points
- Task Completion

2. The participant may have elected to flow chart the task analysis data given on the Criterion Test Sheet. If so, the flow chart below is presented as a guide. There is no need for the participant's flow chart to match exactly. The participant may have elected to show the steps and decisions differently than we did. However, it is important that all actions and decisions appear in the flow chart. In addition, an initiating cue and indication of when the task is complete must be on the flow chart.

TASK: Prepare incendiary hand grenades for remote initiation.



SIGN-OFF

COURSE MANAGER

OP-1

FEEDBACK

DEVELOP STIMULUS-RESPONSE TABLES
(TO PARADIGM BEHAVIOR)

Check your work against the attached diagram. Although your response need not match up word-for-word, it should be very close to our solution.

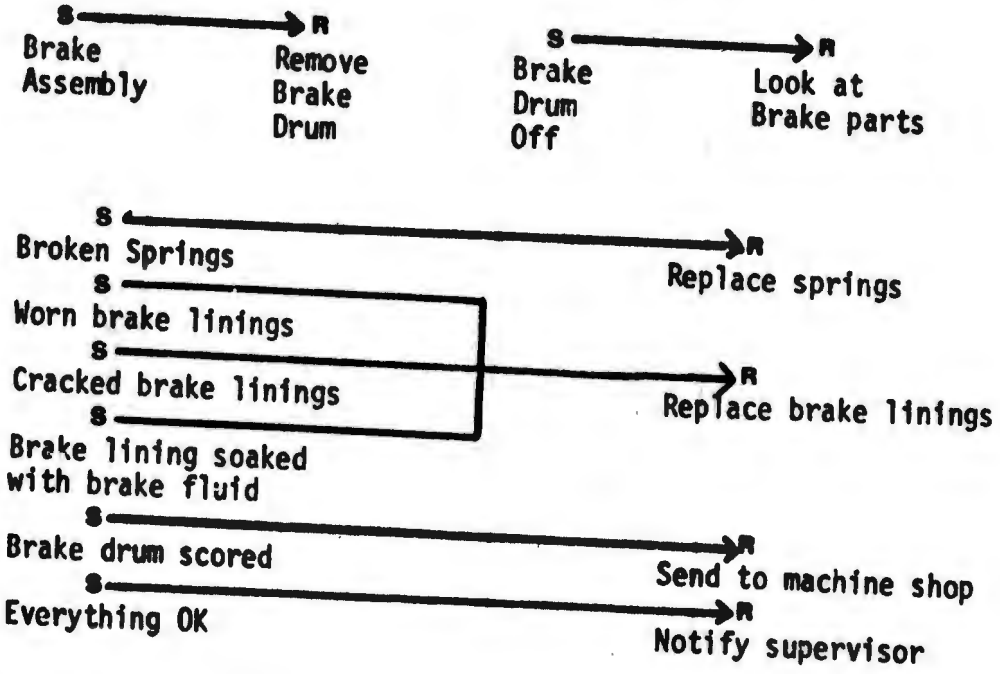
If you have any problems check with a course manager.

DEVELOP STIMULUS-RESPONSE TABLES

SELF-EVALUATION

PERFORMANCE DESCRIPTION NO. 1

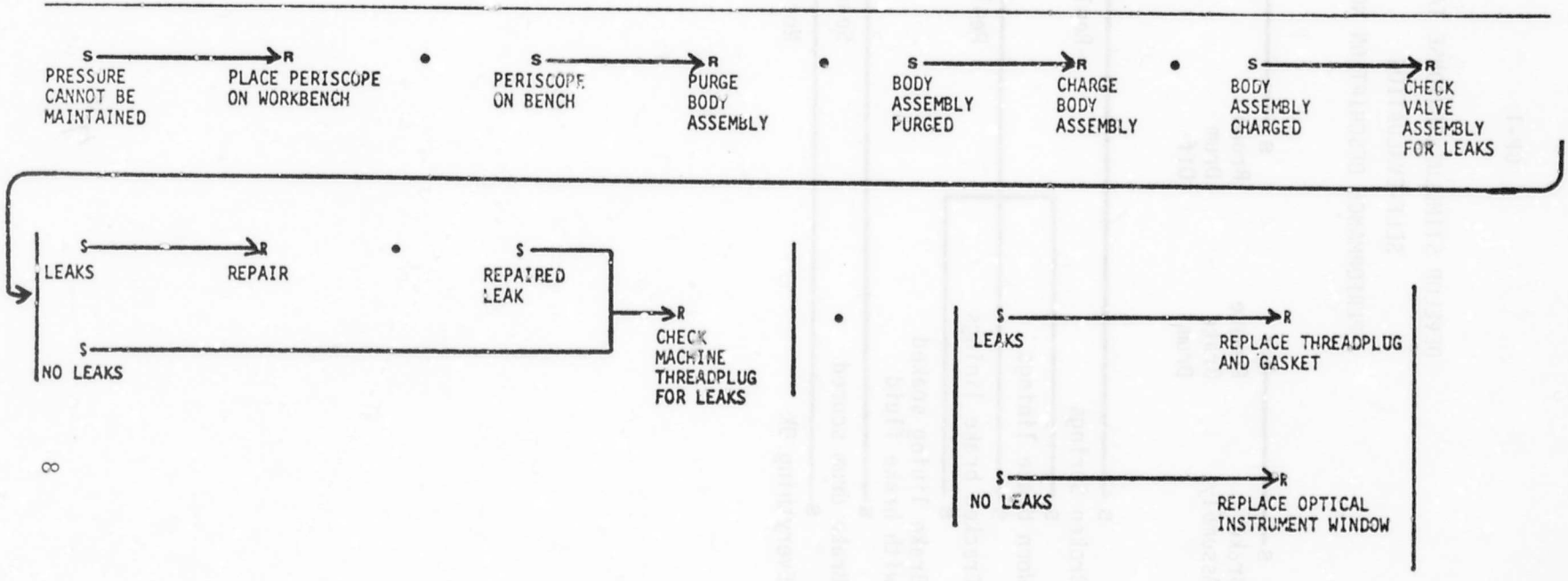
1.



OP-1

SELF-EVALUATION

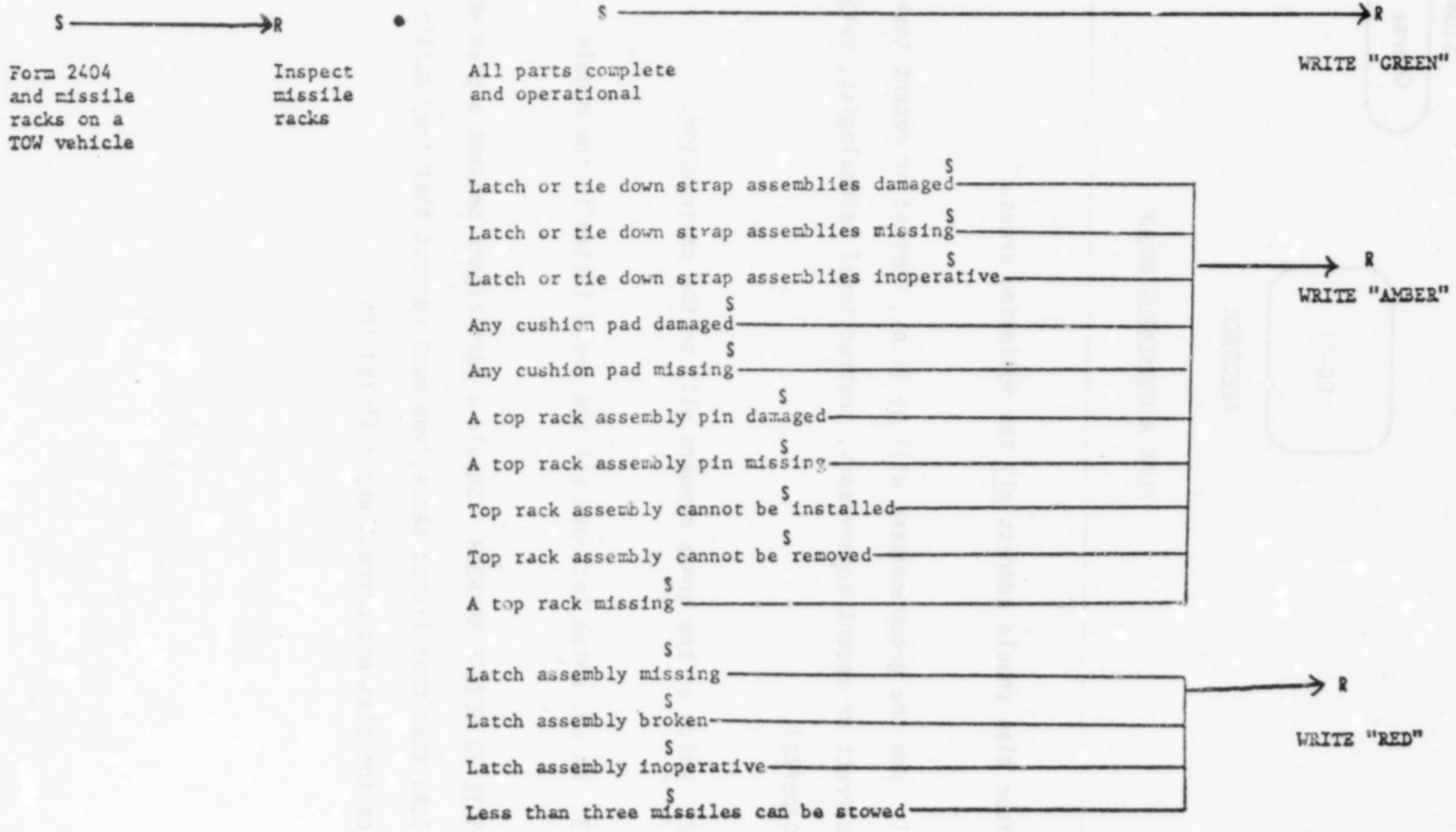
PERFORMANCE DESCRIPTION NO. 2



OP-1

SELF-EVALUATION

PERFORMANCE DESCRIPTION NO. 3



SIGN-OFF

Course Manager

CG-11

FEEDBACK

PLAN A CONSENSUS GROUP

Your plan should address all the following areas:

1. Who the group members will be (i.e., current or recent task performers, current or recent supervisors, instructional technologist, subject matter experts).

2. Which of the group members will be the chairperson.

3. An LOI which includes all the areas listed in the module.

NOTE TO COURSE MANAGER: Should a participant present a plan which contains less than that listed above, you must suggest that they continue to work on the plan and correct any deficiencies.

SAMPLE LOI

TO: Chairperson Consensus Group

Letter of Instruction

SUBJECT: Operation of the Consensus Group

1. Group members:

   1LT Futz
   SFC Gomez
   SFC Reed
   SFC York
   Mr. Booker (instructional technologist GS-11)

2. Chair: CPT Rocke

3. Tasks to be reviewed:

   Prepare a Schedule X
   Implement a command consultation program
   Conduct an intake interview

4. MOS 91G, Skill Level 4.

5. Duty Position: NCOIC, Community Mental Health Clinic

6. Suspense Date 1 June 1979.

7. Resource publications: 91G SM/CM, POI, various civilian texts on interviewing, field feedback reports and regulations governing the schedule X.

8. The group is to review the procedures outlined in the current SM/CM and the POI. Determine if those procedures are in fact correct and if not, recommend necessary changes. Review the standards and conditions outlined in the 91G SM and determine if they are appropriate. If not, recommend any changes.

SIGN-OFF

COURSE MANAGER

CG-12

FEEDBACK

Your answers should look approximately like those below. If there is a discrepancy between your answer and our answer, and you cannot resolve it, talk to one of your colleagues. If that does not sort things out, discuss it with the course manager.

SITUATION	YOUR RESPONSE
1. A consensus group has been formed to analyze the critical tasks of Skill Level 1 of MOS XYZ. The group is made up of two E-8, one O-3, and two civilian technologists.	1. There is no one from Skill Level 1 in the group. The group would be enhanced by adding one or more Skill Level 1 soldiers.
2. You are asked to participate in a consensus group which is being formed to "create new da on task performance."	2. Consensus groups work best when given existing data to work with.
3. A new MOS is scheduled for approval. When developing job descriptions, experts from an existing and similar MOS are formed into a consensus group.	3. This is OK. One productive way to use a consensus group is to analyze new jobs.
4. Your boss asks you to get a project officer for the formation of a consensus group. He tells you to select "group from the academic departments."	4. The group may be biased if made up solely of "guys from academic departments." The group would be enhanced if balanced by members from the field and other directorates in the school.
5. The chairperson of a consensus group turns to a member and says, "Hey Jones, you have a good idea of what these tasks are all about - what's your opinion?	5. There is a risk of one person (Jones) dominating the group. The chairperson should strive for equal participation from all group members.

6 The chairperson of the consensus group says, "I want two of you guys to conduct a group interview. When you get some data, come back and we'll all vote on it."	6. When conducting a proper group interview, job experts should plan carefully and assemble a group. Data should not be voted on, rather objective recording of data is desired.
7. A consensus group is formed to analyze data on supervisory tasks	7. This is OK. This is an example of how a consensus group can be used productively.
8. You must select tasks for training from a skill level consisting of 193 tasks. Your boss asks your opinion on using a consensus group to select the tasks.	8. This is OK. A consensus group is a good way to prioritize tasks for training.
9. A request for TDY funds to support the formation of a consensus group is refused because it is "to expensive"! Besides, those groups in the field don't understand training.	9. Information from the field is probably needed to determine what job holders actually do. The expense of the TDY should b balanced against the consequences of producing faculty analysis data.
10. You observe a consensus group in action. You note that the chairperson does not participate very much, but only makes summary statements and periodically presents a new topic for analysis.	10. This is OK. The chairperson should keep the group working smoothly.

If you have any questions, check with a course manager.

SIGN-OFF

Course Manager

CG-1

FEEDBACK

PARTICIPATE IN A CONSENSUS GROUP

FEEDBACK FOR SELF-EVALUATION

NOTE TO COURSE MANAGER: You must obtain a copy of the Process Observation Guide from each group member. Prior to review of their observations, complete your own copy of the Process Observation Guide from either your direct observation of the group session or from a video tape for the session.

Compare your observations to those of each group member. If you note any significant differences, mention these in your evaluation feedback to individual group members. If necessary, review the video tape with the group member, pointing out how the Process Observation Guide should have been completed.

Before signing off the module for the group, answer the following questions:

1) Did the group reach a consensus? If not, why? Should the group be required to meet again because of not reaching a consensus?

2) Have you provided feedback to each group member individually? If not, you must do this before signing off on the module.

The group will be interested in the "right answer." The key below presents a "book" solution. Remind the group that this was an exercise in Process. The fact that the group reached consensus is the important point. It is not important if the group's list differs from the "book" solution.

OCCUPATIONAL PRESTIGE KEY:*

1. US Supreme Court Justic
2. Physican
3. Scientist
4. State Governor
5. College Professor
6. Lawyer
7. Dentist
8. Psychologist
9. Banker
10. Sociologist
11. Publich School Teacher
12. Author of Novels
13. Undertaker
14. Newspaper columnist
15. Policeman

*Based on National Opinion Research Center (NORC) prestige scores from R. W. Hodge, P. M. Siegel, and P. H. Rossi, "Occupational Prestige in the United States: 1925-1963," in R. Bendix and S. M. Lipset, editors, *Class, Status, and Power*, second edition (New York: The Free Press, 1966), pages 322-34.

SIGN-OFF

COURSE MANAGER

TA-1

FEEDBACK

RECORD JOB AND TASK ANALYSIS DATA

NOTE TO COURSE MANAGER: Check to ensure that appropriate data has been entered in each block of the form. The participant must be prepared to justify any omissions.

JOB AND TASK ANALYSIS WORKSHEET

(TRADOC Reg 350-4)

Task Number:

Task Title:

1. Task Data:
   - A. Title:
   - B. Number:
   - C. Condition:
   - D. Standard:
   - E. Job Title:
   - F. Supervisory Job? (Yes) (No)
   - G. Supervision Required to Perform this Task? (Yes) (No) Comments:
   - H. ARTEP Derivative? (Yes) (No) Comments:
   - I. SQT Candidate? (Yes) (No) Comments:
   - J. MOS Candidate? (Yes) (No) Comments:
   - K. Common Task? (Yes) (No) Proponent:
   - L. Shared Task? (Yes) (No) Proponent:

2. Task Usage:
   - A. Active Component
   - B. Reserve Component: NG / Reserve
   - Comments:
   - C. Mobilization
   - Comments:

3. Type Analysis: ☐ New ☐ Revision
   - If Revision, Why?

4. Admin Data:
   - A. Date Initiated:
   - B. Completion Date:
   - C. Analyst's Name: Rank: Specialty: Office File Symbol: Telephone Number:
   - D. Interschool Coordinate Comments:

5. Survey Data Field Feedback:
   - A. AOSP. Date Inventory Submitted to MODD: MODD Coordination Comments: Date Report Received:
   - B. Field In-House. Coordination Comments:
   - C. Miscellaneous Feedback and Sources. Comments:

6. References:
   - A. Used in Analysis:
   - B. Required to Accomplish Task:

7. Job Aid Recommended? (Yes) (No) Comments:

8. Hazard Potential:
   - A. Training:
   - B. Job Performance:

9. Safety Certification Requirements:

10. Current Training Materials Identified and Those Affected by Job Task Revision (to include title, media, number, type devices or aids, etc.):

11. Instructional Site Recommendation:
    - A. Analyst's Recommendation: ☐ Job ☐ Institution ☐ Unknown
    - B. Site Selection Board: ☐ Job ☐ Institution ☐ Unknown
    - C. Final Recommendation: ☐ Job ☐ Institution (Form _____)

12. Equipment Used with to Perform Task:

13. Enabling Skills and Knowledges Required (Functional or Specific) for Task (Attach additional sheet, if required).
    - A. Baseline Entry Level:
    - B. Skill Hierarchy:

14. Task Selection Data (Fill in only those used):
    - A. 8/4 Factor Data:
      - (1) Percent Performing
      - (2) Time between Training and Task Performance
      - (3) Frequency of Performance
      - (4) Time Spent Performing Task
      - (5) Consequences of Inadequate Performance
      - (6) Probability of Inadequate Performance
      - (7) Task Delay Tolerance
      - (8) Task Difficulty
    - B. Training Emphasis Data:
    - C. DIF Data:
    - D. Peacetime/Wartime Data:
    - E. Other:

15. Miscellaneous Data/Comments:

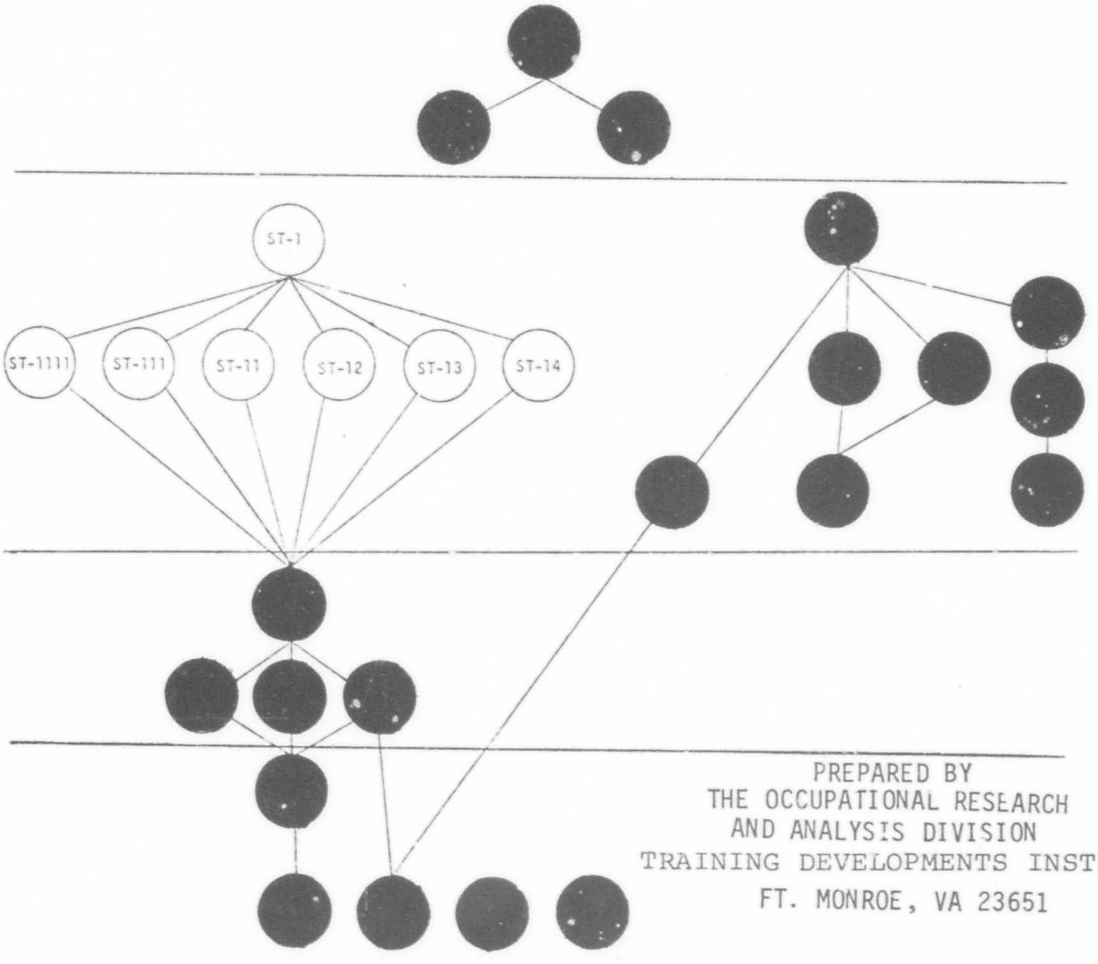
16. Performance Elements Steps: (Diagrams, if desired/required, should be attached, as applicable).	17. Cues:	18. Conditions:	19. Standards:	20. Skills Knowledges:

21. JPM Date:

TRAINING DEVELOPMENTS INSTITUTE
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION

CRITICAL TASK SELECTION MODULES

VOLUME 6



PREPARED BY
THE OCCUPATIONAL RESEARCH
AND ANALYSIS DIVISION
TRAINING DEVELOPMENTS INSTITUTE
FT. MONROE, VA 23651

CRITICAL TASK

SELECTION MODULES

MODULES	TITLE
ST-1111	CODAP
ST-111	8-Factor Model
ST-11	4-Factor Model
ST-12	Training Emphasis Model
ST-13	Difficulty - Importance Frequency (DIF) Model
ST-14	Wartime/Peacetime Model
ST-1	Select Task for Training

SELECT TASK FOR TRAINING

INTRODUCTION

The process of Selecting Tasks for Training is one of the most important activities an analyst takes part in. This process can only begin after a task inventory for an MOS or specialty has been developed. The process of selecting tasks for training must take place because any given MOS or specialty will be made up of several hundred tasks and the Army cannot consider training all the tasks for all MOS or specialties. To try to train all tasks would cost too much and would be too hard to manage. Therefore, the task inventory must be cut down to those tasks which are most important for preparing a soldier for the job.

Here's how the process of selecting tasks for training might look. Let Figure 1 be all the tasks on a task inventory. We know we cannot train all of these tasks so we have to select tasks for training. Figure 2 shows the tasks selected for training. Note that the tasks to be trained are a group of tasks chosen from the task inventory.

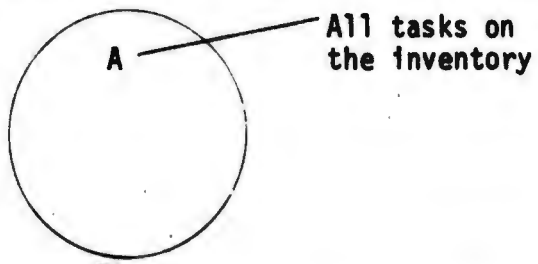


Fig 1

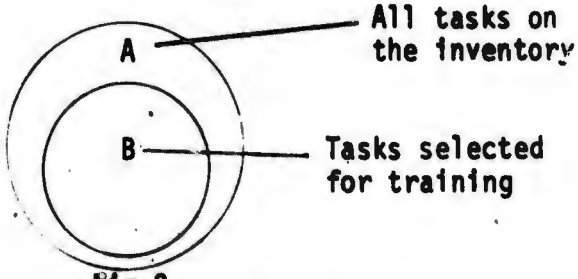


Fig 2

Although there is a clear cut need and a requirement to select tasks for training, there is no single clear cut process to follow when selecting tasks for training. Instead, selecting tasks for training results from decisions made after information has been collected on all tasks on

the task inventory. Usually, the analyst coordinates the data collection activities for the service school. After the task data has been collected the analyst reviews and analyzes it. The analyst may be asked to make a cut at selecting tasks for training. At some point, the analyst will pass all the task data forward to the task selection board. The task selection board makes the final selection of tasks for training. This set of modules presents a number of strategies that have been used to select tasks for training. These strategies may be used separately, but are much stronger when used in combination with one another.

MODULE	TITLE
ST-111	8-Factor Model for Selecting Tasks for Training
ST-112	4-Factor Model for Selecting Tasks for Training
ST-113	Training Emphasis Model for Selecting Tasks for Training
ST-114	CODAP Model for Selecting Tasks for Training
ST-115	DIF Model for Selecting Tasks for Training
ST-116	Wartime/Peacetime Model
ST-1	Select Tasks for Training

As mentioned above, use of a combination of these strategies is encouraged. There is no "best" solution for all Army specialists. TRADOC Pamphlet 351-4, Job and Task Analysis Handbook, suggests the use of a task selection process which combines four separate strategies:

- o Training Emphasis Model
- o CODAP Model
- o DIF Model
- o Wartime/peacetime model

This combination of strategies is explained in module ST-1 (Select Tasks for Training). After you have mastered the modules on strategies for collecting data on tasks, you will develop your own plan for selecting tasks for training. You will use your plan to practice selecting tasks for training (Module ST-1).

SUMMARY

The Army cannot afford to train soldiers for every task which they may have to perform. More importantly, the Army cannot afford to field soldiers who are not trained in the essential tasks they must master to be prepared for their job. Therefore, the tasks selected for training must be the most critical tasks a soldier must master to become an expert on his/her job. The basis for this decision must be the best and most complete data available to the analysts and training development managers.

Remember, when selecting tasks for training, they are made based on information collected by analysts and the best judgment of the training managers.

SIGN-OFF

COURSE MANAGER

ST-1.1.1.1

CODAP

OBJECTIVE:

Given data on CODAP do the following:

1. Talk about advantages and disadvantages of CODAP as a data source for selecting tasks for training (without references).

2. Specify the appropriateness of CODAP to your subject area (without references).

3. Use CODAP data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

CRITERION TEST:

1. Talk about the advantages and disadvantages of CODAP for selecting tasks for training.

2. Use CODAP data for selecting 10 tasks for training from your own task inventory (of at least 25 tasks).

RESOURCES:

TRADOC Pam 351-4 Job and Task Analysis Handbook Read page 7-5

One data source used during the process of selecting tasks for training is provided by the Military Personnel Center (MILPERCEN). MILPERCEN manages the Army Occupational Survey Program (AOSP) which publishes reports of rank orderings of tasks in Army specialties. These reports are based on large samples of soldiers surveyed in an MOS. These reports are published in a format established by the Comprehensive Occupational Data Analysis Program (CODAP). You may know them as CODAP reports.

CODAP reports are based entirely upon percent of soldiers performing a task. The reports are prepared to show a rank order of tasks based only on the factor of percent performing. A sample segment of a CODAP report is shown on the next page at Figure 1.

You can see that the task "check disabled vehicle/equipment before recovery operation" had the highest percent performing (77.10%). Therefore, it is ranked first on the list. The task performed by the lowest percent of soldiers appears at the bottom of the ranking ("adjust M578 tracks" - 45.23%).

Data on percent performing can be helpful during the process of selecting tasks for training. In fact, you will see that percent performing is one of the task selection factors included in both the 8-factor and 4-factor models for selecting tasks for training (ST-111 and ST-11). Data on percent performing can also be used in combination with other models for selecting tasks for training (ST-12 - Training Emphasis Model, ST-13 - Difficulty, Importance, Frequency Model, and

ST-14 - The Wartime/Peacetime Model). When you decide to use percent performing as a factor for selecting tasks for training, remember to use it as one of many factors for selecting tasks for training. Percent performing should never be used as the only basis for decisions made in selecting tasks for training.

The figure for percent of members performing which appears on CODAP survey reports relates to the soldiers' estimation of the time spent performing each of their tasks. Therefore, the survey results indicate the most time consuming tasks on the job in terms of actual performance by the soldier.

SAMPLE CODAP REPORT

3FB 3 CHARACTER MOS REPORT — 3CHMOS PAGE 1

JOB DESCRIPTION	CASES	TASKS	DUTIES	MBRS
	703	596	18	703

DUTY/TASK TITLE	CUMULATIVE SUM OF AVERAGE PERCENT TIME SPENT BY ALL MEMBERS	AVERAGE PERCENT TIME SPENT BY ALL MEMBERS	AVERAGE PERCENT TIME SPENT BY MEMBERS PERFORMING	PERCENT OF MEMBERS PERFORMING	TASK SEQ NO
CHECK DISABLED VEHICLE/EQUIPMENT BEFORE RECOVERY OPERATION	77.10	1.16	.90	.90	
CHECK TERRAIN FOR APPROACH TO RECOVERY SITE	73.83	1.19	.89	1.74	
SELECT BEST ROUTE OF APPROACH TO RECOVERY SITE	73.54	1.13	.83	2.57	
CHECK RECOVERY SITE FOR UNSAFE AREAS	71.41	1.19	.82	3.39	
DETERMINE RECOVERY METHOD	67.85	1.03	.70	4.09	5
INSPECT TRACK VEHICLE FOR SAFETY HAZARDS PRIOR TO RECOVERY	66.86	1.19	.76	4.05	
MAINTAIN PROTECTIVE MASK AND ACCESSORIES	62.02	1.12	.70	5.58	
DETERMINE RIGGING EQUIPMENT REQUIREMENT	61.59	.98	.60	6.18	
ESTIMATE RESISTANCE OF DISABLED VEHICLE	60.31	.92	.56	4.70	
CHECK RECOVERY SITE FOR NATURAL ANCHORAGE	59.89	.94	.56	7.27	10
CHECK RECOVERY VEHICLE TACKLE FOR SAFE OPERATIONS	57.61	1.06	.61	7.68	
CAMOUFLAGE/CONCEAL VEHICLES AND EQUIPMENT	57.18	1.04	.59	8.47	
SLAVE-START WHEELED VEHICLES	56.90	1.01	.58	9.05	
CHECK BLOCK AND TACKLE SYSTEM FOR SAFE OPERATIONS	56.47	.97	.55	9.60	
INSPECT WHEELED VEH FOR SAFETY HAZARDS PRIOR TO RECOVERY	55.33	1.08	.60	10.20	15
PREPARE OXYACETYLENE EQUIPMENT FOR OPERATIONS	55.05	.76	.42	10.61	
CUT METAL USING OXYACETYLENE EQUIPMENT	54.91	.75	.41	11.03	
INSTALL ACETYLENE TANKS AND REGULATOR VALVES	54.77	.78	.43	11.46	
INSTALL OXYGEN TANKS AND REGULATOR VALVES	54.05	.78	.42	11.88	
DRIVE 1/4 TON UTILITY TRUCK	53.49	1.01	.54	12.42	20
MAKE ENTRIES ON EQUIPMENT INSPECTION WORKSHEET (DA 2404)	53.20	1.29	.68	13.10	
SELECT TACKLE SYSTEM	51.92	.87	.45	13.55	
CLEAN/STOW BLOCK AND TACKLE EQUIPMENT	51.78	.89	.46	14.02	
DRIVE 2 1/2 TON CARGO TRUCK	51.49	.95	.49	14.50	
REVIEW EQUIPMENT INSPECTION WORKSHEET (DA FORM 2404)	51.07	1.28	.65	15.15	25
PREPARE EQUIPMENT INSPECTION WORKSHEET (DA FORM 2404)	50.50	1.28	.65	15.79	
CAMOUFLAGE/CONCEAL SELF	50.21	.95	.48	16.27	
DETERMINE EVACUATION METHOD	49.79	.93	.46	16.73	
COMPUTE MECHANICAL ADVANTAGE OF SIMPLE/COMPOUND TACKLE SYS	49.22	.77	.38	17.11	
CHANGE TIRES	49.08	1.32	.65	17.76	30
RIG BLOCK AND TACKLE EQUIPMENT	48.65	.82	.40	18.16	
SET UP SIMPLE TACKLE SYSTEMS	47.80	.81	.39	18.54	
ASSIST IN WHEELED VEHICLE ORGANIZATIONAL MAINTENANCE	47.23	1.22	.57	19.12	
SERVICE M578 OIL LEVELS (ENGINE/TRANSMISSION)	46.80	1.47	.69	19.81	
INSPECT HEAVY EQUIP FOR SAFETY HAZARDS PRIOR TO RECOVERY	46.23	1.07	.49	20.30	35
CONDUCT WHEELED VEH BEFORE/DURING/AFTER OPERATION CHECK	45.66	1.23	.56	20.86	
PERFORM M578 BEFORE/DURING/AFTER OPERATIONS MAINTENANCE	45.38	1.38	.62	21.48	
ADJUST M578 TRACKS	45.23	1.13	.51	21.99	

One disadvantage of basing task selection decisions entirely upon percent performing data is that true combat tasks would probably fall to the bottom of the ranking. If the survey is conducted in a peacetime environment combat tasks would not be performed on the job! If tasks were selected for training based only on percent performing data there is a real danger of not training soldiers in tasks required for combat. Therefore, caution must be used when CODAP reports are being reviewed during the process of selecting tasks for training.

Another point to remember is that soldiers will respond to the AOSP survey according to whatever job or set of tasks they currently perform. The soldier may be performing tasks which are concentrated in one area of an MOS and which do not apply to the entire MOS.

For these reasons, it is recommended that CODAP data be used in combination with data generated by other task selection models. In addition to percent performing data, there are other important factors which may affect the task selection process which are treated in the other task selection models. Let's try a practice exercise.

PRACTICE EXERCISE

1. Review the sample CODAP report on the next page.
2. Basing your decisions entirely on the percent performing factor select 12 tasks for training.
3. Check your selections with the feedback.

USD 3 CHARACTER MOS REPORT

JOB DESCRIPTION — CASES 334 — TASKS 625 — DUTIES 30 — HOURS 221

CUMULATIVE SUM OF AVERAGE PERCENT TIME SPENT BY ALL MEMBERS
AVERAGE PERCENT TIME SPENT BY MEMBERS PERFORMING
PERCENT OF MEMBERS PERFORMING

DUTY/TASK TITLE					TASK SEQ NO
DISASSEMBLE/ASSEMBLE M16/M16A1 RIFLES	86.68	1.30	1.13	1.13	
INSPECT M16/M16A1 5.56MM RIFLE/COMPONENTS	83.71	1.22	1.02	2.16	
SERVICE M16/M16A1 5.56MM RIFLE/COMPONENTS	80.09	1.12	.90	3.04	
DISASSEMBLE/ASSEMBLE M1911A1 .45 CAL PISTOLS	78.73	.80	.78	3.82	
DISASSEMBLE/ASSEMBLE M60 7.62MM MACHINE GUNS	78.73	1.02	.81	4.63	5
INSPECT M1911A1 .45 CAL PISTOL/COMPONENTS	77.81	.97	.75	5.38	
INSPECT M203 40MM GRENADE LAUNCHER/COMPONENTS	77.38	.60	.62	6.00	
INSPECT M60 7.62MM MACHINE GUN/COMPONENTS	76.92	1.00	.77	6.77	
REPLACE M16/M16A1 REAR SIGHT	76.02	.76	.58	7.35	
REPLACE M16/M16A1 BOLT CARRIER GROUP	75.66	.79	.59	7.93	10
REPLACE M16/M16A1 BARREL AND FRONT SIGHT ASSEMBLY	73.76	.82	.60	8.54	
DISASSEMBLE/ASSEMBLE M203 40MM GRENADE LAUNCHERS	73.30	.70	.51	9.05	
REPLACE M60 OPERATING ROD GROUP	72.85	.78	.57	9.62	
REPLACE M60 BARREL AND BIPOD ASSEMBLY	69.68	.69	.48	10.10	
CONDUCT INITIAL INSPECTIONS	69.68	1.09	.76	10.86	15
POLICE SMALL ARMS SHOP/WORK AREAS	69.68	1.90	.97	11.83	
REPAIR M60 BARREL AND BIPOD ASSEMBLY	67.87	.76	.51	12.34	
REPAIR M16/M16A1 BOLT CARRIER GROUP	67.42	.77	.52	12.86	
SERVICE M1911A1 .45 CAL PISTOL/COMPONENTS	67.42	.83	.56	13.42	
REPLACE M60 TRIGGER MECHANISM	66.97	.61	.41	13.83	20
CLEAN AND ORGANIZE SMALL ARMS SHOP/WORK AREAS	66.97	1.35	.90	14.73	
SERVICE M60 MACHINE GUN/COMPONENTS	66.06	.82	.54	15.27	
REPLACE M60 FORE ARM ASSEMBLY	66.06	.57	.38	15.65	
REPLACE M1911A1 BARREL GROUP	65.16	.64	.42	16.06	
CONDUCT FINAL INSPECTIONS	65.16	1.04	.68	16.74	25
REPAIR M60 COVER ASSEMBLY	64.25	.62	.40	17.14	
INSPECT M2 .50 CAL MACHINE GUN/COMPONENTS	64.25	.72	.46	17.60	
REPAIR M16/M16A1 LOWER RECEIVER GROUP	63.80	.75	.48	18.09	
REPLACE M1911A1 SLIDE GROUP	63.80	.65	.41	18.49	
REPLACE M60 COVER ASSEMBLY	63.80	.58	.37	18.86	30
REPAIR M60 TRIGGER MECHANISM	63.80	.61	.39	19.25	
REPAIR M16/M16A1 BARREL AND FRONT SIGHT ASSEMBLY	62.99	.78	.49	19.74	
DISASSEMBLE/ASSEMBLE M2 .50 CAL MACHINE GUNS	62.99	.75	.47	20.21	
REPAIR M60 OPERATING ROD GROUP	61.99	.69	.43	20.63	
REPLACE M60 FEED TRAY ASSEMBLY	61.99	.67	.42	21.05	35
REPAIR M16/M16A1 REAR SIGHT	61.58	.73	.45	21.50	
REPLACE M60 SHOULDER STOCK ASSEMBLY	61.54	.61	.37	21.87	
INSPECT M60 MACHINE GUN TRIPOD MOUNT/COMPONENTS	61.54	.73	.46	22.33	

FEEDBACK

How did your selections match up with ours? (See the CODAP report on the next page for our selection). You were directed to select 12 tasks based only on the factor indicating percent performing. Because the tasks are rank ordered all you had to do was select the first 12 tasks on the list. You can see that selecting tasks for training using percent performing as the only criteria is not a satsifactory method. There are probably tasks on list in the exercise you would like to "trade" for some of the top 12 tasks in the ranking. In order to select the 12 "best" tasks you must consider other factors in addition to percent performing data. (Modules ST-111, ST-12, ST-13, ST-14, ST-15.)

Here is a summary of CODAP:

CODAP

ADVANTAGES

Rank orders tasks on % performing
Conducted by AOSP
Large Sample - surveys MOS
Additional data available

DISADVANTAGES

Prioritizes tasks on one factor (% performing)
Time Consuming

MAJOR ATTRIBUTES

Surveys MOS (whole Army)
Simple rank ordering

DDD 3 CHARACTER MOS REPORT — SCHMUS PAGE 1

JOB DESCRIPTION — CASES 224 — TASKS 425 — DUTIES 36 — MBRS 224

CUMULATIVE SUM OF AVERAGE PERCENT TIME SPENT BY ALL MEMBERS
AVERAGE PERCENT TIME SPENT BY MEMBERS PERFORMING
PERCENT OF MEMBERS PERFORMING

DUTY/TASK TITLE					TASK SEQ NO
DISASSEMBLE/ASSEMBLE M16/M16A1 RIFLES	86.88	1.30	1.43	1.13	
INSPECT M16/M16A1 5.56MM RIFLE/COMPONENTS	83.71	1.22	1.02	2.16	
SERVICE M16/M16A1 5.56MM RIFLE/COMPONENTS	80.09	1.12	.90	3.04	
DISASSEMBLE/ASSEMBLE M1911A1 .45 CAL PISTOLS	78.73	.99	.78	3.82	
DISASSEMBLE/ASSEMBLE M60 7.62MM MACHINE GUNS	78.73	1.02	.81	4.63	5
INSPECT M1911A1 .45 CAL PISTOL/COMPONENTS	77.83	.97	.75	5.36	
INSPECT M203 40MM GRENADE LAUNCHER/COMPONENTS	77.38	.80	.62	6.00	
INSPECT M60 7.62MM MACHINE GUN/COMPONENTS	76.92	1.00	.77	6.27	
REPLACE M16/M16A1 REAR SIGHT	76.02	.76	.58	7.35	
REPLACE M16/M16A1 BOLT CARRIER GROUP	74.66	.79	.59	7.93	10
REPLACE M16/M16A1 BARREL AND FRONT SIGHT ASSEMBLY	73.76	.82	.60	8.54	
DISASSEMBLE/ASSEMBLE M203 40MM GRENADE LAUNCHERS	73.30	.70	.51	9.05	
REPLACE M60 OPERATING ROD GROUP	72.85	.78	.57	9.62	
REPLACE M60 BARREL AND BIPOD ASSEMBLY	62.68	.69	.43	10.10	
CONDUCT INITIAL INSPECTIONS	69.68	1.09	.76	10.86	15
POLICE SMALL ARMS SHOP/WORK AREAS	69.68	1.40	.97	11.83	
REPAIR M60 BARREL AND BIPOD ASSEMBLY	67.87	.76	.51	12.34	
REPAIR M16/M16A1 BOLT CARRIER GROUP	67.42	.77	.52	12.86	
SERVICE M1911A1 .45 CAL PISTOL/COMPONENTS	67.42	.83	.56	13.42	
REPLACE M60 TRIGGER MECHANISM	66.97	.81	.54	13.43	20
CLEAN AND ORGANIZE SMALL ARMS SHOP/WORK AREAS	66.97	1.34	.90	14.73	
SERVICE M60 MACHINE GUN/COMPONENTS	66.36	.82	.54	15.22	
REPLACE M60 FORE ARM ASSEMBLY	66.06	.57	.38	15.65	
REPLACE M1911A1 BARREL GROUP	65.16	.69	.47	16.06	
CONDUCT FINAL INSPECTIONS	65.16	1.09	.68	16.74	25
REPAIR M60 COVER ASSEMBLY	64.25	.82	.50	17.14	
INSPECT M2 .50 CAL MACHINE GUN/COMPONENTS	64.25	.72	.46	17.60	
REPAIR M16/M16A1 LOWER RECEIVER GROUP	63.80	.75	.48	18.08	
REPLACE M1911A1 SLIDE GROUP	63.30	.65	.41	18.49	
REPLACE M60 COVER ASSEMBLY	63.30	.58	.37	18.86	30
REPAIR M60 TRIGGER MECHANISM	63.80	.61	.39	19.25	
REPAIR M16/M16A1 BARREL AND FRONT SIGHT ASSEMBLY	62.94	.76	.48	19.73	
DISASSEMBLE/ASSEMBLE M2 .50 CAL MACHINE GUNS	62.44	.75	.47	20.21	
REPAIR M60 OPERATING ROD GROUP	61.99	.69	.43	20.63	
REPLACE M60 FEED TRAY ASSEMBLY	61.99	.67	.42	21.05	35
REPAIR M16/M16A1 REAR SIGHT	61.58	.73	.45	21.50	
REPLACE M60 SHOULDER STOCK ASSEMBLY	61.58	.61	.37	21.87	
INSPECT M60 MACHINE GUN TRIPOD MOUNT/COMPONENTS	61.58	.73	.45	22.32	

SIGN-OFF

COURSE MAMAGER

ST-111

8-FACTOR MODEL FOR SELECTING TASKS FOR TRAINING

OBJECTIVE:

Given data on 8 factors for selecting tasks for training do the following:

1. Talk about advantages and disadvantages of the 8-factor model (without references).
2. Specify the appropriateness of the 8-factor model to your subject area (without references).
3. Use the data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

CRITERION TEST:

1. Talk about the advantages and disadvantages of the 8-factor model for selecting tasks for training.

2. Use the data given on the 8-factor model for selecting 10 tasks for training from your own task inventory (of at least 25 tasks).

RESOURCES:

TRADOC Pam 350-30 (Phase I Analyze)	pages 117-130
TRADOC Pam 351-4	page 7-2
	pages A-1 thru A-11

One task selection model which can be used as a basis for collecting data for task selection decisions is the 8-factor model discussed in TRADOC Pam 350-30 (Phase I, Analyze). This model involves collecting information from job holders on the following 8 criteria for task selection:

- Percent performing. What percent of soldiers in this MOS or specialty will perform this task? (data available from CODAP)
- Percent of time spent performing. What percentage of the soldier's time is spent performing this task?
- Time between training and task performance. How much time elapses between the time this task is trained and the time it is first performed (3 days, 5 weeks, 6 months)?
- Frequency of task performance. How often must this task be performed (each day, once a month)?
- Consequences of inadequate performance. How important is it that the soldiers perform this task correctly? What will happen if this task is performed incorrectly?
- Probability of deficient performance. If training is not received, how likely is it that the soldier will not perform this task correctly?
- Task delay tolerance. How long after the soldier is given the initiating cue must he begin performance of the task.

• Task learning difficulty. How much time, effort, and assistance is required for the soldier to learn to perform this task?

Information on the 8 factors is collected by surveying job holders. Information can be collected directly by the analyst or from surveys given by the Army Occupational Survey Program (AOSP) of MILPERCEN. Once information has been collected for each of the 8 factors for every task on the task inventory, there will be a large data base to use for selecting tasks for training.

How is information on the 8 factors collected? Look at the table below:

TABLE 1: DATA COURCES FOR 8 FACTOR MODEL

Task Selection Factor	Source
1. Percent performing	Percent of soldiers surveyed who indicate they perform task (CODAP)
2. Percent of time spent performing	Average of responses from 1 (low) - 7 (high) indicated by soldiers surveyed who perform the task
3. Time between training and task performance	
4. Frequency of task performance	
5. Consequences of inadequate performance	
6. Probability of deficient performance	
7. Task delay tolerance	
8. Task learning difficulty	

Let's look at how data collected on the 8 factors might look. Table 2 shows make-believe data for a small set of tasks.

TABLE 2: TASK SELECTION DATA (8 FACTOR MODEL)

#	TASK	Percent Performing	Percent Time Spent Performing	Consequence of Inadequate Performance (1=low, 7=high)	Task Delay Tolerance (1=low, 7=high	Frequency of Performance (1=low, 7=high)	Task Learning Difficulty (1=low, 7=high)	Probability of Deficient Performance (1=low, 7=high	Immediacy of Performance (1=low, 7=high
1	Employ unarmed defense techniques	20.0	2.0	6.2	1.0	2.0	5.3	2.0	2.0
2	Search PW/CI	6.0	1.0	5.7	2.0	1.0	2.0	1.4	0.3
3	Employ riot control agents	30.0	1.0	3.4	4.0	1.0	2.5	1.6	1.2
4	Protect a crime scene	90.0	5.0	6.4	1.0	4.0	3.5	3.0	3.5
5	Warn suspects of their rights	100.0	5.0	6.7	1.0	5.0	1.5	1.0	6.0

You can see by the table that there is quite a bit of data to sort through. This is a strong point of this model - it is very comprehensive because it provides data on 8 separate task selection factors. Try to go through this data and select tasks for training. Which of the tasks would you select for training?

Write your answers here:

_____

_____

_____

_____

_____

_____

Check the next page for our choices.

Our choices: _____

_____

_____

We don't have any choices! It is very difficult to sort through 8 factors worth of data without some hint or guidance as to what counts most!

Let's try an exercise where you have some guidance.

PRACTICE EXERCISE:

8-FACTOR MODEL

#	TASK	Percent Performing	Percent Time Spent Performing	Consequence of Inadequate Performance (1=low, 7=high)	Task Delay Tolerance (1=low, 7=high	Frequency of Performance (1=low, 7=high)	Task Learning Difficulty (1=low, 7=high)	Probability of Deficient Performance (1=low, 7=high	Immediacy of Performance (1=low, 7=high
1	Employ unarmed defense techniques	20.0	2.0	6.2	1.0	2.0	5.3	2.0	2.0
2	Search PW/CI	6.0	1.0	5.7	2.0	1.0	2.0	1.4	0.3
3	Employ riot control agents	30.0	1.0	3.4	4.0	1.0	2.5	1.6	1.2
4	Protect a crime scene	90.0	5.0	6.4	1.0	4.0	3.5	3.0	3.5
5	Warn suspects of their rights	100.0	5.0	6.7	1.0	5.0	1.5	1.0	6.0

Select 3 tasks for training considering the following factors as most important:

PERCENT PERFORMING
TASK DELAY TOLERANCE
TASK LEARNING DIFFICULTY

Write your selections here:

Check the feedback on the next page.

FEEDBACK :

Here are the 3 tasks we selected for training - 3, 4, 5.

How did your choices match up with ours? As you can see it's not easy to sort through all the data generated by the 8 factor model!

This points to some disadvantages of this model:

DISADVANTAGES OF 8 FACTOR TASK SELECTION MODEL

Data Analysis - Difficult

Weighting of Factors - Awkward

Process is time consuming

Data collection - Difficult

Let's summarize the strengths and weaknesses of the 8 factor model for selecting tasks for training:

ADVANTAGES	DISADVANTAGES	MAJOR ATTRIBUTES
Very Comprehensive	Data Collection - Difficult Data Analysis - Difficult Weighting of Factors - Awkward Time consuming	extensive data collection

Now you can go on to the Criterion Test. If you have any questions, check with a course manager.

SIGN-OFF

COURSE MANAGER

ST-11

4-FACTOR MODEL FOR SELECTING TASKS FOR TRAINING

OBJECTIVE:

Given data on the 4-factor model for selecting tasks for training do the following:

1. Talk about advantages and disadvantages of the 4-factor model (without reference).
2. Specify the appropriateness of the 4-factor model to your subject area (without reference).
3. Use the data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

CRITERION TEST:

1. Talk about the advantages and disadvantages of the 4-factor model for selecting tasks for training.
2. Use the data given on the 4-factor model for selecting 10 tasks for training from your own task inventory (of at least 25 tasks).

RESOURCES:

TRADOC PAM 350-30 (Phase I Analyze)	pages 117-130
TRADOC PAM 351-4 Job and Task Analysis Handbook	page 7-3

The 4-factor model for task selection is made up of four of the factors used in the 8-factor model for selecting tasks for training (module ST-111). This model involves collecting information from job holders on the following four criteria for task selection:

- Percent performing. What percent of soldiers in this MOS or specialty will perform the task?
- Task delay tolerance. How long after the soldier is given the initiating cue must he begin performance of the task?
- Task learning difficulty. How much time effort, and and assistance is required for the soldier to learn to perform this task?
- Consequences of inadequate performance. How important is it that the soldier perform this task correctly? What will happen if this task is performed incorrectly?

Information on the 4-factor is collected from job holders. Information can be collected directly by the analyst or from surveys administered by the Army Occupational Survey Program (AOSP) of MILPERCEN. Once information has been collected for each of the 4-factors for every task on the task inventory,there will be a large data base to use for selecting tasks for training.

How is information on the 4-factor collected? Look at the tables on the next page.

Table I: Data Sources for 4-Factor Model

Task Selection Factor	Source
- Percent Performing	Percent of soldiers surveyed who indicate they perform the task
- Task Delay Tolerance - Task Learning Difficulty - Consequences of Inadequate Performance	Average of responses from 1(low) - 7(high) indicated by soldiers surveyed who perform the task

Let's look at how data collected on the 4-factors might look.

Table 2: Make-believe data for a small set of tasks.

#	Task Title	Percent Performing	Task Delay Tolerance (1=low,7=high	Task Learning Difficulty (1-low,7-high	Consequences of Inadequate Performance (1=low,7=high
1.	Prepare a map overlay	26	2	5	2
2.	Decontaminate Self & Individual Equipment	87	2	7	6
3.	Engage hostile aircraft w/individual weapon	33	1	6	7
4.	Perform PM services on AN/VRC 46 radio	61	3	5	2
5.	Repair the exhaust system of an M151A1	29	2	7	5

You can see that this model provides a fairly comprehensive set of data for each task. However, just as in the 8-factor model each factor must be weighed or prioritized before the analyst can begin to sort through the tasks.

How can the factors be weighed? With much difficulty!! Weighing the factors is an awkward procedure at best. Any weights applied are really just weights picked from someone's head! General guidance such as ranking the 4-factors is all quesswork. As in the 8-factor model it is time consuming for an analyst to sort though the data generated by this model.

Let's try an exercise were you have some guidance on how to use the 4-factor model.

PRACTICE EXERCISE:

Select four tasks for training using the 4-factor model with the factors prioritized as follows:

High — Task Learning Difficulty
Consequences of Inadequate Performance
Task Delay Tolerance
Low — Percent Performing

#	Task Title	Percent Performing	Task Delay Tolerance 1=low,7=high	Consequence of Inadequate Performance (1=low,7=high)	Task Learning Difficulty 1=low,7=high
1.	Apply first aid for 2d degree burns	83	6	6	6
2.	Recognize NBC hazzard markers	96	4	7	7
3.	Perform the duties of a sentry of the guard.	24	3	5	2
4.	Perform before operation maintenance on a 10KW generator.	07	2	6	4
5.	Defuse a "dead" 500 lb bomb	17	2	7	6
6.	Disassemble/assemble the .45 caliber pistol	39	1	6	4
7.	Troubleshoot an integrated circuit board	44	5	5	3
3.	Install field telephone TA 312/	61	4	3	2

FEEDBACK:

Here are the four tasks we selected for training:

1, 2, 5, and 7.

How did your choices match-up with ours? As you can see it's not easy to sort through all the data generated by the 4-factor model! However, the 4-factor model is more manageable than the 8-factor model and it does supply a fairly comprehensive data base.

Let's summarize the strengths and weaknesses of the 4-factor model for selecting tasks for training:

Advantages	Disadvantages	Major Attributes
Fairly Comprehensive	Data Collection - Difficult Data Analysis - Difficult Weighing of Factors - Awkward Time Consuming	More manageable than 8-factor model

Now you can go on to the criterion test. If you have any questions check with a course manager.

SIGN-OFF

COURSE MANAGER

ST-12

TRAINING EMPHASIS MODEL FOR SELECTING TASKS FOR TRAINING

OBJECTIVE:

Given data on the training emphasis model for selecting tasks for training do the following:

1. Talk about advantages and disadvantages of the training emphasis model (without references).

2. Specify the appropriateness of the training emphasis model to your subject area (without references).

3. Use the data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

CRITERION TEST:

1. Talk about the advantages and disadvantages of the training emphasis model for selecting tasks for training.

2. Use the data given on the training emphasis model for selecting 10 tasks for training from your own task inventory (of at least 25 tasks).

RESOURCES:

TRADOC PAM 351-4 Read page 7-4

INTRODUCTION

The Training Emphasis Scale is a one-factor rating scale for selecting tasks for training. Use of this scale results in a rank-ordering of tasks selected for training. Results obtained using the Training Emphasis Scale match up well with rankings developed by using the 4-factor or 8-factor rating scales.

Using the Training Emphasis Scale involves collecting information from supervisors of job incumbents. Information is not collected from the job holders. The supervisors are asked to respond to the following single factor for task selection:

TASKS RECOMMENDED FOR FORMAL TRAINING (SCHOOL OR OJT)

Supervisors are asked to review the task inventory and indicate which tasks they would recommend for formal training. Rank ordering of the tasks is done after all the supervisors' responses have been collected and scored (either manually or by a computer). Look at the sample training emphasis scale on the next page.

SAMPLE TRAINING EMPHASIS SCALE

Check (√) and rate each task for which you recommend formal training (either school or OJT)	CHECK	TRAINING EMPHASIS
	√	① Very much below average ② Below average ③ Slightly below average ④ Average ⑤ Slightly above average ⑥ Above average ⑦ Very much above average
1. Act as training advisor at staff level		
2. Assign personnel to details		
3. Assign personnel to duty positions		
4. Assign sponsors for newly assigned personnel		
5. Determine requirements for space, personnel, equipment, or supplies		
6. Determine work priorities		
7. Develop organizational charts		
8. Develop or improve work methods or procedures		
9. Draft budget or financial requirements		
10. Draft work order requests		

Supervisors are asked to review the task inventory and check each task they would recommend for formal training. For each task they check they also give a Training Emphasis Rating. In the sample the ratings go from 1 (extremely little training emphasis) to 7 (extremely heavy training emphasis). The rating 4 indicates "average" training emphasis. Any tasks not checked are given a rating of zero (0) on the form.

After all ratings have been collected, the ratings for each task are averaged together (this includes the zero ratings). This results in an average rating falling somewhere from 0 to 7 for each task.

Let's look at an example so you can see how a rating for a single task might fall out. We will use a set of 10 make-believe ratings for Task 7 on our sample (Develop organizational charts):

TASK: DEVELOP ORGANIZATIONAL CHARTS

SUPERVISOR	RATING
1	3
2	2
3	3
4	4
5	0
6	6
7	0
8	5
9	4
10	2
TOTAL 10	29

$10\overline{)29} = 2.9$ Training Emphasis Rating

From our data you can see that the task "develop organizational charts" received a Training Emphasis Rating of 2.9 out of a possible 7. Based on the scale given on the sample form this 2.9 is a low rating. It is close to 3.0 which indicates "little" training emphasis.

After all data has been collected and averaged a rank ordering of tasks would result. The rank ordering of tasks would help managers make decisions on selecting tasks for training.

Go back to our sample of ten tasks. The form has been completed with make-believe averages of Training Emphasis Ratings:

Check (√) and rate each task for which you recommend formal training (either school or OJT)	TRAINING EMPHASIS ① Very much below average ② Below average ③ Slightly below average ④ Average ⑤ Slightly above average ⑥ Above average ⑦ Very much above average
1. Act as training advisor at staff level	4.8
2. Assign personnel to details	3.3
3. Assign personnel to duty positions	1.4
4. Assign sponsors for newly assigned personnel	1.1
5. Determine requirements for space, personnel, equipment, or supplies	2.5
6. Determine work priorities	5.6
7. Develop organizational charts	4.5
8. Develop or improve work methods or procedures	5.4
9. Draft budget or financial requirements	6.3
10. Draft work order requests	1.7

PRACTICE EXERCISE

1. How would you rank order the ten tasks on the list according to training emphasis? Write your answers below:

TRAINING EMPHASIS		TASK #	RATING
HIGH ↓ LOW	1 2 3 4 5 6 7 8 9 10		

2. If you had to select four tasks for training based only on the training emphasis ratings which four would you select? Write your answers below:

TASKS SELECTED FOR TRAINING

1. _____.

2. _____

3. _____

4. _____

Check your work with the feedback on the next page.

FEEDBACK

1. The tasks would be rank ordered from the highest rating to the lowest.

TRAINING EMPHASIS		TASK #	RATING
HIGH	1	9	6.3
	2	6	5.6
	3	8	5.4
	4	1	4.8
	5	7	4.5
	6	2	3.3
	7	5	2.5
	8	3	1.4
	9	10	1.7
LOW	10	4	1.1

2. The four tasks selected for training based only on the Training Emphasis Ratings would have to be the four tasks with the highest ratings:

TASKS SELECTED FOR TRAINING

1. 9
2. 6
3. 8
4. 1

How did you do? If you have any questions, check with a course manager.

The Training Emphasis Scale has many advantages. As already mentioned, the Training Emphasis Scale has these advantages:

- It is a 1-factor rating scale.
- It has high match-up with the 4 factor model.
- It is administered to supervisors.

ADDITIONAL ADVANTAGES:

- It is well received by the field.
- Only a small sample (40) is required.

The major disadvantage is that data is not collected from job incumbents.

Here is a summary of the advantages and disadvantages of the Training Emphasis Scale model for selecting tasks for training:

TRAINING EMPHASIS SCALE

ADVANTAGES	DISADVANTAGES	MAJOR ATTRIBUTE
• 1 factor rating scale combines several factors • high correlation w/4 factor model • well received by the field • administered to supervisors • small sample (40) acceptable	Data Not Collected from Incumbents	Single factor ease of administration simple rank ordering

Now it's time for the criterion test. See a course manager if you have any questions.

SIGN-OFF

COURSE MANAGER

ST-13

DIF MODEL FOR SELECTING TASKS FOR TRAINING

OBJECTIVE:

Given data on the DIF model for selecting tasks for training do the following:

1. Talk about advantages and disadvantages of the DIF model (without references).

2. Specify the appropriateness of the DIF model to your subject area (without references).

3. Use the data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

CRITERION TEST:

1. Talk about the advantages and disadvantages of the DIF model for selecting tasks for training.

2. Use the data given on the DIF model for selecting 10 tasks for training from your own task inventory (of at least 25 tasks).

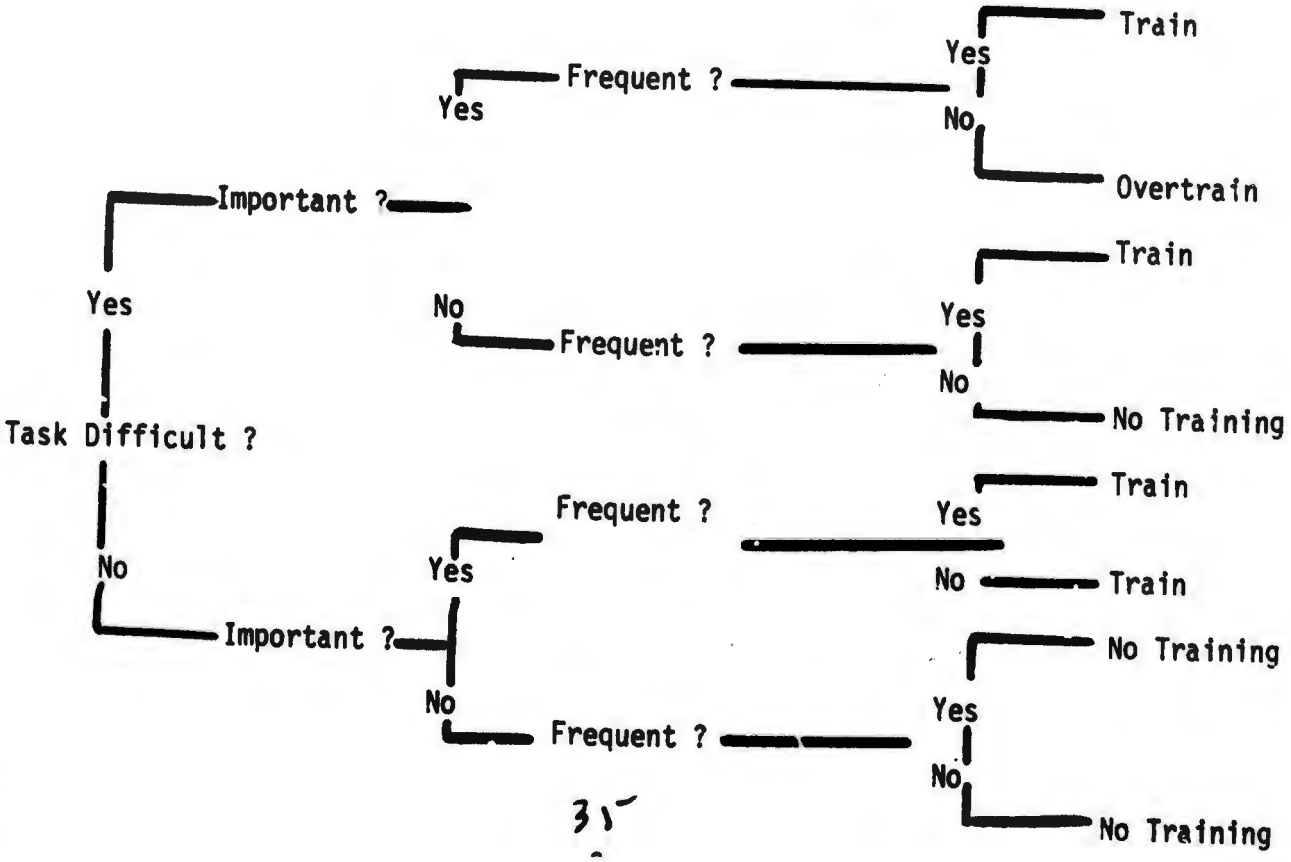
RESOURCES:

TRADOC PAM 351-4 Read pages 7-5 to 7-8

One model which can be used in the process of selecting tasks for training is the DIF (Difficulty, Importance, Frequency) Analysis. Use of the DIF model involves interviewing both supervisors and job incumbents. They are asked three questions about each task on the inventory. First, supervisors and workers are asked to determine the difficulty of the task in terms of learning and performing. Next, they comment on the importance of the task. Thirdly, they comment on the frequency of the task.

Information is collected by means of interviews or surveys conducted by the service school. Analysts can collect the information from a small sample (40 job holders and 40 supervisors) and be confident that they have good data.

Here's how the sequence of three questions used in the DIF model looks:



Train - Trainee must be able to demonstrate proficiency in performing the task at the speed required on the job.

Overtrain - Trainee must be trained to a high standard of retention. Accomplished by reinforcement training.

No Training - Formal training not required. Skills can be acquired on the job.

From the DIF model you can see that at one end of the scale are the difficult, important, and frequently performed tasks, while at the other end are the easy, unimportant, and infrequently performed tasks.

Here's how the three questions work together: Let's assume you are an analyst interviewing a job holder about one task from the task inventory. You begin by asking if the task is difficult:

Q: Is this task difficult?

A: Yes

Q: Is it important?

A: No

Q: Is it performed frequently?

A: Yes

You arrive at the category: train for this task.

Next, you go to the next task on the inventory. Once again you begin by asking if the task is difficult:

Q: Is this task difficult?

A: No

Q: Is this task important?

A: No

Q: Is this task performed frequently?

A: No

You arrive at the category: no training for this task. You would continue through the entire task inventory in this manner. As you can see the three questions which make-up the DIF analysis are easy to administer and require very little time.

Go on to the next page and try a practical exercise.

PRACTICE EXERCISE

Go through the responses for the three DIF questions given below. Write the category (overtrain, train, no training) you arrive at.

Task	DIF Responses	Category
1.	Difficult, Important, frequent	
2.	Difficult, Not Important, Not frequent	
3.	Not Difficult, Important, frequent	
4.	Difficult, Not Important, frequent	
5.	Not Difficult, Not Important, frequent	
6.	Difficult, Important, Not frequent	
7.	Not Difficult, Not Important, Not frequent	
8.	Not Difficult, Important, Not frequent	

Check your responses with the feedback on the next page.

FEEDBACK

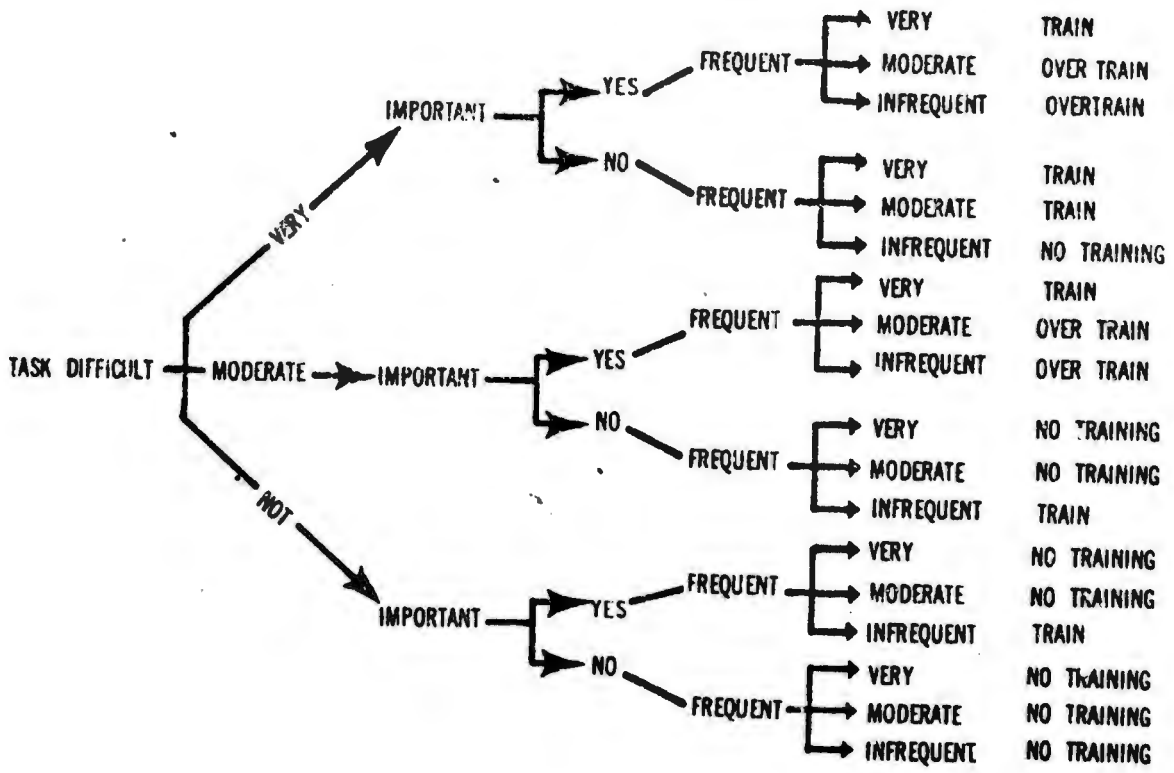
Task	DIF Responses	Category
1.	Difficult, Important, Frequent	Train
2.	Difficult, Not Important, Not Frequent	No Training
3.	Not Difficult, Important, Frequent	Train
4.	Difficult, Not Important, Frequent	Train
5.	No Difficult, Not Important, Frequent	No Training
6.	Difficult, Important, Not Frequent	Overtrain
7.	Not Difficult, Not Important, Not Frequent	No Training
8.	Not Difficult, Important, Not Frequent	Train

How did you do? See a course manager if you have any questions.

After going through the DIF process the tasks on the task inventory fall into three categories: Overtrain, train, and no training. At one end of the scale are tasks which are difficult, important, and frequently performed (TRAIN). At the other end of the scale are tasks which are easy, not important, and not frequently performed (no training). The breakout of tasks can be used to help make decisions on which tasks are be selected for training.

The three questions asked can be made more complex and therefore more sensitive by adding more degrees of difficulty, importance, and frequency.

Look at the example below:



This example uses the same three questions as the earlier example, but more specific answers are required.

Here's how the questions work together. Let's assume you are an analyst interviewing a job holder about our task from the task inventory. You begin by asking if the task is difficult.

Q: Is this task difficult?

A: No, it's not!

Q: Is it important?

A: Yes

Q: How frequently is it performed?

A: Once in a while

Q: Can you specify more clearly - moderately or infrequently.

A: I'd sav moderately.

You arrived at the point: no training for this task.

Go on to the next task.

A: Is this task difficult:

Q: I'd say yes.

Q: How difficulty - very difficult or moderately difficult?

A: Very difficult.

Q: Is the task important?

A: Yes

Q: How frequently is the task performed?

A: Very often.

You arrived at the category: train for this task.

Let's try a practical exercise.

PRACTICAL EXERCISE

Go through the responses for the three DIF questions given below.

Write down the category (over train, train, no training) you arrive at.

Task	DIF Responses	Category
1.	Moderately difficult, important, very frequent	
2.	Not difficult, not important, infrequent	
3.	Very difficult, not important, moderately frequent	
4.	Moderately difficult, not important, infrequently	
5.	Very difficult, important, very frequent	
6.	Not difficult, not important, moderately frequent	
7.	Very difficult, important, moderately frequent	
8.	Moderately difficult, important, moderately frequent	
9.	Not difficult, important, very frequently	
10.	Very difficult, not important, very freqently	

Check your responses with the feedback on the next page.

FEEDBACK

Task	DIF Responses	Category
1.	Moderately difficult, important, very frequent	Train
2.	Not difficult, not important, infrequent	No Training
3.	Very difficult, not important, moderately frequent	Train
4.	Moderately difficult, not important, infrequently	Train
5.	Very difficult, important, very frequent	Train
6.	Not difficult, not important, moderately frequent	No Training
7.	Very difficult, important, moderately frequent	Over Train
8.	Moderately difficult, important, moderately freqeunt	Over Train
9.	Not difficult, important, very frequent	No Training
10.	Very difficult, not important, very frequent	No Training

How did you do? If you have any questions check with a course manager.

After the DIF analysis is complete, all the tasks on the task inventory will have been categorized for over training, training, or no training by a sample of both workers and supervisors. The breakouts of the two groups can be compared for consistency if so desired.

The results of the DIF analysis can be used as a basis for selecting tasks for training.

If desired, other criteria may be used to supplement the results obtained from the DIF analysis. For example, any of the following information may also be helpful when combined with the results of the DIF analysis:

- How many soldiers perform the task? (See percent performing on AOSP Surveys).
- How easy is it to give training in the unit?
- How soon after training is the soldier expected to perform the task? (See the factor for time between training and performance in the 8-Factor model for selecting tasks for training - module ST-111).
- What degree of supervision will the ex-trainee have?

Here is a summary of the advantages and disadvantages of the DIF model for selecting tasks for training:

DIF MODEL

Advantages	Disadvantages	Major Attribute
- 3 straightforward factors - ease of administration - small sample (40) acceptable - analysis of data - simple - utilizes input from supervisors & incumbents - degree of complexity - adjustable	- crude instrument with gross task selection recommendation	- simple rank ordering (by category) - little time required

Now its time for the criterion test. See a course manager if you have any questions.

SIGN-OFF

COURSE MANAGER

ST-14

WARTIME/PEACETIME MODEL FOR SELECTING TASKS FOR TRAINING

OBJECTIVE:

Given data on the wartime/peacetime model for selecting tasks for training, do the following:

1. Talk about advantages and disadvantages of the wartime/peacetime model (without references).

2. Specify the appropriateness of the wartime/peacetime model to your subject area (without references).

3. Use the data to select 10 tasks for training from your own task inventory (of at least 25 tasks).

CRITERION TEST:

1. Talk about the advantages and disadvantages of the wartime/peacetime model for selecting tasks for training.

2. Use the data given on the wartime/peacetime model for selecting 10 tasks for training from your own task inventory (of at least 25 tasks).

RESOURCES:

TRADOC PAM 351-4 Job and Task Analysis Handbook. page 7-8

The wartime/peacetime model for selecting tasks for training attempts to identify all tasks which are performed in combat. This model can be used as a verification that all tasks selected for training include all combat and essential peacetime tasks.

The task inventory is reviewed by a group of senior officers and NCO who are familiar with the MOS or specialty, combat, and potential threat scenarios. The group would review the task inventory and group all tasks into one of three categories:

1. Tasks performed in wartime only.
2. Tasks performed in both peacetime/wartime.
3. Tasks performed in peacetime only.

Once the grouping of tasks is accomplished the selection of the tasks for training can be influenced to ensure that soldiers are trained in the tasks they will need to master for combat.

Here is an example of how the wartime/peacetime model can be used.

A rather dramatic distinction between tasks performed in wartime and peacetime is found in the Special Forces medic specialty. In combat the medic is authorized to perform surgery - even amputations. However, in peacetime the medic is not authorized to perform such tasks. This example can be contrasted with the Signal specialties where the peacetime and wartime tasks are very similar.

Using the wartime/peacetime model is a very simple procedure which highlights the tasks that are performed in combat. This model should be used in combination with other task selection models so that other important

task selection data are not ignored. For some officer and enlisted specialties, the wartime/peacetime model may not apply. For certain specialties there may be no significant difference in the tasks performed in wartime from the tasks performed in peacetime. Here is a brief summary of the wartime/peacetime model

WARTIME/PEACETIME MODEL

ADVANTAGES	DISADVANTAGES	MAJOR ATTRIBUTES
Addresses combat tasks isolates combat tasks ease of obtaining data	Ignores other relevant job analysis data	Keys on combat tasks

As you can see the wartime/peacetime model is very simple to work. All that is involved is a review of the task inventory and a grouping of the tasks into one of three categories:

1. Wartime Tasks
2. Wartime/Peacetime Tasks
3. Peacetime Tasks

Now go on to the criterion test. Check with a course manager if you have any questions.

SIGN-OFF

COURSE MANAGER

ST-1

SELECT TASKS FOR TRAINING

OBJECTIVE:

Given task selection data, a worksheet package, and a list of at least 30 tasks from your own task inventory. select tasks for training using a task selection strategy approved by a course manager.

CRITERION TEST:

1. Develop a strategy for selecting tasks for training (which combines some of the task solution modules discussed in the module).
2. Use the task selection strategy to select tasks for training from your own inventory (of at least 30 tasks).
3. Justify the criteria that were selected based on your MOS and its unique requirements.

RESOURCES:

TRADOC Pam 351-4, Job and Task Analysis Handbook — Chapter 7 - All

INTRODUCTION

The process of selecting tasks for training is one of the most important activities that occurs early in the training development process. Once tasks are selected for training, the basis for the production of all training development efforts has been set. NOTE: Managers must make task selection decisions based on information collected from the field by analysts. If the managers do not have data to help them make task selection decisions, the whole training development process is stalled from the very start!

You have had practice working with five different models and our data source (CODAP) which can be used in the task selection process. Each of these models provides the analyst and managers with a different strategy to use when selecting tasks for training. A summary of CODAP as a data source is shown in Table 1. These models have been summarized for your review in Table 2.

Because there is no single "right" way to go about the task selection process, each analysis activity should lay out a strategy which uses some combination of the five task selection models. One example of a recommended combination of models is to combine the Training Emphasis Scale Model, DIF model, and wartime/peacetime model (you can also use CODAP rankings).

The results of the Training Emphasis Scale and DIF models provide two separate rank orderings of the tasks on the task inventory. The two rank orderings of tasks can then be compared. If a task ranks high on these two different orderings, then there is a good chance that it should be trained. If the task ranks low on two orderings, then there

CODAP SUMMARY

TABLE 1

ADVANTAGES	DISADVANTAGES	ATTRIBUTES
Rank orders tasks on percent performing	Prioritizes tasks on one factor only (percent performing	Surveys entire MOS
Conducted by AOSP	Time consuming	Provides simple rank ordering
Large sample-surveys MOS		
Additional data available		

TASK SELECTION MODELS

TABLE 2

MODEL	ADVANTAGES	DISADVANTAGES	MAJOR ATTRIBUTES
8 Factor	Very Comprehensive	Data Collection - Difficult Data Analysis - Difficult Weighting of Factors - Awkward Time consuming	extensive data collection
4 Factor	Fairly Comprehensive	Data Collection - Difficult Data Analysis - Difficult Weighting of Factors - Awkward Time consuming	More manageable than 8 factor model
Training Emphasis Scale	1 factor rating scale combines several factors high correlation w/4 factor model well received by the field administered to supervisors small sample (40) acceptable	Data Not Collected from Incumbents	Single factor ease of administration simple rank ordering
UIF	3 straightforward factors ease of administration small sample (40) acceptable analysis of data - simple utilizes input from supervisors & incumbents degree of complexity - adjustable	Crude instrument with Gross Task Selection Recommendation	Simple rank ordering (by category) LITTLE TIME REQUIRED
Wartime/ Peacetime	Addresses combat tasks Isolates combat tasks ease of obtaining data	Ignores other relevant Job Analysis Data	Keys on combat tasks

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is a good chance the task should not be trained. Remember, you can add CODAP results to your data base. A draft list of tasks selected for training can then be developed

After the rank orderings have been compared and a draft list of tasks selected for training developed, the list can be compared to the list of tasks performed in wartime and peacetime/wartime. This comparison will highlight whether the draft list of tasks selected for training will prepare the soldiers for wartime tasks or something else. If the list does not stress training the soldier for wartime tasks, the selections should be reviewed. After the draft list of tasks selected for training has been developed, it is forwarded to management. Here is a summary of the task selection strategy just discussed:

- Rank order tasks on the task inventory using:
  - Training Emphasis Scale
  - DIF
- Compare the rank orderings. Look for tasks which are consistently high or low on all three lists.
- Draft a list of tasks selected for training based on the rank orderings.
- Compare the draft list of tasks selected for training to the list of tasks performed in wartime and peacetime/wartime.
- Check to see that the draft list of tasks selected for training stresses training soldiers for their wartime tasks.
- Forward the draft list to DTD and then to the Commandant.

Keep in mind that there is no one "right" way to go about selecting tasks for training. The method discussed above is recommended because

it allows the training manager to compare three separate rank orderings of tasks and to ensure that soldiers are trained in their wartime tasks. Each school makes their own decisions regarding what combination of task selection models is most appropriate for their subject matter.

As an analyst, you will be determining task selection strategy. You may be asked to provide input on the criteria to use when selecting tasks for training. However, the decision on what criteria to use rests with management.

After management decides on what criteria will be used in the task selection process, you (the analyst) will be required to collect the necessary data and organize it for the tasks. You will forward the task selection data to the task selection board. The board actually selects the tasks for training. You may be required to brief or advise the board on the task selection data you collected.

You probably will not be involved in the actual task selection process but all analysts must understand the entire task selection procedure from beginning to end. Therefore, you will have the opportunity to select tasks for training on the criterion test for this module.

Now it is time for you to lay out a task selection stragegy and select tasks for training from your own list of tasks. The criterion test will require you to do two things:

1. Develop a task selection strategy which combines some of the task selection models on Table One. You must write a rationale for your strategy and have it approved by a course manager.

2. After a course manager approves your strategy, you will use the task selection strategy to select tasks for training.

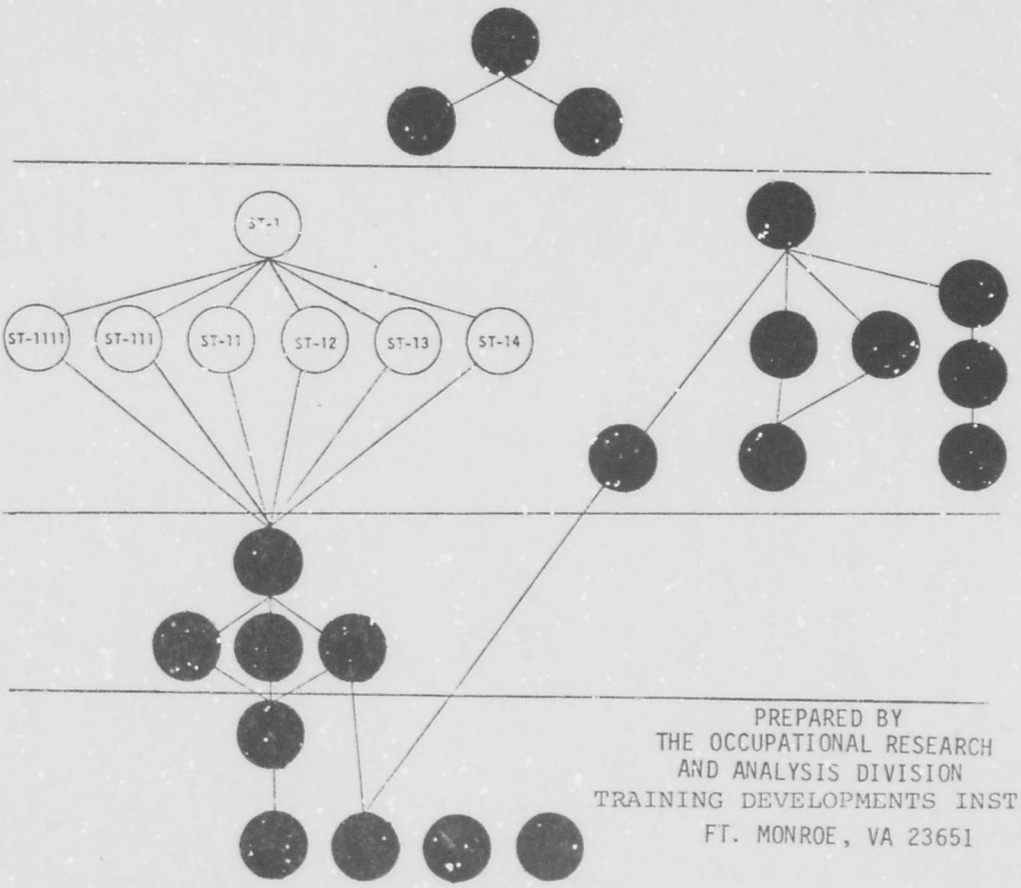
If you feel ready - go on to the criterion test. If not check with a course manager.

TRAINING DEVELOPMENTS INSTITUTE
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION

CRITICAL TASK SELECTION MODULES

CRITERION TESTS

VOLUME 6A



PREPARED BY
THE OCCUPATIONAL RESEARCH
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CRITICAL TASK

SELECTION MODULES

MODULES	TITLE
ST-1111	CODAP
ST-111	8-Factor Model
ST-11	4-Factor Model
ST-12	Training Emphasis Model
ST-13	Difficulty - Importance Frequency (DIF) Model
ST-14	Wartime/Peacetime Model
ST-1	Select Task for Training

Sign Off

Course Manager

ST-1111

CRITERION TEST

CODAP

Use the data provided on the attached sheet to select 10 tasks for training using CODAP.

- Fill in the task title column with tasks from your own inventory.
- Ask a course manager for guidance on CODAP if you feel unsure.
- Put a ✓ by the 10 tasks you select and then take your list to a course manager for discussion and sign-off.

Be prepared to -

1. Talk about the advantages and disadvantages of CODAP as a data source for selecting tasks for training.
2. Specify the appropriateness of CODAP to your subject area.

ST-111

WORKSHEET

CODAP

CUMULATIVE SUM OF AVERAGE PERCENT TIME SPENT BY ALL MEMBERS
AVERAGE PERCENT TIME SPENT BY ALL MEMBERS
AVERAGE PERCENT TIME SPENT BY MEMBERS PERFORMING
PERCENT OF MEMBERS PERFORMING

TASK TITLE					
1	77.46	.58	.45	.45	
2	76.30	.53	.41	.86	
3	72.25	.64	.46	1.32	
4	71.68	.64	.47	1.70	
5	71.68	.67	.48	2.26	5
6	71.10	.52	.37	2.63	
7	70.52	.42	.30	2.93	
8	70.52	.48	.34	3.27	
9	69.94	.58	.40	3.67	
10	69.36	.54	.37	4.04	10
11	68.79	.65	.45	4.49	
12	68.79	.48	.33	4.82	
13	68.79	.46	.32	5.14	
14	68.79	.43	.30	5.44	
15	68.79	.45	.31	5.75	15
16	68.79	.39	.27	6.02	
17	67.63	.48	.33	6.35	
18	67.63	.41	.28	6.63	
19	67.05	.46	.31	6.93	
20	67.05	.64	.43	7.36	20
21	66.47	.38	.25	7.62	

TASK TITLE	CUMULATIVE SUM OF AVERAGE PERCENT TIME SPENT BY ALL MEMBERS	AVERAGE PERCENT TIME SPENT BY ALL MEMBERS	AVERAGE PERCENT TIME SPENT BY MEMBERS PERFORMING	PERCENT OF MEMBERS PERFORMING	
22	66.47	.56	.37	7.99	
23	65.90	.43	.28	8.27	
24	65.90	.41	.27	8.54	
25	63.32	.39	.27	8.80	25
etc.	etc.	etc.	etc.	etc.	

SIGN-OFF

COURSE MAMAGER

ST-111

CRITERION TEST

8-FACTOR MODEL FOR SELECTING TASKS FOR TRAINING

Use the data provided on the attached sheet to select 10 tasks for training using the 8-factor model:

- Fill in the task title column with tasks from your own inventory.
- Take percent performing, task delay tolerance, and task learning difficulty as the high priority factors.
- Put a ✓ by the 10 tasks you select and then take your list to a course manager for discussion and sign-off.

Be prepared to discuss:

1. The advantages and disadvantages of the 8-factor model for selecting tasks for training.
2. The appropriateness of the 8-factor model to your subject area.

ST-111

WORKSHEET

8 FACTOR MODEL FOR SELECTING TASKS FOR TRAINING

#	TASK TITLE	Percent Performing	Percent Time Spent Performing	Consequence of Inadequate Performance (1=low, 7=high)	Task Delay Tolerance (1=low, 7=high)	Frequency of Performance (1=low, 7=high)	Task Learning Difficulty (1=low, 7=high)	Probability of Deficient Performance (1=low, 7=high)	Immediacy of Deficient Performance (1=low, 7=high)
1		88.6	3.9	6.0	2.4	1.2	4.8	3.5	2.5
2		73.9	3.5	1.5	3.9	2.1	2.7	6.5	4.8
3		72.3	4.6	5.8	6.8	4.5	3.0	4.3	3.5
4		71.8	2.5	3.3	2.6	4.8	3.5	1.2	6.6
5		71.5	2.2	5.7	1.9	3.0	4.6	2.1	4.3
6		66.9	2.2	4.1	2.4	5.1	5.2	5.3	5.4
7		63.8	2.6	1.0	3.3	4.1	4.8	3.2	6.7
8		62.5	2.4	5.3	4.1	6.4	3.2	5.9	6.3
9		58.9	2.3	2.4	3.5	5.8	4.6	2.8	6.3
10		54.5	2.1	3.8	5.9	1.2	6.5	3.5	1.7
11		51.6	1.9	3.7	6.0	5.1	4.8	1.4	4.2
12		49.3	1.9	2.2	2.9	3.2	6.0	3.8	3.5
13		47.8	2.5	4.6	1.2	6.8	5.7	4.7	4.5
14		42.3	3.1	4.3	2.0	3.3	2.5	5.8	2.9
15		40.0	2.4	2.2	4.8	1.0	1.3	3.5	4.8
16		39.0	2.0	3.1	5.3	3.5	3.6	4.0	4.2

	Percent Performing	Percent Time Spent Performing	Consequence of Inadequate Performance (1=low, 7=high)	Task Delay Tolerance (1=low, 7=high)	Frequency of Performance. (1=low, 7=high)	Task Learning Difficulty (1=low, 7=high)	Probability of Deficient Performance (1=low, 7=high)	Immediacy of Performance (1=low, 7=high)
17	37.2	1.9	3.6	2.3	3.5	3.4	4.2	1.6
18	36.9	2.8	3.8	1.5	5.7	6.8	3.0	2.9
19	36.4	4.1	4.9	4.7	4.8	5.6	1.5	1.5
20	36.9	3.3	6.2	3.8	2.0	1.7	3.3	3.0
21	36.6	2.0	4.5	5.0	3.8	3.2	3.8	3.6
22	34.8	3.2	4.4	5.3	4.2	3.9	5.8	5.8
23	36.3	2.0	3.7	3.5	4.0	4.2	6.0	4.6
24	33.8	3.2	2.0	3.2	3.2	1.0	3.4	2.2
25	33.5	2.0	1.9	2.5	2.0	5.7	4.5	3.7

SIGN-OFF

COURSE MANAGER

ST-11

CRITERION TEST

4-FACTOR MODEL FOR SELECTING TASKS FOR TRAINING

Use the data provided on the attached sheet to select 10 tasks for training using the 4-factor model.

- Fill in the task title column with tasks from your own inventory.
- Ask a course manager for guidance on how the 4 factors should be weighed.
- Put a ✔ by the 10 tasks you select and then take your list to a course manager for discussion and sign-off.

ST-11

WORKSHEET

4 FACTOR MODEL FOR SELECTING TASKS FOR TRAINING

#	TASK TITLE	PERCENT PERFORMING	TASK DELAY TOLERANCE 1 = LOW, 7 = HIGH	TASK LEARNING DIFFICULTY 1 = LOW, 7 = HIGH	CONSEQUENCES OF INADEQUATE PERFORMANCE 1 = LOW, 7 = HIGH	
1		89.0	2.1	3.5	2.5	
2		88.7	3.4	4.9	5.8	
3		86.2	5.8	3.2	6.0	
4		86.4	6.7	3.0	6.5	
5		83.5	4.2	4.7	5.9	
6		82.7	1.9	5.0	6.8	
7		82.0	5.5	4.9	6.2	
8		81.0	4.7	6.2	3.9	
9		79.4	2.5	3.8	4.5	
10		78.7	2.7	5.9	5.8	
11		78.0	4.8	3.6	3.2	
12		75.4	5.6	1.1	2.5	
13		70.1	6.9	5.5	6.2	
14		66.4	1.5	6.9	5.4	
15		66.3	3.0	5.9	4.8	

#	TASK TITLE	PERCENT PERFORMING	TASK DELAY TOLERANCE 1 = LOW, 7 = HIGH	TASK LEARNING DIFFICULTY 1 = LOW, 7 = HIGH	CONSEQUENCES OF INADEQUATE PERFORMANCE (1 = LOW, 7 = HIGH)
15		63.1	3.5	4.7	4.9
17		62.0	4.2	5.0	6.8
18		60.9	3.0	3.2	3.5
19		60.1	5.2	1.8	6.0
20		59.9	2.8	3.2	5.2
21		58.0	2.7	2.4	2.4
22		57.5	2.8	4.1	3.5
23		56.4	6.2	2.9	1.8
24		55.0	5.9	2.3	4.7
25		49.8	3.0	2.2	2.8

SIGN-OFF

COURSE MANAGER

ST-12

CRITERION TEST

TRAINING EMPHASIS MODEL FOR SELECTING TASKS FOR TRAINING

Use the data provided on the attached sheet to select 10 tasks for training using the training emphasis model.

- Fill in the task title column with tasks from your own inventory.
- Ask a course manager for guidance on the training emphasis model if you feel unsure.
- Put a ✔ by the 10 tasks you select and then take your list to a course manager for discussion and sign-off.

Be prepared to discuss:

1. The advantages and disadvantages of the training emphasis model (without references).
2. The appropriateness of the training emphasis model to your subject area.

ST-12

WORKSHEET

TRAINING EMPHASIS MODEL

#	TASK TITLE	TRAINING EMPHASIS SURVEY RESULTS	TRAINING EMPHASIS 1. Extremely Little 2. Very Little 3. Little 4. Below Average 5. Average 6. Above Average 7. Heavy 8. Very Heavy 9. Extremely Heavy
1			8.6
2			5.3
3			6.5
4			3.4
5			4.3
6			1.5
7			2.8
8			4.9
9			1.1
10			6.8
11			3.9
12			8.3
13			5.5
14			4.8
15			7.3
16			2.3
17			8.9
18			6.4

# TASK TITLE	TRAINING EMPHASIS 1. Extremely Little 2. Very Little 3. Little 4. Below Average 5. Average 6. Above Average 7. Heavy 8. Very Heavy 9. Extremely Heavy
9	8.2
20	5.1
21	4.6
22	7.2
23	2.0
24	7.8
25	6.1

SIGN-OFF

COURSE MANAGER

ST-13

CRITERION TEST

DIF MODEL FOR SELECTING TASKS FOR TRAINING

Use the data provided on the attached sheet to select 10 tasks for training using the DIF model.

- Fill in the task title column with tasks from your own inventory.
- Ask a course manager for guidance on the DIF model if you feel unsure.
- Put a ✓ by the 10 tasks you select and then take your list to a course manager for discussion and sign-off.

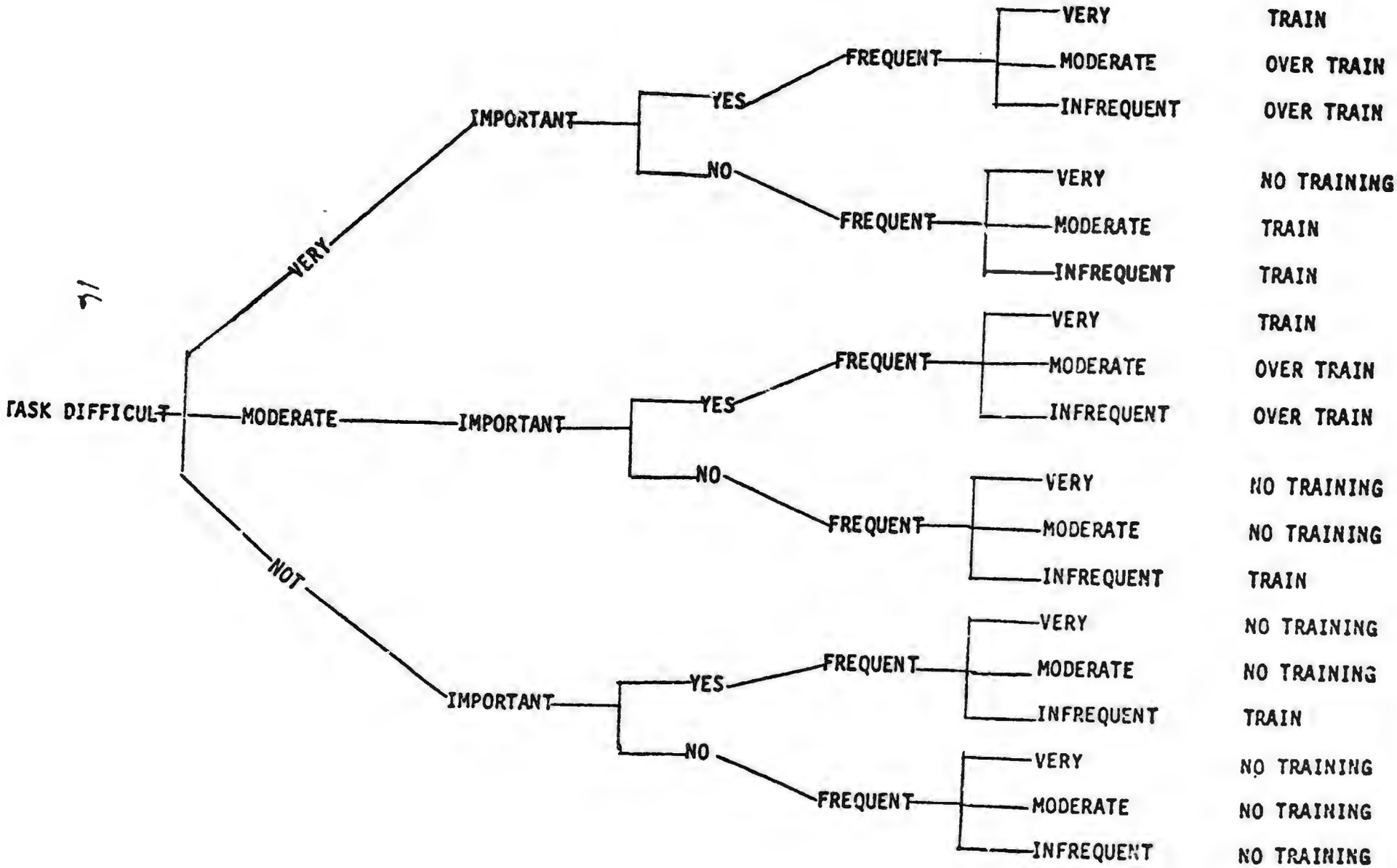
ST-13

WORKSHEET

DIF ANALYSIS DATA

TASK TITLE	DIF DATA	CATEGORY
1	NOT DIFFICULT, NOT IMPORTANT, NOT FREQUENT	
2	VERY DIFFICULT, MOD IMPORTANT, NOT FREQUENT	
3	MOD DIFFICULT, VERY IMPORTANT, MOD FREQUENT	
4	MOD DIFFICULT, NOT IMPORTANT, VERY FREQUENT	
5	VERY DIFFICULT, VERY IMPORTANT, NOT FREQUENT	
6	NOT DIFFICULT,NOT IMPORTANT, MOD FREQUENT	
7	NOT DIFFICULT, MOD IMPORTANT, VERY FREQUENT	
8	VERY DIFFICULT, MOD IMPORTANT, NOT FREQUENT	
9	MOD DIFFICULT, NOT IMPORTANT, MOD FREQUENT	
	VERY DIFFICULT, VERY IMPORTANT, NOT FREQUENT	
11	VERY DIFFICULT, MOD IMPORTANT, VERY FREQUENT	
12	NOT DIFFICULT, VERY IMPORTANT, MOD FREQUENT	
13	NOT DIFFICULT, MOD IMPORTANT, MOD FREQUENT	
14	MOD DIFFICULT, VERY IMPORTANT, VERY FREQUENT	
15	NOT DIFFICULT, VERY IMPORTANT, MOD FREQUENT	
16	MOD DIFFICULT, NOT IMPORTANT, NOT FREQUENT	
17	MOD DIFFICULT, NOT IMPORTANT, VERY FREQUENT	
18	VERY DIFFICULT, MOD IMPORTANT, NOT FREQUENT	
19	MOD DIFFICULT, MOD IMPORTANT, MOD FREQUENT	
20	NOT DIFFICULT, NOT IMPORTANT, NOT FREQUENT	
21	VERY DIFFICULT, MOD IMPORTANT, VERY FREQUENT	
22	NOT DIFFICULT, VERY IMPORTANT, VERY FREQUENT	
	VERY DIFFICULT, MOD IMPORTANT, MOD FREQUENT	

TASK TITLE	DIF DATA	CATEGORY
24	NOT DIFFICULT, NOT IMPORTANT, NOT FREQUENT	
25	MOD DIFFICULT, VERY IMPORTANT, VERY FREQUENT	


TASK DIFFICULT
VERY
IMPORTANT
YES
FREQUENT
VERY
TRAIN
MODERATE
OVER TRAIN
INFREQUENT
OVER TRAIN
NO
FREQUENT
VERY
NO TRAINING
MODERATE
TRAIN
INFREQUENT
TRAIN
MODERATE
IMPORTANT
YES
FREQUENT
VERY
TRAIN
MODERATE
OVER TRAIN
INFREQUENT
OVER TRAIN
NO
FREQUENT
VERY
NO TRAINING
MODERATE
NO TRAINING
INFREQUENT
TRAIN
NOT
IMPORTANT
YES
FREQUENT
VERY
NO TRAINING
MODERATE
NO TRAINING
INFREQUENT
TRAIN
NO
FREQUENT
VERY
NO TRAINING
MODERATE
NO TRAINING
INFREQUENT
NO TRAINING

SIGN-OFF

COURSE MANAGER

ST-14

CRITERION TEST

WARTIME PEACETIME MODEL FOR SELECTING TASKS FOR TRAINING

NOTE TO STUDENT: It is a good idea to complete at least one of the other modules which treat task selection models (ST-111, ST-11, ST-12, ST-13). The wartime/peacetime model is easier to work with when combined with data from at least one other model.

Use the attached sheet for this test.

- Fill in the task title column with tasks from your own inventory.

- Indicate whether each task is:
  1. Performed in WARTIME.
  2. Performed in WARTIME/PEACETIME.
  3. Performed in PEACETIME.

- Select 10 tasks for training.

- Take your list of tasks to a course manager for discussion and sign-off. Be prepared to justify your choices of tasks selected for training.

Be prepared to discuss the advantages and disadvantages of the wartime/peacetime model.

Specify the appropriateness of the wartime/peacetime model to your subject area.

ST-14

WORKSHEET

WARTIME/PEACETIME MODEL

TASK TITLE	CATEGORY: WARTIME, WARTIME/PEACETIME, PEACETIME
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	

TASK TITLE	CATEGORY: WARTIME,WARTIME/PEACETIME,PEACETIME
22	
23	
24	
25	

SIGN-OFF

COURSE MANAGER

ST-1

CRITERION TEST

SELECT TASKS FOR TRAINING

NOTE: You will need a task inventory of at least 30 tasks for this test.

PART I

Develop a strategy for selecting tasks for training which is appropriate for the tasks on your task inventory.

Your strategy must combine some of the task selection models on Table One of the module

You must write a rationale for your strategy and get it approved by a course manager before you begin to select tasks.

Get a sign-off for your rationale.

PART I Course Manager GO_____

PART II

Use the task selection strategy you had approved in Part I to select 10 tasks for training from your own inventory.

Take your selections to a course manager for sign-off. Be prepared to discuss your selections.

PART II Course Manager GO_____

CRITICAL TASK SELECTION
MODULES

FEEDBACK SHEETS

VOLUME 6B

SIGN OFF

COURSE MANAGER

ST-1111

FEEDBACK

CODAP

NOTE to course manager:

- Review the tasks the student selected for training.
- Use the following as general guidance in your discussions:

  1. If the student based the tasks selection entirely on the rank ordering of tasks then the first 10 tasks on the list should have been selected.

  2. If the student used other factors in addition to percent performing then tasks other than the first ten on the list may have been selected. If this is the case, ask the student to justify the selections which were made.

1a. The advantages of CODAP reports are:

- Tasks are rank ordered (based on percent performing).
- A large sample of soldiers in a given specialty is surveyed.

1b. The main disadvantage of CODAP reports is:

- Although tasks are rank ordered, the ordering is based on a single factor (percent performing). This is an insufficient data base to use to select tasks for training.

2. The answer to the appropriateness of CODAP as a data source will depend upon the area the student is analyzing.

SIGN-OFF

COURSE MAMAGER

ST-111

FEEDBACK

8-FACTOR MODEL FOR SELECTING TASKS FOR TRAINING

NOTE TO COURSE MANAGER:

- Review the tasks the student selected for training.
- Use the following as general guidance in your discussion.

Percent performing, task delay tolerance, and task learning difficulty were given as the high priority factors.

1a. The advantage of the 8-factor model for selecting tasks for training:

- The 8-factor model is very comprehensive.

1b. The disadvantages of the 8-factor model:

- Data collection is difficult to cover all 8 factors.
- Data analysis of so much information is difficult.
- Weighting of the 8 factors is awkward.
- The 8-factor model is time consuming to use.

2. The appropriateness of 8-factor model for the analyst depends upon the assigned subject area.

SIGN-OFF

COURSE MANAGER

ST-11

FEEDBACK

4-FACTOR MODEL FOR SELECTING TASKS FOR TRAINING

NOTE TO COURSE MANAGER:

- Review the tasks the student selected for training.
- Use the following as general guidance in your discussion:

The student was told to weigh the 4 factors in the following order:

High
1. Task learning difficulty.
2. Consequences of inadequate performance.
3. Task delay tolerance.

Low
4. Percent performing.

The advantage of the 4-factor model for selecting tasks for training is:

- The 4-factor model is comprehensive.

The disadvantages of the 4-factor model for selecting tasks for training are:

- Data collection is difficult for all 4 factors.
- Data analysis is difficult.
- Weighting the 4 factors is awkward.
- The 4-factor model is time consuming to use.

The appropriateness of the 4-factor model depends upon the assigned subject area.

SIGN-OFF

COURSE MANAGER

ST-12

FEEDBACK

TRAINING EMPHASIS MODEL FOR SELECTING TASKS FOR TRAINING

NOTE TO COURSE MANAGER:

- Review the tasks the student selected for training.
- Use the following as general guidance in your discussion:
  - If the student reacts to the Training Emphasis Ratings only - then the 10 tasks with the highest ratings should have been selected.

  - The student may have considered other factors in addition to the numerical Training Emphasis Ratings. If so - listen to the student's rationale for the tasks selected.

The advantages of the training emphasis model:

- It is a one factor scale that combines several factors.
- It has a high correlation with the 4-factor model.
- It is well received by the field(it is quick and easy).
- It provides input from supervisors.
- It can provide reliable data from a small sample (40).

The disadvantages of the training emphasis model is:

- data is not collected from incumbents.

The appropriateness of the training emphasis model will depend on the analysts area of work.

SIGN-OFF

COURSE MANAGER

ST-13

FEEDBACK

DIF MODEL FOR SELECTING TASKS FOR TRAINING

NOTE TO COURSE MANAGER:

- Review the tasks the student selected for training.
- Use the following as general guidance in your discussion:

  The student will have to select 10 tasks from tasks which fall into the TRAIN and OVER TRAIN categories.

  Listen to the student's rationale for selecting the 10 tasks that were chosen. Sign the student off after you are satisfied with the rationale supporting the task selections.

SIGN-OFF

COURSE MANAGER

ST-14

FEEDBACK

WARTIME/PEACETIME MODEL FOR SELECTING TASKS FOR TRAINING

NOTE TO COURSE MANAGER:

It is a good idea to encourage the student to complete at least one of the other modules which treat task selection models (ST-111, ST-11, ST-12, ST-13).

If the student is competent in at least one other task selection model then:

- Review the 10 tasks the student selected for training.
- Use the following as general guidance in your discussion:

1. The exact grouping of tasks and number of tasks per group depends on the subject area the student works with.

2. Be sure the student has a rationale for the tasks selected for training. For example - The student should combine the results of the WARTIME/PEACETIME with data from at least one of the other models.

The advantages of the wartime/peacetime model for selecting tasks for training are:

- Wartime/peacetime model isolates combat tasks.
- Wartime/peacetime model is easy to use.

The disadvantage of the wartime/peacetime model is:

- Wartime/peacetime model ignores other relevant job analysis data.

The appropriateness of the wartime/peacetime model depends on the specialty assigned to the analyst.

SIGN-OFF

COURSE MANAGER

ST-1

FEEDBACK

SELECT TASKS FOR TRAINING

NOTE TO COURSE MANAGER:

Check to see that the student's task selection strategy was followed when tasks were selected for training.

Because the student was given "canned" task data and told to randomly apply it to his or her task inventory some task selection choices might not seem "right." Keep in mind that the key issue is whether or not the student followed his or her own strategy.

The student should be able to explain why or why not a task was selected for training and give evidence of understanding the task selection process.

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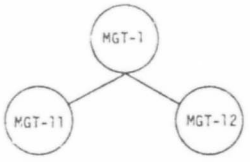
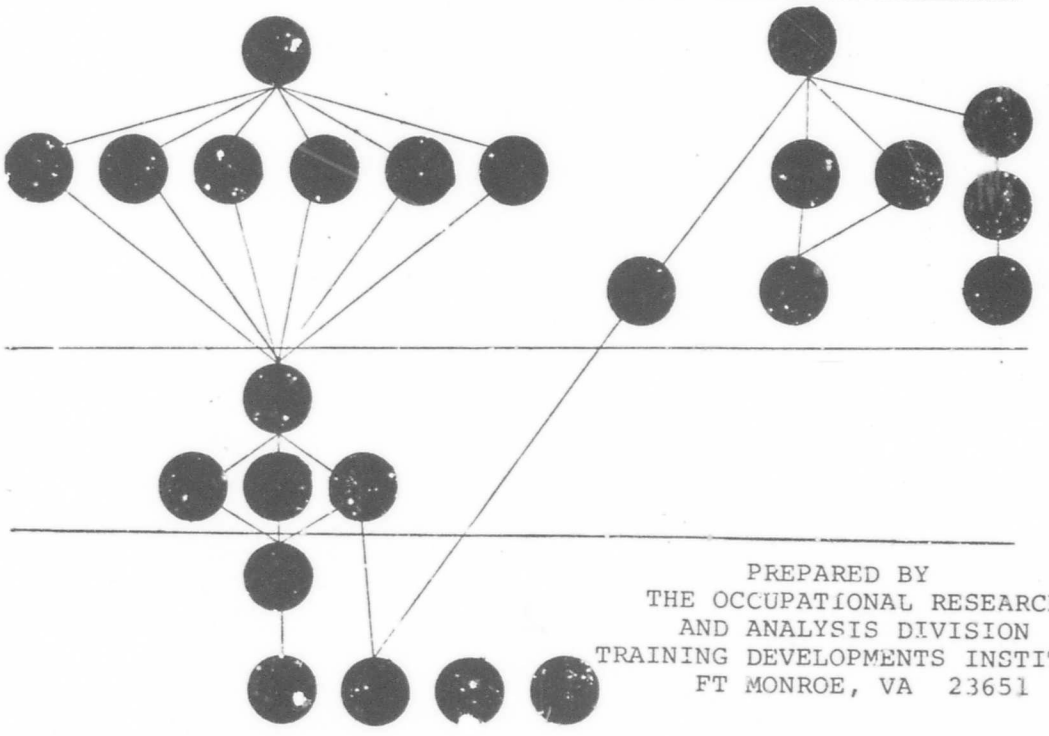
MANAGEMENT MODULES

VOLUME 7





PREPARED BY
THE OCCUPATIONAL RESEARCH
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TRAINING DEVELOPMENTS INSTITUTE
FT MONROE, VA 23651

MANAGEMENT MODULES

MGT-11	Write Job and Task Analysis Plan
MGT-12	Recommend Training Site
MGT-1	Talk About Job and Task Analysis

OVERVIEW FOR MANAGEMENT MODUELS

This set of three modules is intended for those personnel in analysis in management jobs. They are directed toward areas that the manager typically is responsible for accomplishing.

MGT-11 - Write Job and Task Analysis Plan: This is the basic job and task analysis management document. It acts to give the analysis project direction and parameters.

MGT-12 - Recommend Training Site: Although various persons may be involved in the process of determining the best site for training, the responsibility alternately falls on the manager to make a recommendation. This module will assist in that area.

MGT-1 - Talk About Job and Task Analysis: Every manager is required at some time to talk about his area of responsibility. This module helps the manager internalize the job and task analysis process to a degree that briefing can be given.

NOTE: Although this track is identified for managers, others may find it beneficial to complete these three modules.

SIGN-OFF

COURSE MANAGER

MGT-1

TALK ABOUT JOB AND TASK ANALYSIS

OBJECTIVE:

Given access to any sources available, prepare and present a talk to inform a group of your superiors, peers, or subordinates of the nature of Job and Task Analysis. The talk will:

- Describe the reasons for conducting a Job and Task Analysis.
- Describe the reason for having a Job and Task Analysis Plan and briefly (2 or 3 sentences) explain each major paragraph of the plan.
- Describe (in outline form) how you would go about doing a job analysis and task analysis for the MOS or specialty you work with. NOTE: Be sure your description covers each required step in job and task analysis and that you are sure that all required end products are included.
- The talk should last no longer than 15 minutes.

CRITERION TEST:

Prepare and deliver a talk having the characteristics listed on the preceding page. The talk should last no longer than 15 minutes.

RESOURCES:

TRADOC Regulation 351-4, Job and Task Analysis

TRADOC Pamphlet 351-4, Job and Task Analysis Handbook

Previous Course Modules

OPTIONAL RESOURCES:

ISD Executive Summary

This course contains many concepts and techniques that are new to many people. In the coming weeks many of you will be asked to present briefings on these concepts and techniques. For others there will be a need to convey job and task analysis information to groups of colleages or subordinates. Since presentations are more convincing when you have your act together, this module is designed to help you become more comfortable with analysis, terminology, and techniques.

Before you begin to outline your presentation, consider for whom the presentation is being made. This may give you cues as to how the presentation should be organized, how long it should be, and the types of questions that may be asked. After you know your audience, then begin to outline your presentation. Review the resource documents and the modules for additional information. Regardless of the audience, your presentation must include the following points:

- The reasons for conducting a Job and Task Analysis.

- The reason(s) for having a Job and Task Analysis Plan and briefly (2 or 3 sentences) explain each major paragraph of the plan.

- Describe (in outline form) how you would go about doing a job analysis and task analysis for the MOS or specialty you work with.

NOTE: Be sure your description covers each required step in the job and task analysis process and that you are sure that all required end products are included.

The information needed to address these areas is contained in the resources listed at the front of this module.

The presentation should be no more than 15 minutes long. It should be either video or audio taped since this will provide you with the best feedback. The presentation should be made as many times as necessary, until you feel your delivery is acceptable.

If you like, ask several colleagues to observe your presentation and provide you with feedback. When you have mastered the presentation, present a course manager with a video or audio tape for evaluation.

SIGN-OFF

COURSE MANAGER

MGT-11

WRITE A JOB AND TASK ANALYSIS PLAN

OBJECTIVE:

For an MOS or officer specialty for which your school has proponency, develop a draft Job and Task Analysis Plan by using real-world information to complete the following paragraphs:

1. Officer/enlisted specialty.
2. Job description(s).
3. Plan rationale.
4. Implications of the job and task analysis.
5. Target population.
6. Resource requirements/constraints.
7. Data sources.
8. Deliverables.

The plan may be an abbreviated version, but it must include REAL world information.

The plan you develop during the module will serve as the criterion test item.

CRITERION TEST:

For an MOS or officer specialty for which your school has proponency, develop a draft Job and Task Analysis Plan by using real world information to complete the following paragraphs:

1. Officer/enlisted specialty to be analyzed.
2. Job description(s) within the specialty.
3. Plan rationale.
4. Implications of the job and task analysis.
5. Target Poplation.
6. Resource requirements/constraints.
7. Data sources.
8. A list of deliverable products from the analysis.

You may develop an abbreviated version of the plan, but you must develop the plan in enough detail to prove to the course manager that you understood the requirements.

RESOURCES:

DA Pam 570-558, Staffing Guide for US Army Service Schools.

TRADOC Regulation 351-4, Job and Task Analysis

TRADOC Pam 351-4, Job and Task Analysis Handbook, Chapter 3

OPTIONAL RESOURCES:

223B Job and Task Analysis Plan, Ft Rucker, AL

76Y Job and Task Analysis Plan, Ft Lee, VA

INTRODUCTION:

As a project officer/NCO, you are responsible for using your resources in the most cost-effective manner. To meet this objective, you must plan your workload, institute new programs, keep old ones active, and inform your supervisor about your branch's present and future milestones.

In most cases, you do this in some formal manner, for example, Disposition Form, Memorandum for Record, Official Letters or other means. The important thing is that you have a formal management plan. In this light, consider the need to formalize your plan for Job and Task Analysis, or input into a plan for Job and Task analysis.

Unlike most military jobs which can be completed in short time frames, the Job and Task Analysis process often requires months to complete. Without a formal course of action to follow, the project may go astray, or change enough to cause a waste of resources. A well developed plan provides guidance on what is to be done, how it is to be done, and establishes milestones for the accomplishment of the analysis process. The intent of the plan is that it will be a workable document which can be changed and updated when necessary.

When preparing a Job Analysis Plan, the following information must be included:

1. Officer/enlisted specialty (What specialty, [e.g., OPMS 11, CMF 11: MOS 11B] is to be addressed in the analysis?)

2. Job Description (What job(s) are addressed in this analysis?)

3. Plan rationale (Why is the analysis being done? Performance deficiency? Other?)

4. Implication of the Job and Task Analysis (What current training developments products [e.g., SM, CM, POI, TEC, Training Device(s), Job Aids, other] will be affected by this analysis?)

5. Target Population (Who are the specific people scheduled to receive the training resulting from this process?)

6. Resource requirements/constraints (What are the requirements [e.g., time, personnel, scheduling, other] for this analysis? What are the constraints [e.g., lack of TDY funds, OCONUS travel, other] that must be identified? Both areas must be resolved to conduct the analysis and/or plan revised to live within the constraints.)

7. Data Sources (Where can the analyst obtain information for the analysis effort?)

8. Deliverables (What deliverables [e.g., Target Population description, task inventory, other] are required for this analysis effort?)

Additional areas that may be addressed could be:

9. Trade-offs (What advantages/disadvantages exist? What is gained or lost by either?)

10. Key Decision Points (At what point in the analysis process are most critical (e.g., quality control checks, other)?

11. Lessons Learned (What did you learn from this effort that could be refined during later analysis?)

At this point you should read Chapter 3 (Job & Task Analysis Plan), TRADOC Pam 351-4 (Job & Task Analysis Handbook)

OFFICER/ENLISTED SPECIALTY:

Identify the specialty (officer or enlisted) being analyzed or, if applicable, portions thereof (e.g., skill level, job).

JOB DESCRIPTION(s):

Description of job(s) to be analyzed (e.g., existing or proposed).

PLAN RATIONALE:

Describe the reason for the analysis effort (e.g., performance deficiency, new specialty, product improvement plan implementation, other). This section should provide a common frame of reference to permit any reviewer to identify the specific reason for the initiation of this requirement. There are a good number of reasons for you to perform a Job/Task Analysis. The reasons include: EMPS/OPMS requirements (CMS, SM, SQT), substandard field performance, Job Books, development of extension training packages (TEC, ACCP, etc.) or a new piece of equipment being introduced into the active inventory. Regardless of the need for the analysis, you will probably want to attack each problem differently, since the level of detail from the analysis may have to be different. Since the Job Analysis Plan serves as a historical document/institutional memory, the need to include the rationale in the plan is extremely important. Shown below is the rationale used in the Job and Task Analysis Plan for offier specialties at the Infantry School.

SAMPLE RATIONALE

The United States Army Infantry School has always had the key mission of preparing selected officers, noncommissioned officers and soldiers to perform Infantry duties required in peace and war with emphasis on the art of command and leadership. To support the USAIS mission, the Directorate of Training Developments has been developing, and coordinating the development of all training programs for Military Occupational Specialties, TOE and material systems for which the Infantry is proponent. However, for the last few years TRADOC and USAIS training development priorities have been primarily directed toward the implementation of the Enlisted Personnel Management System.

In August of 1977, the Directorate of Training Developments launched a long range internal effort to revise the Infantry Officer Advanced Course. Early in the analysis phase of this project, coordination with other TRADOC service schools revealed that almost all schools had initiated some form of officer job/task analysis, design and/or development. However, there was a definite lack of guidance from TRADOC, and it was apparent that the schools were moving along divergent paths. Therefore,

contd

USAIS was encouraged when, at DA, the RETO Study (Review of Education and Training for Officers) was formed to define long-range training needs for all officer specialties at all grade levels and to recommend training programs to meet those needs.

TRADOC has worked closely with RETO to develop a long-range (7 year) program which will provide a detailed description of officer jobs, to identify these tasks, skills, and knowledges upon which officers need to be trained/educated, and to institute flexible and cost-effective courses of instruction. The result of that effort is TRADOC Circular 350-2 (Draft), Officer Job/Task Analysis and Training Development. Officer analysis resources at USAIS will be dedicated to the implementation of the programs outlined in this circular.

Any questions on plan rationale? If so, see a course manager. If not, try practice exercise 1.

PRACTICE EXERCISE 1.

- Select a project currently ongoing or projected in the near future in your MOS or specialty. WRITE OUT the rationale you think caused or will cause the project to be started.
- See a course manager for assistance if you are unsure of your project.
- REMINDER: Pick your project carefully- you will use this one project through this entire module.

IMPLICATIONS OF JOB AND TASK ANALYSIS:

Analysis efforts to revise, modify and/or refine a specialty (or portion thereof) must ensure the planning effort identifies any current training developments product(s) that may be affected by the analysis results (e.g., a PIP for engine "X" could require changes in resident training, and new equipment training requirements). These training development products must be identified and trainers notified of forthcoming changes by the proponent school.

The need for this is obvious since we do not want training materials to be used that are no longer correct. However, just because an analysis effort is begun we do not throw away what we have now. The new training developments products will not be out on the street for 2 to 5 years (depending on the type specialty, the extent of the analysis, the type analysis (i.e., new or revised), etc). The key point to remember is that as long as these items <u>are identified</u> they can be earmarked for revision and resources programmed to accomplish that requirement.

Given below are the varied rationale/reasons for a notional Job and Task Analysis Plan for MOS 76Y.

a. Determine the validity of 76Y personnel conducting or supervising rigging operations.

b. Determine the degree of disparities between AR 611-201 and actual job requirements. Provide a job description that is in concert with actual duty requirements.

c. Determine the criticality of duty positions performed by a low percentage of personnel.

d. Determine effectiveness of a TEC program for the 76Y Unit Armorer.

e. Determine the validity of training materials that were subject to doctrinal change.

f. Determine the validity of the performance measures included in the new task summaries.

Any questions on plan objectives? If so, see a course manager. If not, try practice exercise 2.

PRACTICE EXERCISE 2

Placing yourself in a position within the Quartermaster School in which you are involved in writing this portion of the Job and Task Analysis Plan, identify the possible/perceived training developments products that would fall out of this effort. If you are not familiar with the entire 76Y MOS key in on 76Y10 (Supply Clerk) and items 6, c, d, e, f.

TARGET POPULATION:

The target population for a training developments effort must be identified to insure the training products are compatible with the personnel in the field, to identify entry level qualifications for new specialties and/or to determine what must be included in an education/training requirement.

STOP

Read Para 4-8, TRADOC Pam 351-4 (Job & Task Analysis Handbook) for further understanding of Target Population

---

The advantages of maintaining a file of the target population (TP) are:

1. As the TP change, the training developments products should also change (especially if the mental group from which they are being drawn gets lower). The training must be equal to the people being trained. The written approach (i.e., readability/comprehension) if not directed to the proper population may "fly over their heads" and not be understood or be written so that the upper mental category personnel will "fly through the material" thinking it too simple and miss some important points. Either way, if you do not know who will be using your materials, how will you know they can use them/understand them?

2. Ultimately it is anticipated that this data will be used to determine selection criteria for specialty training and/or Armed Services Vocational Apptitude Battery (ASVAB) tests.

Another factor that falls within this area is the TP required for a new system (that presently does not exist). Since there is no baseline data to draw from this requirement, it must be created from other sources (e.g., new system is a modification of a current system--new TP to be built on/modified from old system TP or create "from scratch" (i.e., determine what skills/knowledges/abilities are required to work on a system/job - See Appendix D, TRADOC Pam 351-4.

RESOURCE REQUIREMENTS AND CONSTRAINTS:

The three major resources that you manage are time, money and personnel. Additionally, the scheduling of varied requirements needs to be addressed. TRADOC Reg 351-4 states that "Any previously identified resource requirements should be clarified as they relate to the job and task analysis process. Any constraints must be identified and resolved to avoid complications in completing this process. The following areas will be discussed in detail in the Job and Task Analysis Plan:

a. Time. Specify time allocated for the conduct of the analysis effort including phasing of requirements and personnel interface (i.e., assigned, tasked personnel).

b. Personnel. Personnel requirements for the analysis effort must be identified well in advance to permit proper identification/selection/assignment/training to support this requirement. Personnel needs should reflect a work requirement that considers the systematic process of analysis. It is not reasonable to assume a requirement of 300 man days can be met by 10 men for 30 days when, because of project constraints (e.g., administering of a mailed survey that may require 120 days to complete) the requirement must be completed by two men for 150 days. Specific personnel requirements must be elaborated upon and justified.

c. Scheduling. Necessary requirements must be addressed/resolved to permit those needed (e.g., TDY, printing requirements, contracts) to be programmed for implementation."

Let's discuss these in a little more depth:

a. Time: The TRADOC Staffing Guide is currently the only publication that addresses the amount of time allocated to perform analysis. However, recent work indicates that the times alloted are not sufficient and may be subject to change in the future. When predicting the amount of time required to meet your objectives, consider the following:

Will you need to survey? If so,

(1) Will you design, validate and administer your own survey?

(2) Will ACSP at MILPERCEN be used? Is there a current task inventory or must you assemble the task inventory and have MODD (Military Occupational Data Division) administer and score it for you?

(3) How accessible are the required data sources?

(4) Has any work been done previously that is usable?

(5) How experienced are your analysts? (New analysts will undoubtedly require more time than experienced analysts.)

(6) Do you have a suspense date that dictates when the analysis must be completed? (Consider this in conjunction with personnel requirements.)

(7) What about TDY trips? Will you bring the target population to the proponent or have to visit the field units.

This list does not cover all the considerations but should get you off on the right track. The main point here is that time is a resource - not a limiting factor and must be managed just like people and money.

b. Personnel: Two major factors regarding personnel should be considered: background and the number required.

(1) Background:

(a) Are enlisted and/or officer subject matter experts (SME) required?

(b) Should the analysts be educational technologists?

(2) Number Required: When determining how many people the project is going to require, consider the following:

(a) Time to complete the project: 1 every 12 months, 4 every 3 months, etc.

(b) Scope of the project: Will an individual effort be sufficient, or will a team be required?

c. Money: If funds are required for TDY (to administer surveys or bring SME in on a TDY basis to assist the analyst) be sure that you have forecasted an adequate amount in the plan. This becomes extremely critical for the approving authority, since he must weigh your requirements and those of other projects against the annual budget. If you don't address monies at this point, they may be available at the time you need it.

Shown on the next 5 pages are examples of resource requirements from the Infantry School.

SAMPLE RESOURCE REQUIREMENTS

OFFICER JOB/TASK ANALYSIS PLAN

SECTION VII: Resource Requirements/Constraints*

REQUIREMENTS

Reference	Requirements	Activity	Approx No of Pers	Approx Date
A-E	Completed			
**F-1 thru F-4	SMEs for: Individual Wpns Qualification Land Navigation/ Mapreading Tactics Operations Combat Leadership Physical Readiness Airborne Ranger	Attend briefing Coordinate in task list compilation Review final list	11	8 Aug 78 1 Aug 78-14 Sep 78
**G-3	Job Incumbents and Supervisors from the 197th, AIT Bde, USAIS students, faculty, and staff	Interview Survey	Unk	1 Sep 78-15 Oct 78
G-3, G6	Additional job analysts	Conduct job analysis	4	1 Sep 78 - 31 Dec 78

*Sections here are cross-referenced to the milestone schedule, Section VI.
**Personnel will not be required full time. Direct coordination will be necessary between OAB/TSAD and the required agencies/personnel.

continued

SAMPLE RESOURCE REQUIREMENTS (CONTD)

Reference	Requirements	Activity	Approx No of Pers	Approx Date
**G-5	Job incumbents and their supervisors from USAIC, Ft Carson, Ft Campbell Ft Bragg, Ft Stewart	Interview to verify task inventory (LT - CPT)	125	15 Nov 78- 1 Dec 78
H-1	USAIS representatives to MILPERCEN	Provide input to MILPERCEN Refine task inventories	1	15 Jun 78- 1 Jan 78 (as required)
**I-3	Common subject area experts from USAIS/USAIC faculty & staff	Review common task lists submitted from other schools	50	15 Oct 78- 6 Nov 78
L-3	Additional Task Analysts	Document tasks	5	3 Jan 79- 31 Jul 79
**L-4	Job incumbents and their supervisors from USAIC, Fort Carson, Ft Campbell Ft Bragg, Ft Stewart	Interview/ observe to validate documentation of tasks (LT - CPT)	1	1 Aug 79- 30 Nov 79
L-6	Additional clerical support	Type documentation forms	1	1 Aug 79- 30 Nov 79
M	Unknown Requirements will parallel those in F, H, I, J, & L	Prepare/document common tasks for MAJ-COL	Unk	3 Jan 79- 31 Mar 80

continued

SAMPLE RESOURCE REQUIREMENTS (CONTD)

Reference	Requirements	Activity	Approx No of Pers	Approx Date
N.	Job incumbents and their supervisors from USAIC, Ft Carson, Ft Campbell, Ft Bragg, Ft Stewart	Interview to verify task inventory (MAJ - COL)	150	1 Apr 79-30 May 89
	Job incumbents and their supervisors from USAIC, Ft Carson, Ft Campbell, Ft Bragg, Ft Stewart, 7th Army & 8th Army	Interview/observe to validate documentation of tasks (MAJ - COL)	150	1 Jan 81-28 Feb 81
**0	Task selection board members (job incumbents, supervisors, SME's and others designated by the Commandant)	Select critical tasks	10	1 Oct 79

PROJECTED TDY REQUIREMENTS

FY/ Quarter	Event	Activity	Estimated Cost
FY 78			
4	F3	3-day TDY to USAFAS	$ 349
		3-day TDY to USAAS	239
Total			$ 588
FY 79			
1	G5	5-day TDY to Carson	$ 477
		5-day TDY to Bragg	361
		5-day TDY to Campbell	357
		5-day TDY to Stewart	276

continued

SAMPLE RESOURCE REQUIREMENTS (CONTD)

FY/ Quarter	Event	Activity	Estimated Cost
FY 79 cont.			
1	H	3-day TDY to MILPERCEN	322
		3-day TDY to MILPERCEN	322
1	Task Analyst Workshop (Nov)	Five 5-day TDY to trips to Leesburg	1695
2	N	3-day TDY to CGSC	301
	N	3-day TDY to CGSC	301
2	IPR TRADOC	3-day TDY to TRADOC	322
3	IPR CGSC	3-day TDY to CGSC	301
3	IPR CAC	3-day TDY to CAC	301
3	N	5-day TDY to Carson	477
		5-day TDY to Bragg	361
		5-day TDY to Campbell	357
		5-day TDY to Stewart	276
4	L4	Two 6-day TDY trips to Carson	984
		Two 6-day TDY trips to Campbell	744
		Two 6-day TDY trips to Bragg	752
		Two 6-day TDY trips to Stewart	582
Total			$ 9869
FY 80			
2	IPR TRADOC	3-day TDY to TRADOC	322
Total			322
FY 81			
2	IPR TRADOC	3-day TDY to TRADOC	322
2	N	3-day TDY to MILPERCEN	322
2	Input to MILPERCEN	3-day TDY to MILPERCEN	322

continued

SAMPLE RESOURCE REQUIREMENTS (CONTD)

FY/ Quarter	Event	Activity	Estimated Cost
2	N	Two 6-day TDY trips to Carson	984
		Two 6-day TDY trips to Bragg	752
		Two 6-day TDY trips to Campbell	744
		Two 6-day TDY trips to Stewart	582
		Two 10-day TDY trips to 7th Army	1858
		Two 10-day TDY trips to 8th Army	3464
Total			$ 9350

Summary:

FY	Identified Totals	Unprogrammed Expenses
78	$ 588	
79	9869	$ 2131
80	322	11678
81	9350	2650
78-81	$ 20129	$ 16459

CONSTRAINTS

1. TRADOC Review of Manpower recognizes 7.27 man-years to be dedicated to this project for FY 79. Without recognized personnel, milestones will be difficult to meet.

2. TRADOC-imposed milestones/manpower constraints could restrict coordination with geographically distributed/representative units not found at Fort Benning. However, field visits will be conducted whenever resources allow.

PRACTICE EXERCISE 3:

Develop your resource requirements for the project you have been working with through this module. When you have completed the exercise, bring your resource requirements to a course manager for approval and discussion.

DATA REQUIREMENTS AND SOURCES:

a. Sources of data used/to be used in the analysis effort will be identified to permit the reviewer/user of the plan the opportunity to:

(1) Understand the source of data being used to support the on-going effort.

(2) Identify sources not being used that could assist in the analysis.

b. Depending on the nature of the scope of the analysis project, you should identify the data requirements in as much detail as possible in the plan as well as the means of accessing that data. A laundry list of data sources serves no purpose and may be counterproductive if your people must spend time researching documents for information. The list of data sources in TRADOC Pamphlet 351-4 is by no means complete. Your analysts must prepare and maintain all sources of data for current and future use. The format in Appendix C, TRADOC Pamphlet 351-4, serves as a format to assist in documenting your sources of data. It should be understood that all sources may not be needed for follow-on efforts but knowing the source is of prime importance.

There may be excellent data sources that are difficult or impossible to access, hence they may be of little value. Note: Do not use the same set of data sources for every project. Do not fall back on one set of resource documents without expanding the "library." Granted, there may be one TM or set of FM that are the basis for a job or MOS but as a rule, those documents were written from other sources or are the base for additional publications. The user of those documents may have little need for additional resources; however, analysts should access everything they can obtain.

Shown below is the "Data Sources" inclosure to the Armor School plan for MOS 19D1. This is strictly a laundry list; however, note that in the reference column in paragraph 2 there is an additional portion of the plan in the form of TAB which contain the actual resources that are maintained on file as a major part of the plan.

SAMPLE DATA SOURCES

Inclosure 4 to Appendix 1 to Annex B to CMF 19 (Armor) Plan

The following data sources are divided into two groups, common task and standard data sources (not inclusive):

1. TRADOC SERVICE SCHOOLS that provided common task data in the form of common task inventories; job data worksheets (JDWS); and Skill Level 1 (SL-1) tasks selected for training with JDWS.

USA Field Artillery School (USAFAS)
USA Academy of Health Science (USAAHS)
USA Engineer School (USAES)
USA Infantry School (USAIS)
USA Intelligence School (USAIS)
USA Ordnance and Chemical School (USAOCCS)
USA Signal School (&SASS)
USA Quartermaster School (USAQMS)

2. OTHER DATA SOURCES

REFERENCE	DOCUMENT
	JCS Publications.
	Technical Manuals.
	Field Manuals.
	Army Regulations
	Circulars and Pamphlets.

continued

SAMPLE DATA SOURCES (CONTD)

TAB A	Previous Task Inventories. Similar Task Inventories Threat Scenarios. Interviews with Incumbent (Present/Past), Peers, Subordinates and Superiors. Standard Operating Procedures.
TAB F	Programs of Instructions. Soldier's Manuals.
TAB B	Previous Task Lists. Documentation from the Systems Engineering Era.
TAB E	Reports from Outside Agencies. Army Occupational Survey Program (AOSP) Reports formerly known as MODB Reports CODAP Reports are AOSP Reports Internal Research Reports. Field Feedback Reports. Tables of Organization and Equipment and Tables of Distribution and Allowances.
TAB G	Field Surveys and Interviews. ARTEPs (or) Collective Training Requirements/ Documentation Civilian Publications (Technical Journals and Professional Publications) Directorate of Evaluation (OAFM-Eval). Equipment Modification Work Orders (MWO's). Observations. Product Improvement Plans.
TAB C	Training Extension Courses (TEC) Materials.
TAB D	Exportable Training Materials (ETM).

If you have any questions see a course manager before going on to Practice Exercise 4.

PRACTICE EXERCISE 4

For the project you are working on in this module, list the general types of publications you feel you might use. After preparing the list, separate them into categories and then write a brief paragraph as to why these particular categories will be used and what types of information you would expect your analyst to obtain from them. Bring your list to a course manager for approval and discussion.

DELIVERABLES:

Deliverable products of a completed job and task analysis process support follow-on efforts and provide records/justification of completed actions. The plan must anticipate these requirements and insure resources required are identified. Minimum deliverables are:

a. Completed target population description. (Review para 4-8, Job & Task Analysis Handbook)

b. Job demographic data. (Review Paragraph 4-7, Job & Task Analysis Handbook)

c. Task inventory (initial). (Review Chapter 5, Job & Task Analysis Handbook)

d. Task inventory (final). (Review paragraph 5-6, Job & Task Analysis Handbook)

e. Task Selection Board SOP. (Review paragraph 7-10, Job & Task Analysis Handbook)

(1) Provides guidance to analysts and task selection board for task selection criteria.

(2) Contents will include:

(a) Current doctrine, threat, and mission guidance.

(b) Board composition requirements.

(c) Powers of head of board.

(d) Designation of arbitrator for disputes.

(e) Training priority guidance, TRADOC Reg 350-2, Development, Implementation and Evaluation of Individual Training.

(f) Guidance to analysts (i.e., requirement to submit rationale for and data on methods used to select tasks, justification for method(s) used, and other requirements as designated by service school to ensure understanding of process used).

f. Tasks selected for training/critical task list to include criteria for selection and rationale for selection. (Review Chapter 7, Job & Task Analysis Handbook)

g. Task analysis worksheet (required for each task selected for training) with site selection recommendations. (Review Chapter 8, Job & Task Analysis Handbook)

-----Let's Talk About the SOP!-----

This requirement is not so new or unique! We have had SOPs in the Army for years. What are they--Standing Operating Procedures? Why do we need one for the Task Selection Board? Well it provides the basic guidance and information needed for the board members and the analysts in understanding the CG's philosophy, guidance, training strategy, etc. In essence it provides a base of understanding and should eliminate confusion on what is to be done, by whom, and why.

In an earlier module (JA-1) we said that the task inventory is a list of <u>all</u> tasks about which training decisions must be made. The selection of CRITICAL TASKS is perhaps the most important decision in the TD process, for it is here that the future content and direction of training products will be determined. If the selection process is not carried out properly, training will not support the force-in-the field.

Because of varying requirements, the selection process will differ somewhat for each school. Several task selection models are available and each is addressed in TRADOC Pam 351-4(T), Job and Task Analysis Handbook. In addition, an entire section of this course is devoted to critical task selection.

The critical task selection SOP is the school commandant's management vehicle for conveying his training philosophy, concepts, policy and guidance on the content and direction of an MOS or specialty for which he is responsible. Such policy and guidance will give direction not only to how the critical task selection is carried out, but to all that follows in the training developments process.

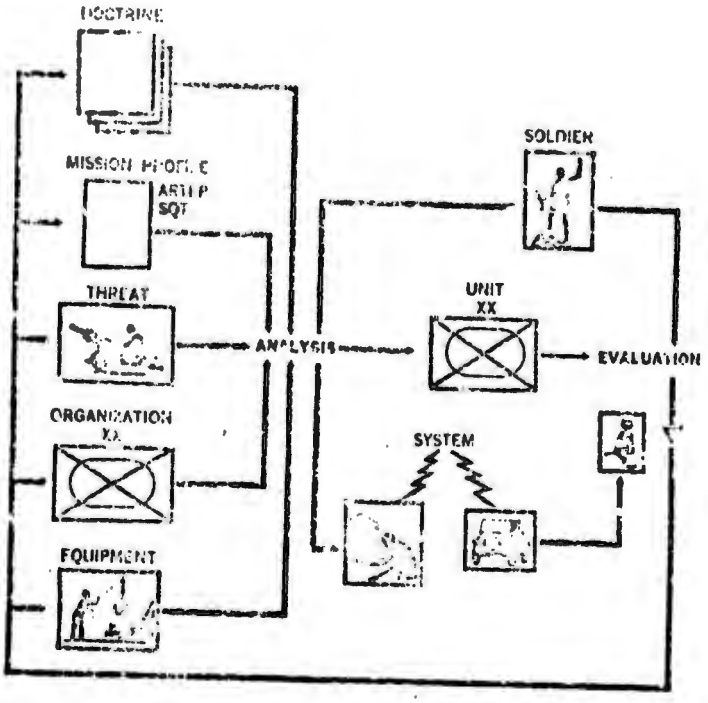
The current TRADOC enlisted training strategy places emphasis on CAREER TRAINING as opposed to initial entry training. This stratregy is expressed in the following four points.

- An MOS Career Training Strategy unique to the needs of the MOS.
- Shorter AIT courses.
- Soldiers spending more career time in NCOES.
- NCOES courses becoming more MOS specific rather than CMF general

The commandants' critical task selection SOP should reflect this strategy of MOS career training. In part, this can be done by ensuring that the members of the task selection board have a thorough knowledge of current threat, doctrine and unit missions. A knowledge of these facts are needed to temper judgements about which tasks are critical to job proficiency and survival on the battlefield. In addition, the board members should be familiar with the future of the MOS; that is how the MOS will be affected by new weapon and support systems. Your guidance in this area should be directed toward establishing a policy that training developers will be cognizant of the events happening in the combat developments arena.

CURRENT DOCTRINE, THREAT AND MISSION GUIDANCE

The relationship of analysis to other parts of the training developments system is illustrated below:



Notice that the actual conduct of the job analysis is preceded by an analysis of THREAT, DOCTRINE, MISSION and in some instances EQUIPMENT. This is to ensure that the tasks that make up the task inventory (an output of Job Analysis) do in fact support requirements specified in threat, doctrine, mission and possibly equipment. Remember, the TASK INVENTORY must contain all those tasks soldiers are required to do in their job, and about which training decisions must be made.

THREAT

Where does this data come from? It does not "fall from the trees!" It requires "digging" into varied threat documents and interface with the varied threat managers (TRADOC HQ, Installation, School, DARCOM, etc). Without this information we could be analyzing a specialty improperly, neglecting something that could very well impact on battlefield survivability (e.g., Electronic Warfare - Have you considered its impact/ramifications of its use on your specialty?) Both the task selection board and analyst must know this threat information to ensure we are training our soldiers to attain the required job/mission proficiency. We can not train only for a peacetime force. We must also train for a wartime force.

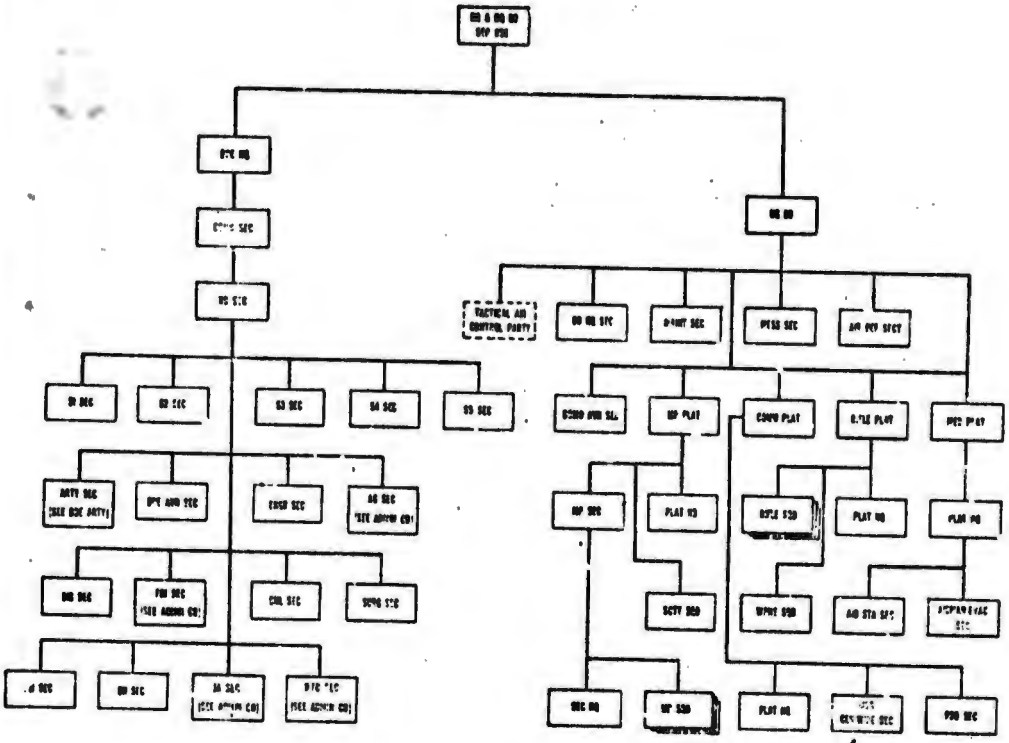
DOCTRINE

TRADOC has an office dedicated to both threat and doctrine (DCS Doctrine - AV 680-3551 and AV 680-2445, respectively). Guidance to assist in the formulation of training developments products can be drawn from them to ensure all facets that should be addressed are addressed. If a doctrinal change has been effected, is being considered, or has been scheduled to occur it must be incorporated in selecting tasks for training.

MISSION

What is the mission of the unit to which your proponent specialty will be assigned? Are their many possibilities (e.g., 76Y) or minimal variations (e.g., 11B)? The collective mission is a starting point from which this information will be derived. ARTEPs are a prime source for this data. This is considered a "Top-Down Analysis" (See Figure 1).

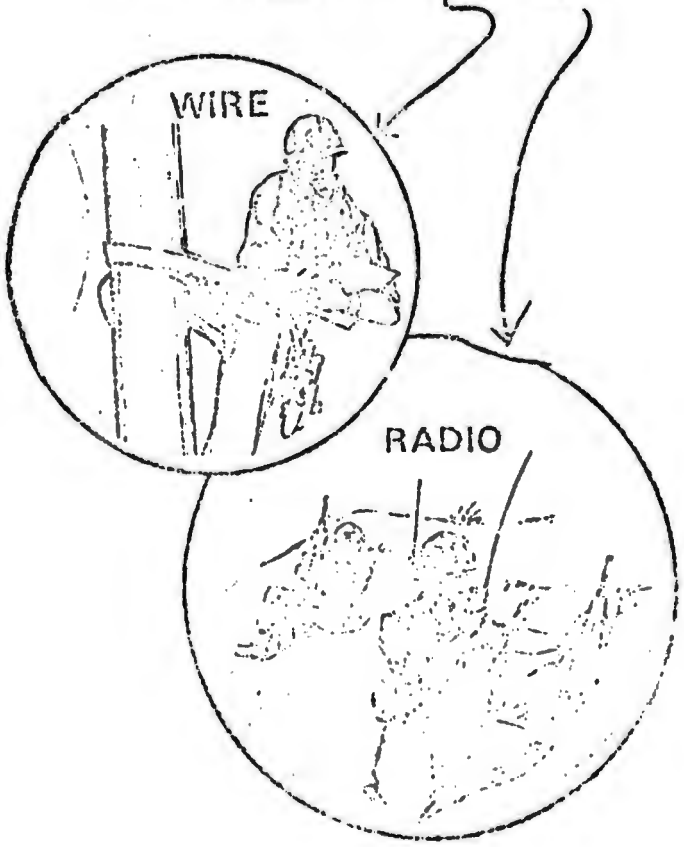
BRIGADE



What is the interface between the Brigade Mission and the Individual?

Is every mission being performed that must be performed?

Is every person performing his complete mission?



INDIVIDUAL

TASK SELECTION BOARD COMPOSITION

An area that can greatly affect the quality of the task selection process is the composition of the board. It:

- Completes the formal step in selecting tasks for training/critical tasks by gaining consensus from members on those tasks presented before it and submitting those being recommended to the commandant of the school for approval as critical tasks.

- Majority of members should be knowledgeable of systems approach to training.

- Board should be convened in a block of days to avoid outside interference of this essential function.

Specific guidance will not be given here, as to who should be board members. The qualifications of available personnel vary greatly from school to school. Senior managers must use their judgement in determining specific individuals for the board. However, the board members should be drawn from two specific groups of people. First, there should be several board members from active field units that use the MOS or specialty being analyzed. These members will bring with them a perception of the job not found in the school.

This is a perception of the job as it is performed day-to-day in a field unit. Secondly, several board members should be from within the school. These members should have a knowledge of both the MOS and the systems approach to training. The effect will be to balance out the two perceptions of the job.

POWERS OF THE HEAD OF THE BOARD

The head of the board should <u>not</u> be in a command or supervisory relationship with any of the board members. As head of the board, it is this person's responsibility to ensure that the critical task selection process follows a rational process. This implies that the head of the board will be familiar with group dynamics. He or she should not allow individuals to dominate the discussion. As leader of the board, he or she should encourage each member to contribute to the discussion. Other areas where the head of the board must exercise authority are:

- Duration of sessions
- Pace of the sessions

TRAINING PRIORITY GUIDANCE

Board members should be thoroughly familiar with the TRADOC policy and guidance on training priorities. Chapter 3 of TRADOC Reg 350-2, Development, Implementation and Evaluation of Individual Training, therefore should be required reading for all board members. In it (para 3-3) is found TRADOC police on the priorities in which training will be established. If you are not familiar with this document review it at this time.

GUIDANCE TO ANALYSTS

Analysis Process:

Should there be any special guidance which the Commandant wants the analysts to be specifically alert to (e.g., "...We are anticipating new doctrine in the ... time frame. Ensure this is considered in the MOS...analysis) during their analysis of a given specialty this area would be the opportune place to address it.

Board Process:

Although analysts normally will not be serving on the task selection board as a rating member, they must be advised of their responsibility to provide valid and reliable data to the board and the parameters in which they will be employed during the board sessions (e.g., available on-call, available during the entire session, actual member of the board, other). In addition, they must be able to provide the rationale for the methods used to select critical tasks. It is the responsibility of the chief of the analysis activity to ensure that all board members are briefed on the critical task selection process used so as to avoid misinterpretation of the data being reviewed. It is recommended that a senior analyst be available to the selection board to explain the processes used in the job and task analysis.

DESIGNATION OF ARBITRATOR FOR DISPUTES

Should consensus not be reached for the selection of a given task, or a series of tasks, for training the record should reflect this fact and the selection decision should be delegated to an arbitrator for disputes (as designated by the School Commandant). This method is essential to avoid irrational decisions being made on tasks being selected for training.

MILESTONES:

Although not a deliverable product a milestone schedule is a management technique that greatly assists in controlling/scheduling resources. It assists in portraying key decision points, interface requirements, resource requriements timed to specific events and highlights constraints that need to be resolved in the analysis process. Milestone schedules come in many forms and whatever your particular style is should accommodate your planning needs. Shown below are notional examples obtained from the US Army Infantry and Armor School for your review.

SAMPLE MILESTONE SCHEDULE
US Army Infantry School

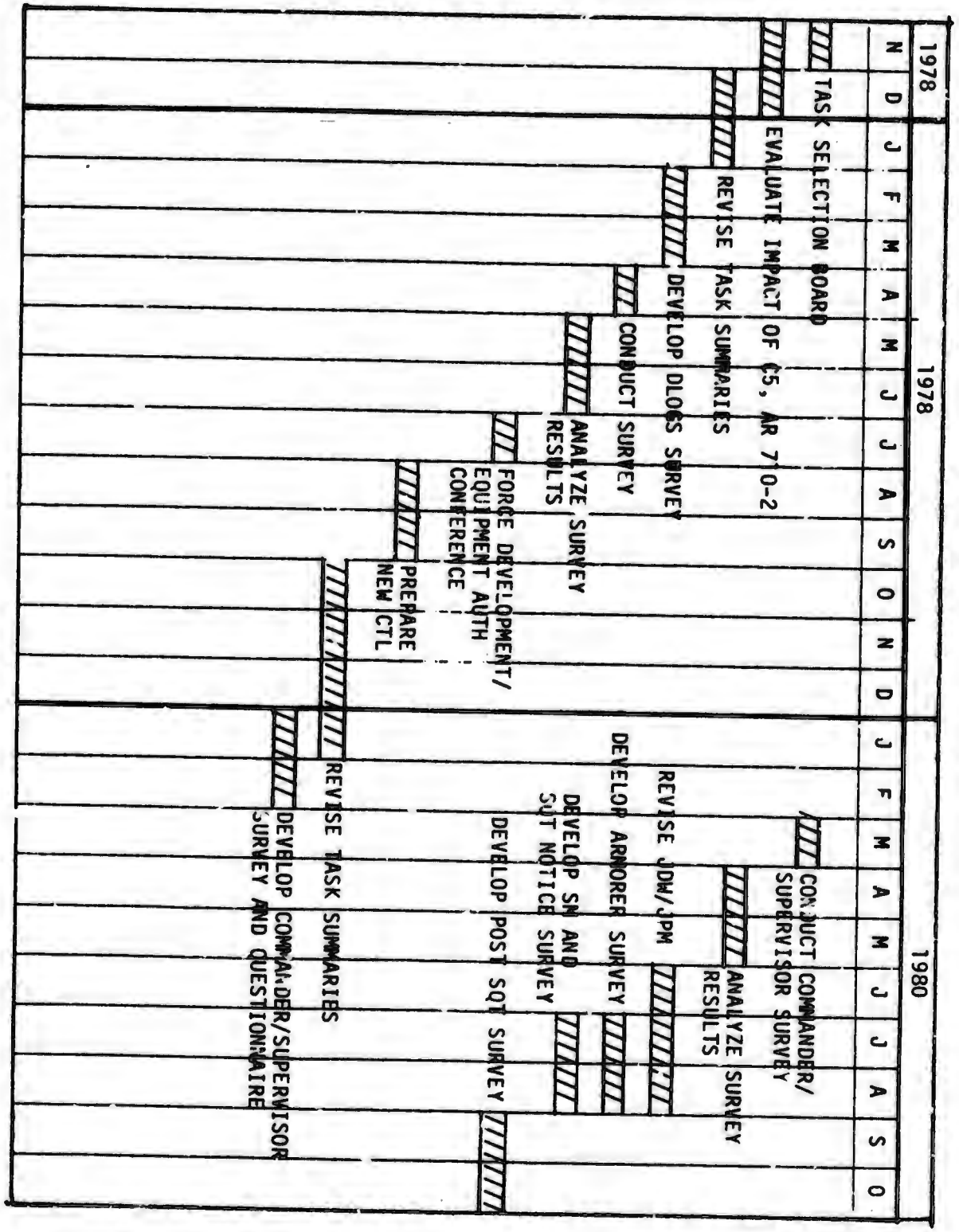
USAIS MILESTONES*

EVENT	AGENCY	DATE
A. School Review of TRADOC Cir 350-2 (Draft)	OAB/TSAD	29 Mar 78- 5 Apr 78
B. School Review of Preliminary Milestones & Manpower Requirements for Officer Job Analysis and Training Development	OAB/TSAD	3 Apr 78- 18 Apr 78
C. Planning conference for Officer Job/Task Analysis Seminar	TRADOC	25 May 78- 26 May 78
D. TRADOC-wide Officer Job/Task Analysis Seminar	TRADOC	5 Jun 78- 9 Jun 78
E. Prepare/submit "off-the-shelf" company grade common task lists to TDI/Review Board	OAB/TSAD	15 Jun 78- 14 Jul 78
F. Prepare/submit Common Task Lists (LT-CPT) to CAC		1 Aug 78- 1 Oct 78
1. Request from other agencies subject matter experts for coordination/review of common and shared task lists.		
2. Brief 350-2 program and Job Analysis Plan to SME	OAB/TSAD	8 Aug 78
3. Review existing sources of data to identify company grade common/ shared tasks (see item 5c)	OAB/TSAD In coordination with SMEs	1 Aug 78- 24 Aug 78
(a) Individual Weapons Qualification		

*USAIS Milestones are keyed to TRADOC-Imposed Milestones, Section VI, A-O Milestones for P-T are yet to be developed.

continued

SAMPLE MILESTONE SCHEDULE (CONTD)
US Army Infantry School



SAMPLE MILESTONE SCHEDULE
US Army Armor School

INITIAL MILESTONE SCHEDULE, MOS 19D10

TAB A to Inclosure 1 to Appendix 1 to Annex B to CMF 19 (Armor) Plan

OCTOBER						NOVEMBER						DECEMBER				
5	10	15	20	25	30	5	10	15	20	25	30	5	10	15	20	25

*6
Start Analysis
Collect Data
Prepare Task Inventory

*6 IPR I
1. Review Task Inventory (2 parts: BRT/BT)
2. Discuss Selection of Critical Tasks

*6
Select Critical Tasks

27 IPR II
Critical Task List
JDWS That Are Completed

15 — 27 — 15

Review, Rewrite, Update, Write Job Data Work Sheets;
Pass to CDD as available in clusters.

*Briefing Point.

15 - IPR III
ALL JDWS

47

If you have any questions on planning milestones, see a course manager. If not, go on to the practice exercise.

PRACTICE EXERCISE 5:

For the project you've been working on in this module, establish a milestone schedule. Remember, it is almost impossible to do a comprehensive analysis in less than 12 months. For planning purposes you might want to consider something on the order of 12-24 months.

Bring your milestones to a course manager for approval and discussion.

OPTIONAL PARAGRAPHS

TRADE-OFFS/KEY DECISION POINTS

As a matter of record and as an aid for the approving authority of the plan, you may want to include two additional areas in your job and analysis plan:

a. Trade-offs: There will probably be several areas in your plan that you know full well that will not be approved however, if required, you would be more capable of performing the analysis if one area were cut as opposed to another one; i.e., loss of personnel for more time or vice versa.

b. Key Decision Points: In coordination with your milestone schedule you may want to annotate it to identify areas where key decisions may/must be made; such as, if it appears as though a new MOS is developing you may ask yourself whether you should start the paperwork process at that time, or speed up, delay, cancel, etc., the project based on conclusions you draw at that particular time.

c. Lessons Learned: This might include lessons learned from FEA trips, scheduling milestones, changing the resource requirements, updating data sources, etc. The lessons learned file would primarily serve your replacement. As you well know, without knowledge of what your predecessor has done, you on many occasions tend to re-invent the wheel. A good lesson learned file may preclude this from happening.

At this point you have finished the basic Job and Task Analysis Plan. After doing this you may find some additional areas that you feel might be addressed in the plan. This plan is by no means complete and you are free to make any additions you so desire.

When you feel you have completed the plan and understand its requirements and purposes, show your plan to the course manager. Be prepared to answer his questions as to why you have included or omitted the items discussed in this module.

SIGN-OFF

COURSE MANAGER

MGT-12

RECOMMEND TRAINING SITE

OBJECTIVE:

Given an MOS by skill level to be analyzed, the duty positions that comprised the MOS, the percent of soldiers occupying each duty position in the MOS, and performance data regarding when the task is first performed.

(1) Describe the site selection process without references.

(2) Describe the role of the analyst in the site selection process.

(3) Make a site selection recommendation on 20 tasks which you have selected for training from previous modules on selecting tasks for training.

CRITERION TEST:

Given the following:

- A description of the MOS you are familiar with and guidance to conduct an analysis of that MOS.
- A description of all of the duty positions that comprise that MOS as defined in AR 611-201 and appropriate CODAP surveys.
- The estimated percentage of soldiers occupying each duty position.
- A statement as to when the task is first performed after training (within the first 6 months or later).

(1) Describe the site selection process which your school should use to make an initial site selection recommendation, without the use of references.

(2) Describe the role of the analyst in the site selection process.

(3) Make a site selection recommendation on each of 20 tasks from the list of tasks you have selected for training.

ADDITIONAL RESOURCES:

TRADOC Pamphlet 351-4, Appendix E and F — Read All

The analyst has probably developed a greater initial understanding of the specialty than anyone else in the training development system. For this reason, it is essential that the analyst be provided an opportunity to indicate any recommended training sites appropriate for a specific task. This must be done within the context of the overall specialty. The analyst is <u>not</u> expected to determine a training site for a task. The site selection proposed by the analyst is presented to the site selection board (either separately or as annotated on the Job & Task Analysis Worksheet). This board, although not directive in nature, determines from the data it receives wehre the tasks should be trained and then recommends these training sites to the Commandant. The specific role than of the analyst is to make a recommendation on a task-by-task basis for a proposed training site (if the analyst has a recommendation) and to collect the required data to aid the task selection board in recommending the training sites.

This module introduces the site-selection process, states the specific responsibilities of the analyst, and recommends the data collected as part of the site selection process. This module develops an understanding of the purpose of the site selection board and allows you to work through the entire process, beginning with a list of tasks selected for training and ending with a recommended site selection for each task on that list. It should be remembered that the final site selection is the result of many variables which the analyst will never/seldom have access to.

Therefore, the rationale for the site selection board. A key document in this decision making process is the Commandant's Training Strategy for the specialty. This document will greatly assist the analysts and board members in making the right decision.

PROCEDURES:

The sequence of events for the initial site selection is portrayed in Figure (page 8).

INTRODUCTION:

Determining where a task should be trained is the direct responsibility of the instructional designer. Yet early on, during analysis, data becomes available which can assist the designer in making the site selection decision and may aid the projection of anticipated resources. Because of the extensive resource requirements for training, it is critical that each service school predict the training site, thereby aiding in the estimation of the resources required for training specific tasks either at the institution (the service school) or in the unit. The analyst can assist in an initial recommendation as to where specific tasks should be trained. The site selection process about to be described is applied to all tasks which have been selected for training. Basically, this procedure attempts to estimate whether the best training site will be at the institution or at the unit. Aware that the analyst's projection is only an estimate, the designer makes the final decision as to where each task will be trained and in what media. The actual site-selection recommendation is a management decision, as was the decision regarding which tasks were to be trained. A site selection board should be established to achieve the same consensus upon where a task should be trained. Although each school can elect another management process for quality control, the board approach is the recommended means. Training can be conducted either at the institution or at the job site. Soldiers learn and retain job skills better when the training occurs at the best site. It is possible that a task may be trained at both sites because of the need for initial and refresher

training. The role of the analyst in the site-selection process is basically that of a data collector and organizer. Before describing in detail the site-selection process, a few definitions are provided herewith.

Training Site - The location of instruction, either at the institution or at the job.

Institution Training - A formal school with a permanent staff of trainers and temporary students.

Job Site Training - Training in the unit, with the job supervisor usually acting as a trainer and the students working in actual jobs.

Job Density - The percentage of soldiers in an MOS holding a particular duty position.

Task Constraints - The lack of facilities, equipment, personnel or other resources which prevent a task from being trained at a particular site. Example: A task may call for troubleshooting a piece of equipment; it may not be practical to shut down this equipment and conduct training at the job site. The alternative is to train this task at the institution. But if an item of equipment is found only at the job site, the task cannot be trained at the institution.

Analyst's Role

The analyst has been primarily concerned with data collection. Analysis (Job and Task) has involved the analyst with collecting specific, detailed information for several product users, for example, Soldier's Manuals, SQT, resident instruction, etc. While collecting

this detailed information, the analyst provides the site selection board with a gut reaction as to where each task should be trained, if he can make such a recommendation. The analyst is not required to make a site selection recommendation on each task. This analyst's recommendation is designed to assist the site selection board in determining the best training site. The actual responsibility of site selection should rest with the site selection board. For this reason the majority of the site selection activity describes the events of the site selection board.

SITE SELECTION BOARD

NOTICE

This process can vary depending upon the Commandant's Training Strategy. Before implementation, ensure that you review this document for local guidance.

The site selection board makes its recommendations by going through two specific phases (Figure 1). The first step involves a review of the MOS being analyzed to determine the specific duty positions which compose that MOS. In the example, this MOS has six duty positions. The site selection board looks at each duty position and determines whether each duty position should be recommended for training either at the institution or at the unit. What determines whether a duty position is trained either institutionally or in the unit is the percent of soldiers in the duty position. If a substantial percentage of the soldiers occupy a specific duty position, then that duty position is recommended for institutional training (see Duty Position 2). If a small percentage of the soldiers occupy a duty position then that duty

duty position is recommended for unit training (see Duty Position 5). Thus, each duty position is allocated for either institutional training or unit training. Once a duty position has been assigned to a training site, then the specific tasks that comprise that duty position can be given their specific training site. This procedure of duty position assignment is described under the first cut of site selection.

The assignment of tasks to a specific training site is described in the final cut as described in Figure 1. The site selection board would review every task that composes each duty position and make a determination as to whether a task should be trained at the institution or at the unit. For example, Duty Position 2 was assigned to institutional training. The list of tasks which comprise that duty position would now be examined by the site selection board. The basis for this review is the immediacy with which the task is performed after training and constraints which might preclude a task from being trained at the institution, then a task would be allocated for training in the unit.

Examining the tasks in Figure 1, Task 1 was assigned to unit training. This task may have been designated for unit training because it was not performed within the first 6 months or constraints prevented it from being trained at the institution. Task 3 was identified for institutional training. This task will have been assigned to institutional training because it is performed within the first 6 months after training (meaning the soldier has to know it when he arrives at the unit). The last task in Duty Position 2 was again assigned to the unit.

INITIAL SITE SELECTION

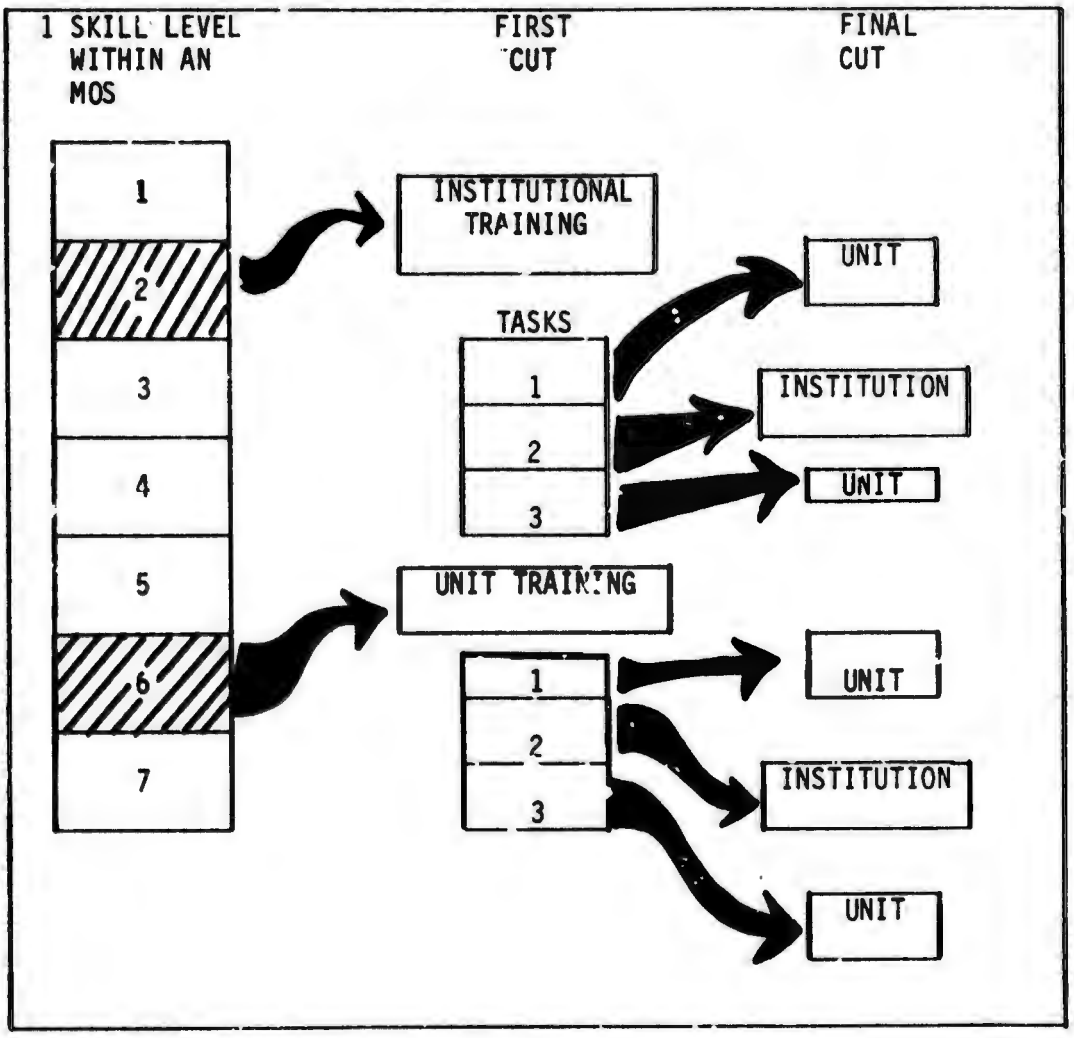


figure 1

Examining Duty Position 5, this duty position was initially designated for unit training. Even if a duty position has been assigned to a training site (institutional training/unit training), each task in that duty position may not be trained at that training site. The initial designation of a training site by a duty position provides a projection as to where a duty position should be trained. Duty Position 5 was designated for unit training and Task 2 was assigned to unit training. This designation indicates that task would not be performed within the first 6 months. Task 4 is designated for institutional training. The task was either performed within the first 6 months after training or constraints prevented it from being trained in the unit. The last task under Duty Position 5 is again identified for unit training, meaning constraints at the institution prevented it from being trained there and/or the task was not performed within the first 6 months.

This example has attempted to portray a fairly simple two-step decision process.

First Step: Determine the percent of soldiers occupying the duty position; if a substantial percentage is in a duty position, then that duty position is designated for institutional training. If a small percent of the soldiers occupy a duty position, then that duty position is designated for unit training.

Second Step: The site selection board then examines each duty position and makes a determination where each task should be trained.

Considering: (a) when the task is first performed after training (within the first 6 months or later); (b) whether constraints prevent the task from being trained at the unit or at the institution.

REVIEW:

Once the site selection board makes a final cut or determines where each task is trained, then comparisons are made within duty positions. If a task is contained within more than one duty position and a rationale for institutional training has justified that the task be trained at the institution, then all other duty positions performing that task will have it trained at the institution. For a sequential description of this process see the attached flowchart.

PRACTICE EXERCISE

Before proceeding with the criterion test, you may wish to complete this practice exercise. Complete the inclosed work sheet and compare your work with the feedback sheet that follows.

The following tasks have been selected to receive training.

TASKS

001-11

001-15

025-19

002-17

005-97

003-41

019-57

001-23

014-03

MOS 90C10 has three duty positions. The above tasks are clustered in the duty positions and initial performance data is provided as to whether the task is performed within the first 6 months.

Duty Position A		Duty Position B		Duty Position C	
003-41	Yes	003-41	Yes	003-41	No
019-57	Yes	025-19	No	025-19	No
001-15	Yes	001-23	No	001-23	Yes
001-11	No	005-97	No	014-03	Yes
014-03	Yes			002-17	No

CONTD

Duty Position A	Duty Position B	Duty Position C
Density = 48%	Density = 22%	Density = 30%

Job Site Constraints

Task Number 025-19 cannot be trained at the job site because the MARK 5 radar system is a critical item and cannot be shut down for OJT.

Task Number 005-97 cannot be trained at the job site because of a lack of direct-continuous supervision. A simulator is being developed but as yet is only available at the resident school and one or two units.

Institutional Constraints

Task Number 001-15 cannot be trained at the institution because the "Grunt" missile is available only at job sites.

Now recommend where each task should be trained, and identify where each duty position will be trained.

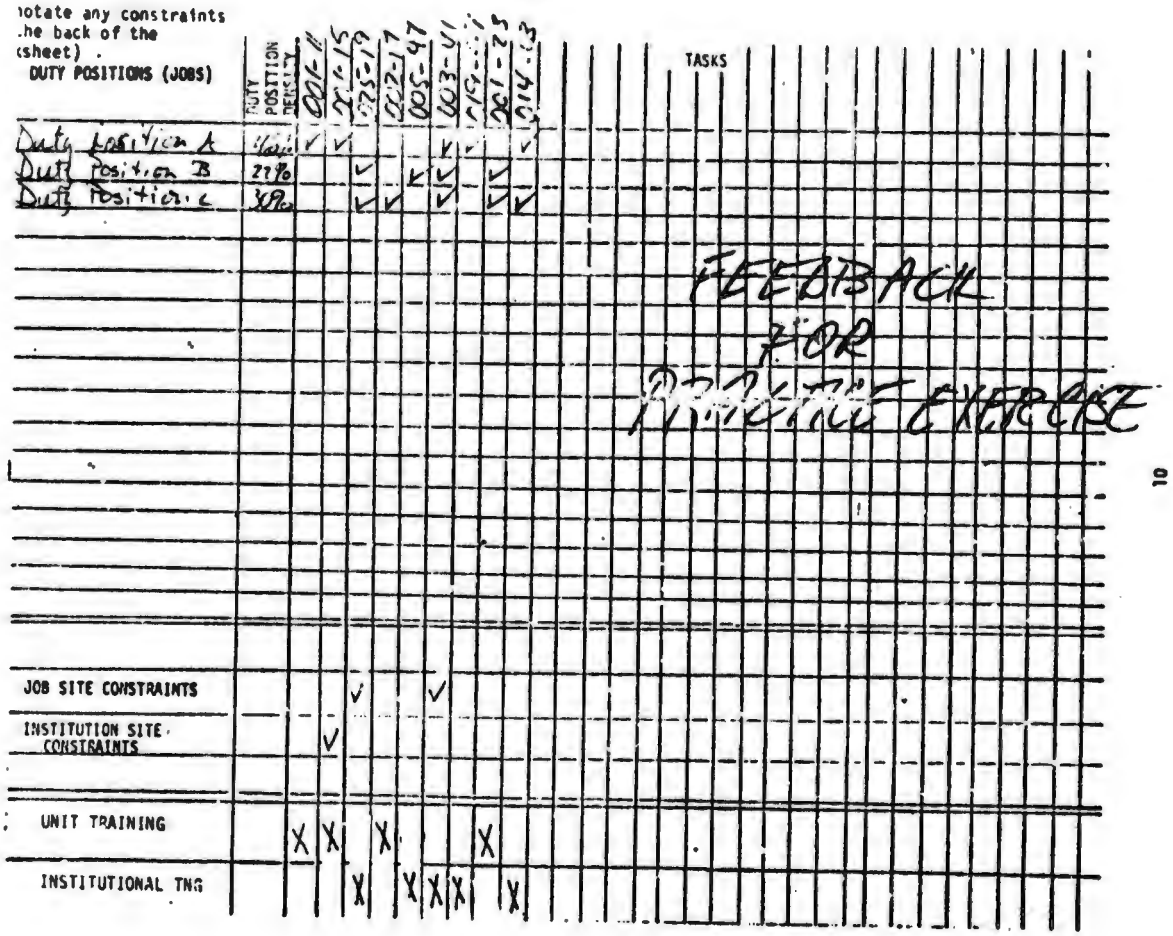
STEPS TO COMPLETE THE WORKSHEET

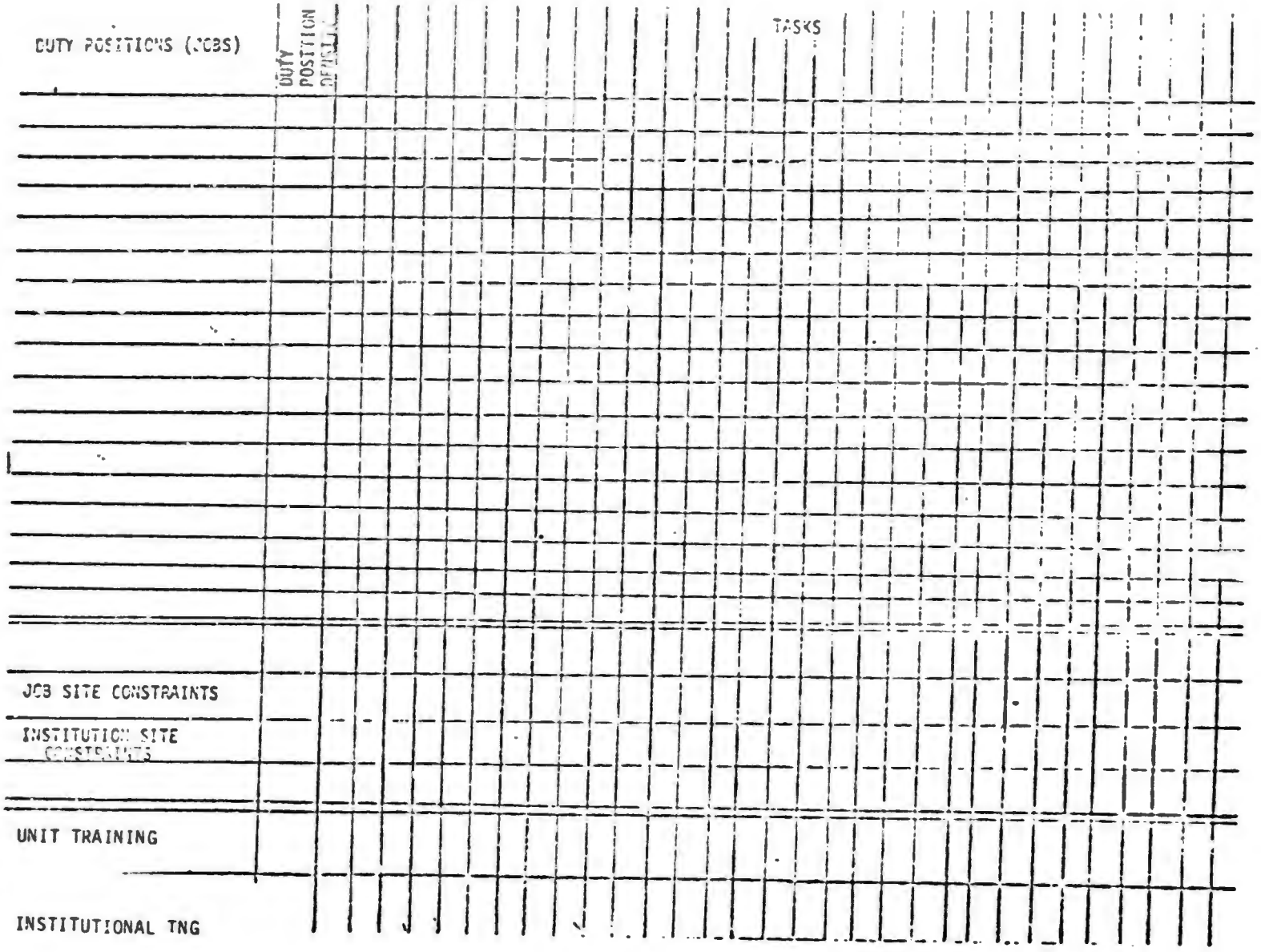
1. List tasks or task numbers across the top of the form under "Task" heading.

2. List duty positions along top of left side under the "Duty Position (Jobs)" heading.

3. Fill in duty position density

4. Complete matrix by checking each task that is performed in each duty position.


Notate any constraints
the back of the
(sheet) .
DUTY POSITIONS (JOBS)
DUTY POSITION PERCENT
TASKS
Duty Position A
Duty Position B
Duty Position C
JOB SITE CONSTRAINTS
INSTITUTION SITE CONSTRAINTS
UNIT TRAINING
INSTITUTIONAL TNG
FEEDBACK
FOR


DUTY POSITIONS (JOBS)
DUTY POSITION
TASKS
JOB SITE CONSTRAINTS
INSTITUTION SITE CONSTRAINTS
UNIT TRAINING
INSTITUTIONAL TNG
SITE RECM

Once you have reviewed the feedback sheet and feel you are ready to take the criterion test, go to the course manager and ask for Test MGT-12.

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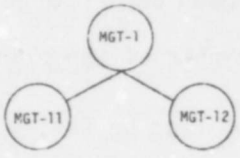
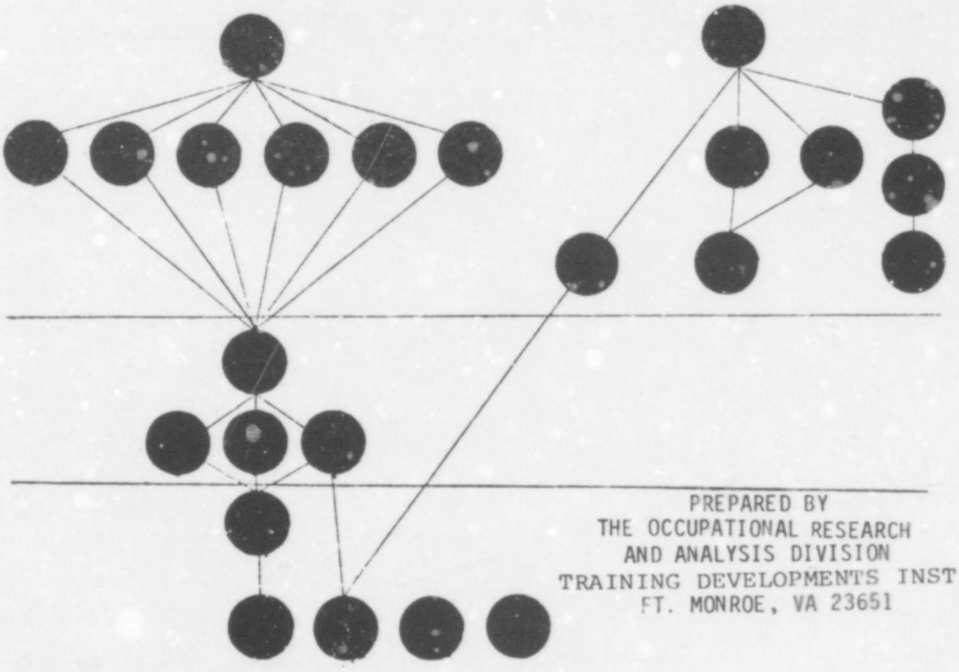
MANAGEMENT MODULES

CRITERION TESTS

VOLUME 7A





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SIGN-OFF

COURSE MANAGER

MGT-11

CRITERION TEST

WRITE A JOB AND TASK ANALYSIS PLAN

For an MOS or Officer Speciality for which your school has proponency, develop a Job Analysis Plan by listing the major paragraphs and applying "real world" information into the plan you develop.

You must develop the plan in enough detail to prove to the course manager that you understand the requirements of the plan.

---

*Before you begin your Criterion Test be sure you have course manager approval for all five practice exercises in the module.

SIGN-OFF

COURSE MANAGER

MGT-1

CRITERION TEST

TALK ABOUT JOB AND TASK ANALYSIS

Prepare and deliver a talk which covers the points listed below. The talk may last no longer than 15 minutes.

- Describe the reasons for conducting a job and task analysis.
- Describe the reason for having a job and task analysis plan and briefly (2 or 3 sentences) explain each major paragraph of the plan.
- Describe (in outline form) how you would go about doing a job analysis and task analysis for the MOS or specialty you work with.

  NOTE: Be sure your description covers each step required in job and task analysis process and that all required end products are included.

The 15 minute time limit will be strictly enforced.

SIGN-OFF

COURSE MANAGER

MGT-12

CRITERION TEST

RECOMMEND TRAINING SITE

---

1. Without references, describe the role of the analyst in the site selecting process.

2. Without references, describe the entire site selection process to indicate the role of the analyst and the site selection board.

3. From the specialty that you are analyzing -

   a. Identify all of the duty positions in that specialty.

   b. Recommend a training site for each duty position.

   c. From the list of tasks selected for training, recommend a training site for at least 20 tasks in each duty position.

   d. Consolidate all site recommendations to a single site recommendation for at least 20 tasks and the rational for each.

MANAGEMENT MODULES

FEEDBACK SHEETS

VOLUME 7B

SIGN-OFF

COURSE MANAGER

MGT-11

FEEDBACK

WRITE A JOB AND TASK ANALYSIS PLAN

NOTE TO COURSE MANAGER:

The participants' Job and Task Analysis Plan must include each paragraph noted in the module. If the student cannot justify omitting a paragraph, additional work must be encouraged. There may be instances in which you have to help a participant "create" some of the information.

Review the participants' module to insure that all five practical exercises have been reviewed and approved by a course manager.

SIGN-OFF

COURSE MANAGER

MGT-1

FEEDBACK

TALK ABOUT JOB AND TASK ANALYSIS

NOTE TO COURSE MANAGER:

Review the student's talk about for the following:

- Reasons for conducting a Job and Task Analysis. For example, all analysis efforts should be premised on a training need.

- Reasons for having a Job and Task Analysis Plan. For example, some sort of management document is needed to ensure the analysis effort is coordinated with the requirements of the Individual Training Plan (ITP).

A second example, a plan is needed by management and analysts so that analysts do not lose sight of the original purpose of the analysis effort.

Finally, look for brief (2-3 sentences) explanations of each major paragraph in the Job and Task Analysis Plan.

- A description (in outline form) of how the student would go about doing a job and task analysis for an MOS or specialty he or she works with. Be sure the outline includes such points as the examples listed below:

JOB ANALYSIS	TASK ANALYSIS
Data sources	Task analysis strategies
Data collection strategies	Data elements to collect
Task selection strategies	How to record analysis

The talk must last no longer than 15 mintues.

SIGN-OFF

COURSE MANAGER

MGT-12

FEEDBACK

RECOMMEND TRAINING SITE

NOTE to course manager:

Use the following to guide your discussion and evaluation:

1. The student should be able to describe the role of the analyst in the site selection process (without references):

SAMPLE ANSWER:

- Analyst makes a recommendation on a task-by-task basis for a proposed training site (if the analyst has a recommendation).
- Analyst collects the required data to facilitate the task selection board in recommending the initial training site.

2. The student should describe the entire site selection process including the role of the analyst and the site selection board (without references):

3. The student's work should:

a. Identify all of the duty positions in his/her specialty.

b. Recommend a training site for each duty position.

c. Recommend a training site for each task selected for training.

d. Consolidate all site recommendations to a single site

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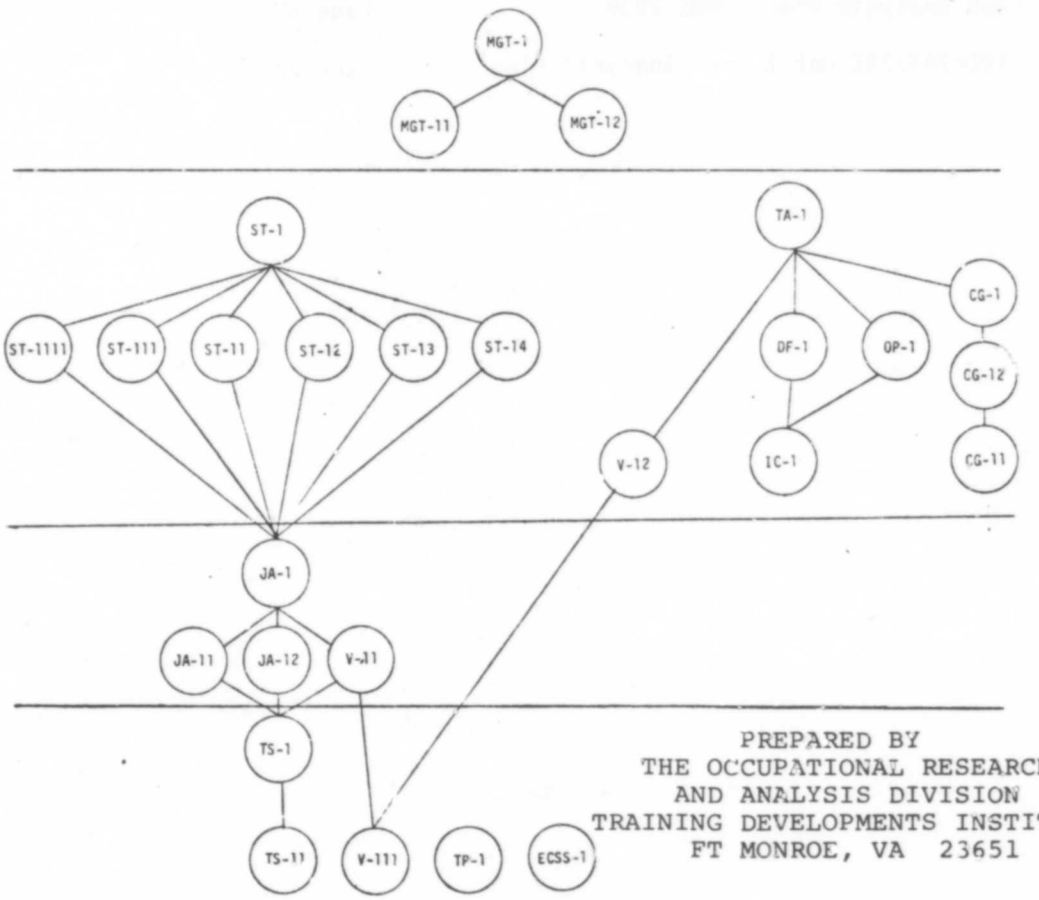
REFERENCES

VOLUME 8



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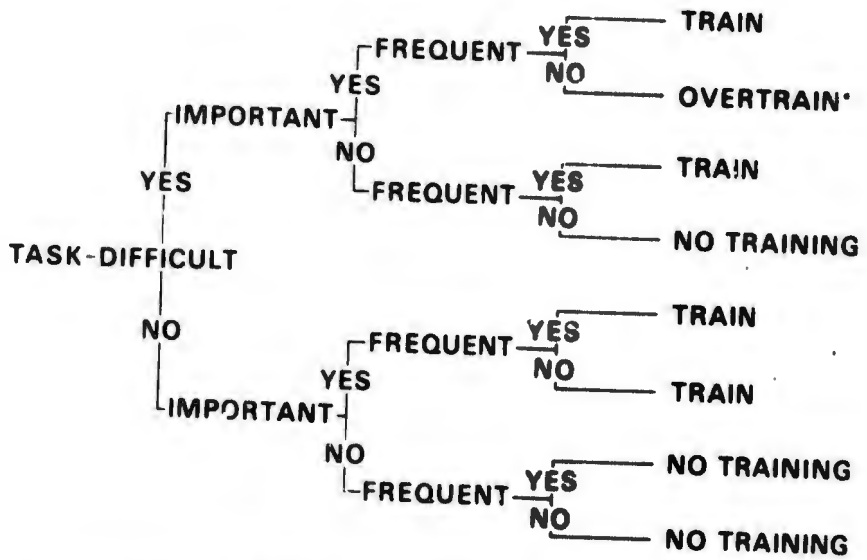
In addition to the references available through AG (e.g., TRADOC Regulation, Circulars, Pamphlets) required for this course additional resources were addressed within varied modules. Within this volume find:

1. Exceprts from the Royal Army Education Corp Pamphlet # 2, "Job Analysis for Training":

DIF Analysis

421 One approach is by the use of Difficulty, Importance and Frequency Analysis (DIF Analysis). In this, assessments of the difficulty, importance and frequency of each task are collected and then used as a basis for training decisions. A simple example of this technique is given below.

EXAMPLE OF A SIMPLE DIF ANALYSIS



*OVERTRAINING - Training to a very high standard to facilitate retention.

422 In this example it will be seen that these are implicitly three simple priorities and standards of training. At one end of the scale is the task which is difficult, important but infrequent. Its difficulty and importance imply that it must be trained for but its infrequency means there will be little opportunity to practise it on the job. It must, therefore, be given a high training priority and a very high standard expected to prevent it being forgotten subsequently. At the other end of the scale, a task which is easy, unimportant and frequent is regarded as requiring no training since it can easily be picked up on the job. Between these two extremes come those tasks with a normal training priority.

423 The sophistication and sensitivity of this technique can be increased by incorporating degrees of importance, difficulty and frequency and by using more detailed levels of training. An example of this is given at Figure 3. In this it will be seen that categories of importance and frequency are used to provide five levels of training which incorporate both priority and an indication of the general standard to be achieved.

Other Criteria

424 Other criteria may be used to decide upon levels of training, besides difficulty, importance and frequency. For example, any or all of the following information may be relevant:

a. How many soldiers perform the task? This may affect decisions on the need for training and the priorities given.

b. How easy is it to give training in the unit? This can be an important factor in deciding whether to include training for the task in a centrally run course or not.

c. How soon after training is the soldier expected to perform the task? If the soldier is expected to be able to perform the task competently as soon as he arrives in his unit then it must be included in the training given beforehand.

d. What degree of supervision will the ex-trainee have? If a soldier is to be closely supervised when performing a task the standard of training on a formal course may be reduced since errors on the job will be detected by the supervisor and corrected.

425 Information of this nature about the tasks can be incorporated into decision rules, similar to a DIF Analysis, and used to decide training levels. An example of

this approach is given at Figure 4. This technique also has wider applications since decision rules can be constructed to provide a variety of outcomes ranging from at which employment class a task should be included to the location and timing of formal training.

426 It will be noted that the actual percentages at which decisions are taken are not given in the example. There are no rules for this and the critical percentages will have to be set in relation to the sort of data which is obtained and the requirements of the specific study. In the same way, in DIF Analysis, it will be necessary to agree how many respondents must rate a task as important or difficult for it to be finally classified as such. Despite the arbitrary nature of this, these techniques can be invaluable in examining complex data since they provide a standard yardstick to apply to every task. This avoids a series of different, and sometimes conflicting, interpretations of the information that has been gathered.

Use of DIF Analysis Decision Rules

427 The examples of DIF Analysis and decision rules which have been given merely indicate an approach to the problems of establishing training priorities and general standards. They do not represent cut and dried formulae which can be applied blindly to every situation. It will be necessary to decide, early in the planning of the main investigation, how these techniques can be adapted to meet the needs of a particular study. For example, the training levels illustrated may not be completely appropriate and they may have to be redefined or reduced in number. Alternatively, as has been suggested, the approach may be modified to produce decisions in other areas of training design. The precise purpose and products of any DIF Analysis or decision rules will have to be carefully thought out in relation to the overall aims of the job analysis itself. Other points which should be considered at this stage are:

a. The choice of additional information to be collected about each task.

b. The definition and measurement of the concepts involved.

428 CHOICE OF ADDITIONAL INFORMATION. The importance of the additional information collected about each task will vary with the situation and some criteria will be more useful than others. For example, in medical work the most valuable criterion for establishing training levels could be importance, defined as the extent to which the task affects the health of the patient. On the other hand, in clerical training, importance might be comparatively irrelevant and the most useful criteria could be the frequency of task performance combined, perhaps with the degree of difficulty. Finally, in a situation where difficulties were known to be associated with training in units it might be essential to obtain infor-

DECISION RULE	TRG LEVEL	DEFINITION OF TRAINING LEVEL
1. Small % of soldiers perform the task OR 2. Slightly larger %, but supervisors indicate the task is not important	LEVEL 5	The task is not taught at all
1. Even larger % perform the task but large % of supervisors consider it not important. OR 2. Task can easily be taught on the job in the opinion of a % of supervisors.	LEVEL 4	The task is DESCRIBED OR DEMONSTRATED as part of the job but the trainee is NOT EXPECTED TO BE ABLE TO PERFORM THE TASK on the completion of training
1. Task is important and must be performed soon after arrival in the unit. OR 2. Task is important and difficult to train for in-unit.	LEVEL 2	The trainee must DEMONSTRATE IN TRAINING that he can perform the task at the level of ACCURACY AND SPEED REQUIRED ON THE JOB.
Task is important, not performed frequently and difficult to teach in-unit	LEVEL 1	The trainee must OVERLEARN, that is he must be given additional practice on the task after he has reached Level 3
All other tasks	LEVEL 3	The trainee must DEMONSTRATE IN TRAINING that he can perform the task CORRECTLY although NOT WITH THE SPEED AND/OR SKILL REQUIRED ON THE JOB

Fig 3 - Example of Decision Rules Leading to Training Levels

mation on the ease of in-unit training and incorporate this into any decision rules to be used. The job analyst will, therefore, need to decide what additional information about each task will be most useful and relevant in his particular circumstances and restrict the survey to this.

429 DEFINITION AND MEASUREMENT. There are also problems connected with the definition and measurement of such concepts as importance, difficulty, degree of supervision and so on.

a. DEFINITION. The first difficulty is in defining what is meant by these terms. For example, importance can be interpreted many different ways and every task could be considered important in that they all contribute something to overall job performance. To ensure that ratings differentiate between degrees of importance and are based upon a standard interpretation, it will be necessary to decide if the importance of a task is to be assessed on possible danger to life, the costs of improper performance, its contribution to the job objective or some other factor. Similar problems exist with the other concepts and it is important that the terms used are carefully defined if the information obtained is to be meaningful.

b. SCALE OF MEASUREMENT. It will often be necessary to develop a scale to measure the concepts. For example, it may be useful to know if a task is very difficult, moderately difficult or easy or if it is very important, moderately important or unimportant. Careful thought will have to be given to the number of divisions necessary and the precise definition of the divisions used.

c. RELIABILITY OF ASSESSMENTS. Finally, it must be realized that assessments may tend to be unreliable because of human failings. For example, respondents might be reluctant to admit they find a task difficult or to confess that they have never actually performed a task. However, by careful choice of questions this unreliability can be reduced to a minimum and adequate assessments obtained.

430 CONCLUSIONS. The need to adapt the approaches outlined above to meet specific needs has been emphasised. It is also accepted that some of the decisions made in the construction of DIF analyses or decision rules are somewhat arbitrary. Despite this, their use has distinct advantages in that they can:

a. Provide a rational basis for making decisions on the design of training systems which is superior to guesswork or intuition.

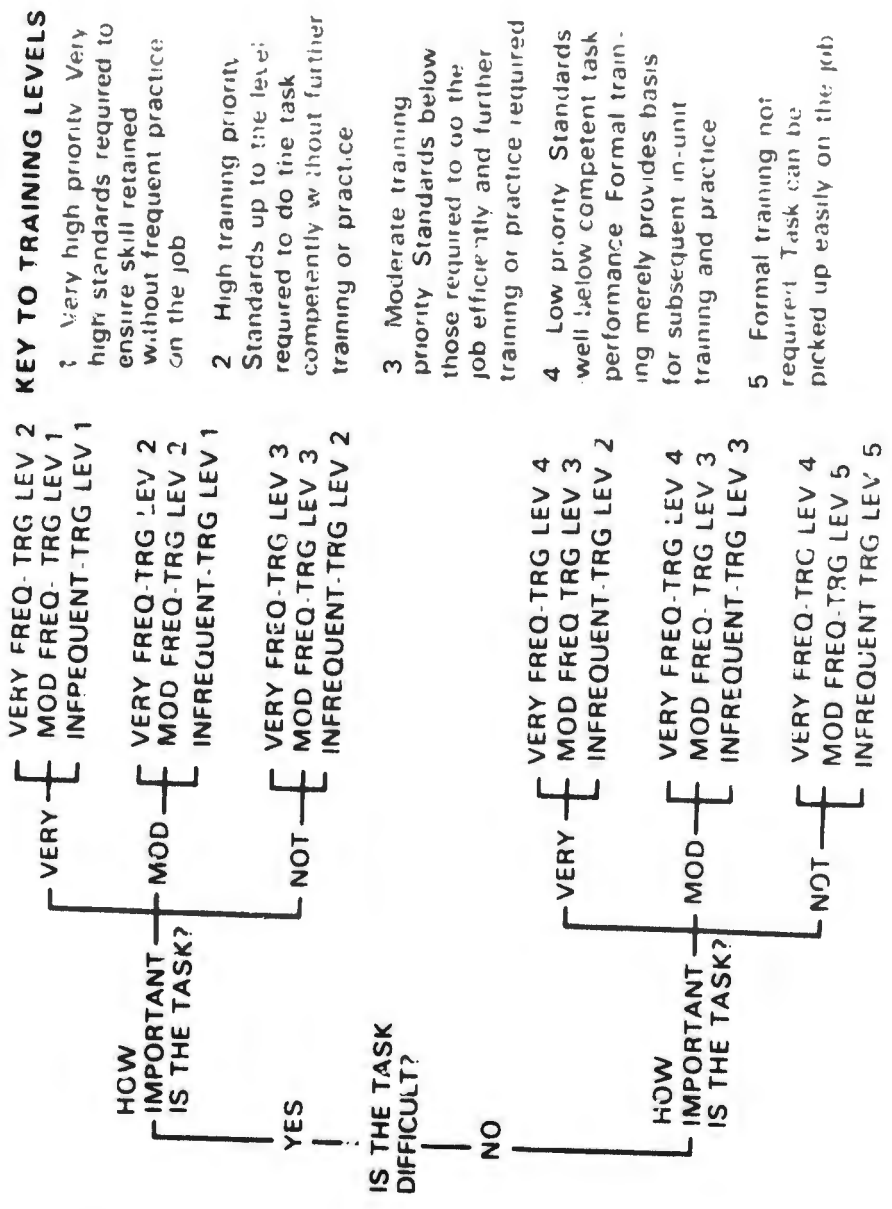


Fig 4-Example of DIF Analysis Giving Training Levels

GRADE	NUMBER OF TASKS TO BE ACHIEVED			
	TRG LEVEL 1	TRG LEVEL 2	TRG LEVEL 3	TRG LEVEL 4
A	All	All	90%	80%
B	All	90%	80%	70%
C	Less than 100%	Less than 90%	Less than 80%	Less than 70%

435 If training levels are used the criticality of priority of the task is also reflected in the training standards expected. Tasks with a low priority will tend to have lower standards with only the most critical performances within each task being taught and tested. Since standards are associated in this way with priorities we can reasonably expect a high proportion of lower priority tasks to be achieved.

436 It is emphasized that the detailed construction of any testing system based on criticality must depend upon specific circumstances. The ultimate goal of 100% achievement of all tasks must be continually borne in mind and lessening of this standard should only be considered when absolutely necessary. Otherwise there will be a tendency to degrade the training system in order to meet the administrative requirements of a marking scheme.

b. Suggest the priorities for training and so assist in the allocation of limited training time and resources.

c. Indicate the general standards to be achieved at the end of training.

SECTION 4 – TRAINING LEVELS AND TESTING SYSTEMS

431 Regulations for Army Employments (RAE) 1972 lays down certain guides for testing. These are that, when training objectives have been written, marking is to be limited to the following three grades.

a. Grade A. Passed critical skills and a specific number of desirable skills.

b. Grade B. Passed critical skills only.

c. Grade C. Fail.

432 Ideally, of course, all trainees should achieve the training standards set in every one of the tasks which have been included in a training course. Logically, if the trainee does not need to be able to perform a task then training is not necessary. This argument, however, ignores realities in that on an actual training course it may be impossible, for a variety of reasons, to achieve this ideal goal. The marking scheme in RAE 1972 attempts to ensure that when less than perfect training has to be accepted the shortfall will be restricted to less important tasks. The first problem is to identify those tasks which can be regarded as critical and those which are desirable.

433 The techniques of DIF Analysis or decision rules can assist in this. As we have seen, these can indicate training levels and can be used to categorize tasks as critical or desirable. For example, if five training levels have been derived on the lines of the examples given in Figures 3 or 4 then tasks with a training level of 1 or 2 could be regarded as critical. Similarly, any task with a training level of 3 or 4 could be defined as desirable. Such a division as this is, of course, quite arbitrary and other combinations are equally possible depending on the particular training situation.

434 The scheme outlined in RAE 1972 implies a simple division of all tasks selected for training into critical and desirable. This represents only two priorities but, as we have seen, it is possible to arrive at a more sophisticated set of priorities or training levels. Obviously, a testing system based on two priorities will be less sensitive than one using three or more. It may, therefore, be appropriate to design a testing system which adheres to the spirit of RAE 1972 but which also employs these training levels. An example of such a system is given opposite.

SECTION 2 — INTERVIEWS

Introduction

606 The interview is a fundamental tool of job analysis. It will almost invariably be used in preliminary work to explore the basic nature of the job and may also be the primary method of collecting information in the main investigation.

607 Interviews may be either individual or group.

a. INDIVIDUAL INTERVIEWS. Interviews with individual job holders or their employing officers will be the most efficient method of collecting detailed information about the job. The interviewer can concentrate on what one person is saying and easily follow up any points which are made.

b. GROUP INTERVIEWS. Interviews may also be held with groups of people. This technique should not normally be used to collect the basic data required in a job analysis because of the danger of bias arising from a vociferous minority in the group. It may be useful if the purpose of the interview is to find out from employing officers or technical experts such things as the major problems associated with the job, likely changes in equipment or job methods or the general standards of acceptable performance. Group interviews save the time of both interviewer and busy supervisors and the combined opinion of experts is often the only way of getting certain kinds of information about the job.

General Techniques of Interviewing

608 An interview is not an aimless chat but a method of obtaining specific information the job analyst needs. It is absolutely essential, therefore, for the interviewer to work out beforehand precisely what it is he wishes to find out Otherwise, the interview will be ineffective, time wasting and lacking in purpose. The information required should be incorporated into an interview schedule which will remind the interviewer of the areas he must cover, provide a framework for the interview and ensure that data is collected in a systematic and standardized way.

609 Interviews are concerned with individuals and, to be fully effective, the approach the interviewer uses must vary with the sort of person he is talking to Much of the value of the interview will be lost if it merely consists of a rigid series of questions. The interviewer should, therefore, prepare a plan of how to approach each individual interview in order to get the most from it.

610 The good interviewer listens rather than talks, adapts his questions and approach to what he hears and avoids interpreting what is said to fit in with his own ideas. Interviewing is a skill which must be learned and practised. Although there is no single best method there are some general points which are applicable to most interviews and these are discussed below under the headings of contact, content and control.

611 CONTACT. Contact is concerned with the initial problem of the interviewer, which is how to set the scene for a detailed, frank and honest transfer of information. He must establish contact with the interviewee and create a good working relationship or what is sometimes known as good 'rapport'.

a. BE PREPARED. All relevant material should be read beforehand and an interview schedule and plan should have been prepared.

b. ENSURE A SUITABLE ENVIRONMENT. Interviews should be held in private, away from noise and free from interruptions.

c. IN TIME AND ENOUGH TIME. Allow sufficient time for the interview so that it is not rushed and be prompt in starting.

d INTRODUCE YOURSELF. Introduce yourself fully if you are not known to the interviewee.

e. BE PLEASANT BUT NOT TOO AMIABLE. The interviewer should strike the right balance between rigid formality and excessive friendliness.

IV

f. MAKE SURE THE INTERVIEWEE KNOWS THE OBJECT OF THE INTERVIEW.

g. REDUCE TENSION. Interviewees may be nervous or apprehensive. Try to reduce any tension by your own relaxed approach.

h. START WITH AN 'EASY TO TALK ABOUT' TOPIC. Avoid difficult or controversial topics at the beginning of an interview and allow the interviewee to get used to talking before coming on to these.

612 CONTENT. The interviewer can only elicit facts efficiently if he asks the right sort of question and poses them in an appropriate manner. This is the content of the interview.

a. DO NOT READ OUT FACTS FROM FORMS. Repeating information which is already available wastes time and can antagonize the interviewee.

b. USE THE APPROPRIATE LANGUAGE LEVEL. Make sure the interviewee understands your questions and do not talk over his head. Adjust the language you use but avoid 'talking down' to him.

c. ASK ONE QUESTION AT A TIME. Rambling, multiple questions confuse the interviewee and are difficult to answer. Keep your questions simple, direct and unambiguous.

d. AVOID LEADING QUESTIONS. Avoid questions which hint at the answer you expect, some interviewees will tend to give you the answer they think you want.

e. AVOID TRICK QUESTIONS. Trick questions which attempt to 'catch out' the interviewee provide little information and can endanger the contact that has been built up.

f. USE COMPARATIVE QUESTIONS. It is easier for an interviewee to say which of two things he finds more difficult than it is for him to state how difficult something is in absolute terms.

g. USE INDIRECT OPEN-ENDED QUESTIONS. The interviewer should try to use questions such as 'tell me about . . . ' rather than those which demand a simple 'yes' or 'no' answer.

613 CONTROL. Finally, the interviewer must control the direction of the interview gently and unobtrusively. He must ensure that all the points are covered but must avoid turning the interview into an interrogation.

a. AVOID INTERRUPTING THE INTERVIEWEE. Interruptions can destroy contact and cut off the interviewee's train of thought. The interviewer should only interrupt when absolutely necessary to avoid digression or to regain control.

b. USE PAUSES WISELY. Do not rush to fill any pauses which may occur in an interview with another question. Pauses give both interviewer and interviewee a chance to consider what has been said and the interviewee may spontaneously continue with further information.

c. HANDLE DELICATE ISSUES CAREFULLY AND AS OPPORTUNITY OCCURS. From time to time the job analyst may have to ask questions about topics which are emotionally charged and which may cause distress or embarrassment. These topics should be left until good rapport has been established, introduced when a natural opportunity occurs and discussed in an open, objective but tactful way.

d. SUMMARISE FROM TIME TO TIME. It is useful to summarize what has been covered occasionally. This helps ensure that all the relevant points are covered and that the interviewee's statements have been understood.

e. BE FLEXIBLE. The main advantage of the interview is its flexibility, in that points can be followed up as and when they arise. This advantage will be lost if the interviewer follows a preconceived plan rigidly and without reference to what has been said. The interviewer must be prepared to adapt himself to the natural flow of the interview, follow up leads as necessary and yet ensure that, in the end, he has gained all the information he needs.

f. KEEP A BALANCE IN THE INTERVIEW. There will normally be many areas to be covered in a limited time. The interviewer should try to maintain a balance between the various points and ensure that they are all covered adequately. Some information on all the relevant topics is better than great detail on some and nothing on others.

g. MAKE NOTES. It is impossible to remember everything and half remembered facts become distorted. Interviewers must make brief notes as unobtrusively as possible during the course of the interview.

h. BEWARE OF BIAS. The purpose of the interview is to collect information as accurately and objectively as possible. The interviewer should guard against introducing bias by interpreting the replies he gets to fit in with his preconceived ideas. It is also important to avoid biasing the replies he gets by expressing approval or censure. The interviewer must suppress his own opinions and feelings and help the flow of conversation with encouraging noises or neutral phrases such as "good", "I see" or "go on".

i. GIVE THE INTERVIEWEE AN OPPORTUNITY TO ADD POINTS AT THE END.

J. THANK THE INTERVIEWEE.

Interviews in Job Analysis

614 In preliminary work, the job analyst is interested in getting the general 'feel' of the job, its context and its main content. His questions will tend to be fairly broad and aimed at eliciting any relevant information about the job. Interviews are an ideal tool for this but they will be relatively unstructured.

615 It will still be necersary to prepare an interview schedule but this will usually consist of a series of main headings referring to the major areas which must be covered. A schedule standardizes the points on which information is required and provides a convenient method of taking notes. An example of a schedule for a comparatively unstructured interview at the beginning of a job analysis is given at Annex A.

616 The problems with the unstructured interview are that the detailed information that is required is not clearly laid down and there is no standard way of recording the data. Each interviewer will ask slightly different questions, every interviewee will give individual answers and these answers will be noted down in varying ways. This will make the data extremely difficult to analyse especially when large numbers of interviews are involved.

617 In the main investigation therefore, a much more structured form of interview may be necessary to ensure that the same information is obtained in every interview and that it is collected in a form which will facilitate subsequent analysis.

SYNERGY AND CONSENSUS-SEEKING

There is a myth about group productivity that is sometimes humorously expressed as, "A camel is a horse put together by a committee." It is probably more accurate to say that a camel is a horse put together by a very bad committee. There is a tendency to think about the outcomes of group activity in terms of one's experience with an array of unproductive efforts rather than in terms of possibilities. Almost everyone has been a member of groups whose outcomes were less than dramatic.

Ordinarily, task groups are put to work without any effort being expended toward building the group as a functioning unit. The most common lack is processing how work gets done, discussing how members feel about what is happening, and exploring what they are willing to contribute. Individual members are presumed to know how to be effective group members, and democratic mechanics such as voting are presumed to result in collective judgements that are satisfactory because people are "involved."

One value that often gets introjected into persons who grow up in our culture is to win, to be number one, to beat out someone else, and this results in highly competitive behavior in group situations. There is a presupposition that competition gets better results. In ambiguous situations, individuals are likely to inject a competitive element because that posture in relation to other persons has been overlearned. This tendency is rationalized in statements such as, "It's a dog-eat-dog world," and "Free enterprise is the answer."

Closely related to the phenomenon of competition is the cognitive style that is sometimes referred to as "either-or" thinking. We tend to oversimplify situations by reducing them to dichotomies, to discrete, mutually-exclusive categories, and to polar opposites. This way of looking at the world gets translated into human relations in win-lose, zero-sum terms. "Either you're for me or you're against me." "Who's in charge?" "If he gets an A, that hurts my chances." "If I give it all away, I won't have anything left." "More of this means less of that." We often are impatient with paradoxes, such as "Giving is receiving," "Good and evil can coexist," and "Being unselfish is selfish."

Synergy means looking at what appears to be opposite or paradoxical in terms of its commonalities rather than its differences. It is looking for meaningful relationships between what are often thought of as dichotomous elements of a situation. It is an attempt to break out of the either-or mentality to look for bridging abstractions, to look for wholes rather than parts. One is thinking synergistically when such seeming opposites as work and play, sensuality and spirituality, now and not-now, aggression and kindness, etc. are seen as fused.

Applied to groups, the concept of synergy means looking at outcomes in a non-zero-sum way. Collaboration in planning, problem-solving, etc., generates products that are often better than those of any individual member or subgroup; whereas competition often means creating not only winners but also powerful losers, who can make the price of winning high. Collaboration and competition are seen as meaningfully-related processes, both of which can result in incremental outcomes owing to group interaction. Consensual validation of points of view held by individuals in interpersonal interchange

can cause the outcome to exceed that of persons working parallel to each other. A synergistic outcome results from the "groupness" that is greater than the sum of the parts of the group.

Work groups can obtain synergistic results when the process of working heightens sharing and functional competition. The mechanics of democratic decision-making get redefined to achieve consensus as the goal (members of the group reach *substantial* agreement, rather than unanimity) rather than splitting the group into a majority and one or more minorities around an issue. Conflict becomes viewed as an asset rather than something to be avoided. Winning becomes a group effort rather than an individual quest. Individuals who do not "go along" are seen as catalysts for improved production rather than as blockers. "Horsetrading" is viewed as failing to look at polarized points of view on a larger plane.

Consensus-seeking is harder work than formalistic modes of decision-making, but the investment in energy expended to make the group function effectively without violating its members can have a dramatic payoff. A number of suggestions can be made about how consensus can be achieved.

1. Members should avoid arguing in order to win as individuals. What is "right" is the best collective judgement of the group as a whole.
2. Conflict on ideas, solutions, predictions, etc. should be viewed as helping rather than hindering the process of seeking consensus.
3. Problems are solved best when individual group members accept responsibility for both hearing and being heard, so that everyone is included in what is decided.
4. Tension-reducing behaviors can be useful so long as meaningful conflict is not "smoothed over" prematurely.
5. Each member has the responsibility to monitor the processes through which work gets done and to initiate discussions of process when it is becoming effective.
6. The best results flow from a fusion of information, logic and emotion. Value judgements about what is best include members' feelings about the data and the process of decision-making.

A sculptor viewing a block of granite can see a figure surrounded by stone. In an analogous way, a decision that is best can be seen inside group effort, if we can find ways of chipping away the excess. Consensus-seeking offers promise of marshalling group resources to produce synergistic outcomes without denying the integrity of members.

TABLE OF CONTENTS

UNITED STATES ARMY INFANTRY SCHOOL

OFFICER JOB/TASK ANALYSIS PLAN
(DRAFT)

INTRODUCTION

The purpose of this plan is to outline the procedures to be followed in the analysis of Infantry Officer Duty Positions and to outline USAIS responsibilities for the implementation of TRADOC Cir 350-2 (Draft), Officer Job/Task Analysis and Training Development. The circular calls for the implementation of a long range program (present through 1985) that will analyze all officer company and field grade duty positions (both TOE and TDA) and develop training for those duty positions.

USAIS has accepted additional responsibility in the TRADOC 350-2 program by participating in two pilot surveys designed to test the methodology of the program. For the first pilot survey common tasks will be combined with the specialty task lists for four specialties (Infantry, Field Artillery, Military Police and Missiles and Munitions). Thus, USAIS participation in the officer job/task analysis portion of the program is divided into four related sub-programs:

1. Job/task analysis for Pilot Survey I of company grade duty positions (Jan 79-Oct 79)
2. Determination/analysis of common tasks for Pilot Survey II of field grade duty positions (Apr 80 - Dec 80).
3. Job/task analysis for Phased Surveys I of company grade duty positions (Jan 80 - Sep 81)
4. Job/task analysis for Phased Surveys II of field grade duty positions (Apr 81 - Sep 83)

OFFICER JOB/TASK ANALYSIS PLAN

SECTION I: References

a. TRADOC Circular 350-2 (Draft), Officer Job/Task Analysis and Training Development, 1 Jun 78.

b. TRADOC Circular 351-4 (Draft), Job and Task Analysis, 12 Jun 78.

c. USAIS Regulation 351-100 (Test), Instructional Systems Development Procedures at the USAIS, ~~October 1976~~ SEP 1978

OFFICER JOB/TASK ANALYSIS PLAN

SECTION II: Rationale

The United States Army Infantry School has always had the key mission of preparing selected officers, noncommissioned officers and soldiers to perform Infantry duties required in peace and war with emphasis on the art of command and leadership. To support the USAIS mission, the Directorate of Training Developments has been developing, and coordinating the development of all training programs for Military Occupational Specialties, TO&E's and material systems for which the Infantry is proponent. However, for the last few years TRADOC and USAIS training development priorities have been primarily directed toward the implementation of the Enlisted Personnel Management System.

In August of 1977, the Directorate of Training Developments launched a long range internal effort to revise the Infantry Officer Advanced Course. Early in the analysis phase of this project, coordination with other TRADOC service schools revealed that almost all schools had initiated some form of officer job/task analysis, design and/or development. However, there was a definite lack of guidance from TRADOC, and it was apparent that the schools were moving along divergent paths. Therefore, USAIS was encouraged when, at DA, the RETO Study (Review of Education and Training for Officers) was formed to define long-range training needs for all officer specialties at all grade levels and to recommend training programs to meet those needs.

TRADOC has worked closely with RETO to develop a long range (7 year) program which will provide a detailed description of officer jobs, to identify these tasks, skills, and knowledges upon which officers need to be trained/educated, and to institute flexible and cost-effective courses of instruction. The result of that effort is TRADOC Circular 350-2 (Draft), Officer Job/Task Analysis and Training Development. Officer analysis resources at USAIS will be dedicated to the implementation of the programs outlined in this circular.

SECTION III: Job/Task Analysis Objectives

a. To provide analysis data required to design and develop programs to train a highly qualified Infantry Officer to meet the needs of the field.

b. To provide analytically derived data on officer jobs upon which to base resource decisions.

c. To provide officer common and specialty unique task lists to TRADOC for publication and survey.

d. To provide input to MILPERCEN for job descriptions in the AR 611 series.

OFFICER JOB/TASK ANALYSIS PLAN

SECTION IV: DATA REQUIREMENTS/SOURCES

REQUIREMENT	SOURCES
TARGET POPULATION PROFILE (LT-COL)	ACADEMIC RECORDS SECTION DIRECTORATE OF EVALUATION TRADOC EDUCATIONAL DATA SYSTEMS ARMY OCCUPATIONAL SURVEY PROGRAM REPORTS FROM OUTSIDE AGENCIES ARMY REGULATIONS QUESTIONNAIRES IF REQUIRED
JOB DESCRIPTIONS (LT-COL)	TABLE OF ORGANIZATION AND EQUIPMENT TABLE OF DISTRIBUTION AND ALLOWANCE RETO STUDY DATA ARMY REGULATIONS DIRECTORATE FOR COMBAT DEVELOPMENTS DIRECTORATE OF EVALUATION TAADS DATA SME's JOB INCUMBENTS/SUPERVISORS

REQUIREMENT	SOURCES
TASK INVENTORY AND CRITICAL TASK LIST	THREAT SCENARIOS TRADOC MANDATED TASKS PREVIOUS TASK LISTS BASELINE STUDY TECHNICAL MANUALS FIELD MANUALS ARMY REGULATIONS CIRCULARS AND PAMPHLETS SIMILAR TASK LISTS PROGRAMS OF INSTRUCTION SOLDIERS MANUALS ARMY OCCUPATIONAL SURVEY PROGRAM REPORTS FROM OUTSIDE AGENCIES TABLES OF ORGANIZATION AND EQUIPMENT TABLE OF DISTRIBUTION AND ALLOWANCES ARTEPS DIRECTORATE OF EVALUATION EQUIPMENT MODIFICATION WORK ORDERS FIELD SURVEYS AND INTERVIEWS FIELD FEEDBACK COURSE STUDENTS CIVILIAN PUBLICATIONS (WHERE APPLICABLE)

REQUIREMENT	SOURCES
	OBSERVATIONS/INTERVIEWS OF JOB INCUMBENTS
	INTERVIEWS OF JOB INCUMBENTS' SUPERVISORS
	SUBJECT MATTER EXPERTS
	REPORTS FROM OUTSIDE AGENCIES
	INSTRUCTORS
	SYSTEMS ANALYSIS BRANCH
	COMBAT DEVELOPMENTS
	DIRECTORATE OF DOCTRINE

SECTION V: Deliverable Products

a. Job Background Information for Infantry Officers

(1) Demographic data including population size/density

(2) Equipment configurations

(3) Supervision Levels

(4) Job Descriptions

(5) Any input required by MILPERCEN

b. Target Population Data for Infantry Officers

(1) Education Level

(2) Military experience

(3) Military education

(4) Reading Level

(5) Mental Requirements

(6) Physical Requirements

(7) Entry Skill Level Requirements

(8) Interest in life

(9) Any input required by MILPERCEN

c. Task Inventories

(1) Common Task Lists (LT, CPT, MAJ, LTC, COL)

(a) Individual Weapons Qualification

(b) Combat Leadership

(c) Physical Readiness

(d) Land Navigation/Map Reading

(e) Airborne

(f) Ranger

(g) Tactics

(h) Operations

(2) Shared Task Lists (LT, CPT, MAJ, LTC, COL)

(a) Individual Weapons Qualification

(b) Combat Leadership

(c) Physical Readiness

(d) Land Navigation/Map Reading

(e) Airborne

(f) Ranger

(g) Tactics

(h) Operations

(3) Task Lists for Infantry TOE/TDA Duty Positions to be analyzed (LT, CPT, MAJ, LTC, and COL). Identification of duty positions will begin with analysis of USAIS (DEV) input to the RETO Study (Inclosure 1).

(4) Infantry Specialty Unique Task Lists (LT, CPT, MAJ LTC, and COL).

(5) Comprehensive task list for each grade level (Infantry LT, CPT, MAJ, LTC, and COL).

(6) Task Trace for all Tasks by Duty Position

d. Critical Task Lists

(1) Infantry LT

(2) Infantry CPT

(3) Infantry MAJ

(4) Infantry LTC

(5) Infantry COL

(6) TOE/TDA duty position

e. Review of other schools' common task list

f. Audit Trail (chronological list of events)

g. Task Summaries (In prescribed format)

h. Task Documentation (In prescribed format)

i. Site Selection Recommendation based on assessment of the following variables as available

(1) Job density

(2) Percent performing

(3) Job schedule (shift, etc)

(4) MOS Structure (number of jobs)

(5) Type of equipment (variance)

(6) Job turnover

(7) Geographic dispersion

(8) Decay rate

(9) Supervision required

(10) Learning difficulty

(11) Criticality

j. Analysis of survey data

k. Input to TDIS (In prescribed format)

l. "Lessons Learned" files

OFFICER JOB/TASK ANALYSIS PLAN

SECTION VI: Milestone Schedule

TRADOC - IMPOSED MILESTONES

EVENT	DATE
A. School Review of TRADOC Circular 350-2 (Draft)	29 Mar 78- 5 Apr 78
B. School Review of Preliminary Milestones and Manpower Requirements for Officer Job Analysis & Training Development	3 Apr 78- 18 Apr 78
C. Planning Conference for Officer Job/ Task Analysis Seminar	25 May 78- 26 May 78
D. TRADOC - Wide Officer Job/Task Analysis Seminar	5 Jun 78- 9 Jun 78
E. Prepare/submit "off-the-shelf" company grade common task lists to TDI/Review Board	15 Jun 78- 14 Jul 78
F. Prepare/submit Common Task Lists (LT - CPT) to CAC	1 Aug 78- 1 Oct 78
G. Prepare/submit Specialty Task Lists (LT - CPT)	15 Jun 78- 31 Dec 78
H. Provide input to MILPERCEN (as requested for Pilot Survey I)	15 Jun 78- 1 Jan 79
I. Review consolidated Common Task Lists and send comments directly to proponents	15 Oct 78- 15 Nov 78
J. Refine USAIS Common Task Lists based on other Schools' comments	15 Nov 78- 7 Dec 78

EVENT	DATE
K. Pilot Survey I (LT - CPT)	1 Jan 79- 31 Oct 79
L. Document LT - CPT Tasks IAW TRADOC Circular 351-4	3 Jan 79- 1 Jan 80
M. Prepare/Document Common Tasks (MAJ - COL)	3 Jan 79- 31 Mar 80
N. Prepare Specialty Task Lists for Phased Surveys (MAJ-COL)	Apr 80-Apr 81
O. Analyze Pilot I results	1 Oct 79- 31 Jan 80
P. Conduct Phased Surveys (LT - CPT)	1 Jan 80- Sep 81
Q. Phased Design & Development of Training (LT -CPT)	3 Jan 80- Sep 83
R. Pilot Survey II (MAJ - COL)	1 Apr 80- 31 Dec 80
S. Phased Design and Development of Training (MAJ - COL)	3 Jan 81- Sep 85
T. Phased Surveys (MAJ - COL)	1 Apr 81- Sep 83

USAIS MILESTONES*

EVENT	AGENCY	DATE
A. School Review of TRADOC Cir 350-2 (Draft)	OAB/TSAD	29 Mar 78- 5 Apr 78
B. School Review of Preliminary Milestones & Manpower Requirements for Officer Job Analysis and Training Development	OAB/TSAD	3 Apr 78- 18 Apr 78
C. Planning conference for Officer Job/Task Analysis Seminar	TRADOC	25 May 78- 26 May 78
D. TRADOC-wide Officer Job/Task Analysis Seminar	TRADOC	5 Jun 78- 9 Jun 78
E. Prepare/submit "off-the-shelf" company grade common task lists to TDI/Review Board	OAB/TSAD	15 Jun 78- 14 Jul 78
F. Prepare/submit Common Task Lists (LT -CPT) to CAC		1 Aug 78- 1 Oct 78
1. Request from other agencies subject matter experts for coordination/review of common and shared task lists.	DTD	1 Aug 78
2. Brief 350-2 program and Job Analysis Plan to SME's	OAB/TSAD	8 Aug 78
3. Review existing sources of data to identify company grade common/ shared tasks (see item 5c)	OAB/TSAD In coordination with SME's	1 Aug 78- 24 Aug 78
(a) Individual Weapons Qualification		

*USAIS Milestones are keyed to TRADOC-Imposed Milestones, Section VI, A-O Milestones for P-T are yet to be developed.

EVENT	AGENCY	DATE
(b) Combat Leadership (c) Physical Readiness (d) Land Navigation/Map Reading (e) Airborne (f) Ranger (g) Tactics (h) Operations		
4. Formal staffing/meetings with SME's for approval	OAB/TSAD SME's	24 Aug 78- 14 Sep 78
5. Refine task lists	OAB/TSAD	15 Sep 78- 21 Sep 78
6. Assign task numbers IAW TRADOC Cir 351-1	OAB/TSAD	15 Sep 78- 21 Sep 78
7. Submit SME approved common task lists through USAIS chain of common for approval	DTD	21 Sep 78
8. Submit common task lists to CAC	DTD	28 Sep 78
G. Prepare Specialty Task Lists for LT-CPT		15 Jun 78- 31 Dec 78
1. Identify duty positions to be analyzed (Review/ Update RETO, Incorporate data identified during common task development) See 5B.	OAB/TSAD	15 Jun 78 24 Aug 78
2. Collect job background data including equipment configurations, job descriptions, supervision levels, future equipment, and changing doctrine. See IV and VB/C.	OAB/TSAD	15 Jun 78 1 Sep 78

EVENT	AGENCY	DATE
3. Identify duties of each duty position. See 5B/ 5C. Interview/survey Job Incumbents at Fort Benning.	OAB/TSAD 197th AIT Bde USAIS students, staff & faculty	1 Sep 78- 15 Oct 78
4. Identify tasks related to each duty. Compare to all common task lists. See 5C, and TRADOC Cir 351-4, 3-2C.	OAB/TSAD	15 Oct 78- 15 Nov 78
5. Interview job incumbents and their supervisors to verify task inventory, equipment configurations, and supervision levels. (LT - CPT)	USAIC Ft Carson Ft Bragg Ft Cambell Ft Stewart	15 Nov 78- 1 Dec 78
6. Refine task lists	OAB/TSAD	1 Dec 78- 8 Dec 78
7. Merge common, shared and specialty task lists for specialty 11 LT and CPT.	OAB/TSAD	8 Dec 78 18 Dec 78
8. Assign task numbers IAW TRADOC Cir 351-1	OAB/TSAD	8 Dec 78- 18 Dec 78
9. Submit field-verified task lists through USAIS chain of command for approval.	DTD	18 Dec 78
10. Submit merged task lists for LT and CPT to CAC	DTD	27 Dec 78

EVENT	AGENCY	DATE
H. Provide input to MILPERCEN as requested for Pilot Survey I	OAB/TSAD	15 Jun 78 1 Jan 79
Note: Confirmation of all information that will be required for the pilot surveys is not currently available from MILPERCEN. However, according to CODAP Guidelines for preparaing Questionnaire Item Submissions, Jul 77, the following is required.		
1. Equipment which may be used or maintained by job incumbents.		
2. Special knowledges needed by job incumbents.		
3. Special skills needed by job incumbents.		
4. Special questions designed to elicit problem areas.		
I. Review consolidated common task lists and send comments directly to proponents .		15 Oct 78 15 Nov 78
1. Request SME's for all common subject areas identified in 351-1 and 350-2.	OAB/TSAD	2 Oct 78
2. Brief 350-2 program and Job Analysis Plan to SME's.	OAB/TSAD	10 Oct 78
3. Staff common task lists submitted by common subject area proponents to SME's for review for specialty 11.	OAB/TSAD USAIS/USAIC faculty and staff	15 Oct 78- 6 Nov 78

EVENT	AGENCY	DATE
4. Consolidate common task lists.	OAB/TSAD	7 Nov 78- 8 Nov 78
5. Submit Common Task lists through USAIS chain of command for approval.	DTD	8 Nov 78- 15 Nov 78
6. Mail common task lists to common subject area proponents.	OAB/TSAD	15 Nov 78
J. Refine USAIS Common Task Lists based on other Schools' comments.		15 Nov 78- 7 Dec 78
1. Consolidate comments from other schools.	OAB/TSAD	15 Nov 78- 22 Nov 78
2. Analyze comments from other schools/finalize task lists.	OAB/TSAD	22 Nov 78- 1 Dec 78
3. Submit task lists through USAIS chain of command for approval.	DTD	1 Dec 78- 7 Dec 78
4. Submit Task List to CAC for use in Pilot Survey I.	OAB/DTD	7 Dec 78
K. Conduct Pilot Survey I. Note: Primary responsibility is at MILPERCEN. USAIS related responsibilities are identified in VI H and VI O.		Jan 79- Oct 79
L. Document LT-CPT Common and Shared Tasks IAW TRADOC Circular 351-4.		3 Jan 79- 1 Jan 80

EVENT	AGENCY	DATE
1. Coordinate with Design/ Development to determine task analysis data requirements.	OAB/TSAD TMDD, TDD TDMD	3 Jan 79- 15 Jan 79
2. Determine specific task analysis techniques to be employed IAW TRADOC Cir 351-4, 4-3. (Determination will be dependent on duty/task type)	OAB/TSAD	3 Jan 79- 31 Jan 79
3. Document conditions, cues, standards and elements based on current doctrine (See 5C).	OAB/TSAD	3 Jan 79- 31 Jul 79
4. Interview/observe job incumbents and their supervisors to validate documentation of tasks. (LT - CPT)	USAIC Ft Carson Ft Bragg Ft Stewart Ft Campbell	1 Aug 79- 30 Sep 79
5. Refine documentation based on validation.	OAB/TSAD	1 Oct 79- 15 Oct 79
6. Complete documentation IAW TRADOC Cir 351-4, 4-4A. The following items will be documented: (a) Task number (b) Task title (c) MOS/SSI/Skill Level/Duty Position (d) Weapon System (e) Hardware type (f) Conditions (g) Cues	OAB/TSAD	15 Oct 79- 15 Nov 79

EVENT	AGENCY	DATE
(h) Standards (i) Elements (j) SM (if any) (k) References (l) Courses/materials to support training (m) Training Aids Devices (n) Equipment used in task performance (o) SQT (if any) (p) Date analysis perfor d		
7. Provide data to ATSC/TRADOC in Task Summary format IAW TRADOC Cir 351-28	OAB/TSAD	15 Nov 79- 30 Nov 79
8. Recommend Training Site/ Setting IAW TRADOC Cir 351-4, Appendix G	OAB/TSAD	1 Dec 79- 31 Dec 79
M. Prepare/document common tasks for MAJ - COL. Note: Specific coordination procedures/dates have not yet been determined by TRADOC. Events will parallel those in VI F, H, I, J, K, and L.		3 Jan 79- 31 Mar 80
N. Interview job incumbents and their supervisors to verify task inventory, equipment configurations, and supervision levels. (MAJ - COL)	USAIC Ft Carson Ft Bragg Ft Stewart Ft Campbell	Apr-May 79
Interview/observe job incumbents and their supervisors to validate documentation of tasks. (MAJ - COL)	USAIC Ft Carson Ft Bragg Ft Stewart Ft Campbell 7th Army 8th Army	Jan-Feb 81

O. Analyze Pilot I results.		1 Oct 79 31 Jan 80
1. Develop critical task selection SOP IAW TRADOC Cir 351-4	OAB/TSAD Task Selection Board	1 Oct 79- 31 Oct 79
2. Convene Critical Task Selection Board		1 Nov 79- 30 Nov 79
3. Submit Critical Task List to Commandant for Approval		1 Dec 79- 31 Dec 79
4. Provide input to MILPERCEN		2 Jan 80- 31 Jan 80

OFFICER JOB/TASK ANALYSIS PLAN

SECTION VII: Resource Requirements/Contraints*

REQUIREMENTS

Reference	Requirements	Activity	Approx No. of Persnl	Approx Date
A-E **F-1 thru F-4	Completed SME's for: Individual Wpns Qualification Land Navigation/ Mapreading Tactics Operations Combat Leadership Physical Readiness Airborne Ranger	Attend briefing Coordinate in task list compilation Review final list	11	8 Aug 78 1 Aug 78-14 Sep 78
**G-3	Job Incumbents and Supervisors from the 197th, AIT Bde, USAIS students, faculty, and staff	Interview Survey	Unk	1 Sep 78-15 Oct 78
G-3, G6	Additional job analysts	Conduct job analysis	4	1 Sep 78-31 Dec 78

*Sections here are cross-referenced to the milestone schedule, Section VI.

**Personnel will not be required full time. Direct coordination will be necessary between OAB/TSAD and the required agencies/personnel.

Reference	Requirements	Activity	Approx No. of Persnl	Approx Date
** G-5	Job incumbents and their supervisors from USAIC, Ft Carson, Ft Campbell Ft Bragg, Ft Stewart	Interview to verify task inventory (LT - CPT)	125	15 Nov 78- 1 Dec 78
H-1	USAIS representatives to MILPERCEN	Provide input to MILPERCEN Refine task inventories	1	15 Jun 78- 1 Jan 78 (as required)
** I-3	Common subject area experts from USAIS/USAIC faculty & staff	Review common task lists submitted from other schools	50	15 Oct 78 6 Nov 78
L-3	Additional Task Analysts	Document tasks	5	3 Jan 79- 31 Jul 79
** L-4	Job incumbents and their supervisors from USAIC, Fort Carson, Ft Campbell Ft Bragg, Ft Stewart	Interview/ observe to validate documentation of tasks (LT - CPT)	125	1 Aug 79- 30 Sep 79
L-6	Additional clerical support	Type documentation forms	1	1 Aug 79- 30 Nov 79
M	Unknown Requirements will parallel those in F, H, I, J, & L	Prepare/document common tasks for MAJCOL	Unk	3 Jan 79- 31 Mar 80

Reference	Requirements	Activity	Approx No. of Persnl	Approx Date
N.	Job incumbents and their supervisors from USAIC, Ft Carson, Ft Campbell, Ft Bragg, Ft Stewart	Interview to verify task inventory (MAJ - COL)	150	1 Apr 79-30 May 89
	Job incumbents and their supervisors from USAIC, Ft Carson, Ft Campbell, Ft Bragg, Ft Stewart, 7th Army & 8th Army	Interview/observe to validate documentation of tasks (MAJ - COL)	150	1 Jan 81-28 Feb 81
**O	Task selection board members (job incumbents, supervisors, SME's and others designated by the Commandant)	Select critical tasks	10	1 Oct 79

PROJECTED TDY REQUIREMENTS

FY/ Quarter	Event	Activity	Estimated Cost
FY 78			
4	F3	3-day TDY to USAFAS	$ 349
		3-day TDY to USAAS	239
Total			$ 588
FY 79			
1	G5	5-day TDY to Carson	$ 477
		5-day TDY to Bragg	361
		5-day TDY to Campbell	357
		5-day TDY to Stewart	276

FY/ Quarter	Event	Activity	Estimated Cost
FY 79 cont.			
1	H	3-day TDY to MILPERCEN	322
		3-day TDY to MILPERCEN	322
1	Task Analyst workshop (Nov)	Five 5-day TDY to trips to Leeburg	1695
2	N	3-day TDY to CGSC	301
2	N	3-day TDY to CGSC	301
2	IPR TRADOC	3-day TDY to TRADOC	322
3	IPR CGSC	3-day TDY to CGSC	301
3	IPR CAC	3-day TDY to CAC	301
3	N	5-day TDY to Carson	477
		5-day TDY to Bragg	361
		5-day TDY to Campbell	357
		5-day TDY to Stewart	276
4	L4	Two 6-day TDY trips to Carson	984
		Two 6-day TDY trips to Campbell	744
		Two 6-day TDY trips to Bragg	752
		Two 6-day TDY trips to Stewart	582
Total			$ 9869
FY 80			
2	IPR TRADOC	3-day TDY to TRADOC	322
Total			$ 322
FY 81			
2	IPR TRADOC	3-day TDY to TRADOC	322
2	N	3-day TDY to MILPERCEN	322
2	Input to MILPERCEN	3-day TDY to MILPERCEN	322
2	N	Two 6-day TDY trips to Carson	984
		Two 6-day TDY trips to Bragg	752

FY/ Quarter	Event	Activity	Estimated Cost
FY 81 cont.		Two 6-day TDY trips to Campbell	744
		Two 6-day TDY trips to Stewart	582
		Two 10-day TDY trips to 7th Army	1858
		Two 10-day TDY trips to 8th Army	3464
Total			$ 9350

Summary:

FY	Identified Totals	Unprogrammed Expenses
78	$ 588	
79	9869	$ 2131
80	322	11678
81	9350	2650
78-81	$ 20129	$ 16459

CONSTRAINTS

1. TRADOC Review of Manpower recognizes 7.27 manyears to be dedicated to this project for FY 79. Without recognized personnel, milestones will be difficult to meet.
2. TRADOC-imposed milestones/manpower constraints could restrict coordination with geographically distributed/representative units not found at Fort Benning. However, field visits will be conducted whenever resources allow.

SECTION VIII: Procedures for Modification of the Plan.

TRADOC milestones/requirements detailed in this plan are subject to change based upon the results of the pilot programs, implementation of the RETO recommendations, and allocation of sufficient resources. Changes in this Job/Task Analysis Plan may result from modification of TRADOC milestones/requirements and lack of allocated resources within USAIS. Shortage of personnel/funds will result in the requirement to extend milestones. All major modifications of the plan and related key decisions will be approved by the Director, Training Developments and documented.

DIRECTORATE OF TRAINING DEVELOPMENTS
UNITED STATES ARMY AVIATION CENTER
Fort Rucker, Alabama 36362

JOB AND TASK ANALYSIS PLAN

OV-1 AIRCRAFT QUALIFICATION

PREPARED BY: _____ DATE _____
THOMAS W. HAWTHORNE, DAC

REVIEWED BY: _____ DATE _____
JOHN E. MURPHY, MAJ

APPROVED BY: _____ DATE _____
RALPH J. POWELL, COL, Director

JOB AND TASK ANALYSIS PLAN

OV-1 AIRCRAFT QUALIFICATION

PLAN RATIONALE

1. The purpose of OV-1 Aviator Qualification is to qualify Army aviators in the operation of Army Combat Surveillance Multi-engine OV-1 aircraft. After OV-1 qualification, the aviator receives mission training from USAICS at Fort Huachuca, AZ.

2. Until recently, qualification training was conducted in OV-1C aircraft but a gradual transition has resulted in all flight training now being conducted in OV-1D or OV-1D prototype aircraft. All flight and academic training is currently OV-1D oriented.

3. Training devices, currently used in qualification include the 2C9A OV-1C Cockpit Procedural Trainer and the 2B12A Instrument Flight Procedural Trainer. The 2C9A is deemed inadequate because OV-1D systems are radically different from those on the OV-1C. The 2B12A is a single, reciprocating engine trainer equipped with a Flight Director System (FD-105). It has little or no similarity to the equipment in the OV-1D aircraft.

4. Modification of the 2C9A to OV-1 configuration has been requested but preliminary estimates place the cost in excess of $400,000 and a void would still exist in instrument flight simulation using the FD-105 Flight Director System.

5. In keeping with the ISD concept and guidance in TRADOC draft Circular 351-4, this job and analysis plan is submitted as the first milestone in obtaining OV-1D simulation to correct identified discrepancies.

PLAN OBJECTIVES

1. Perform a job analysis for OV-1 aviators to include job background information and target population data.

2. Develop an OV-1 aviator task inventory.

3. Develop and field validate a critical task list. NOTE: TRADOC Circular 351-4 defines a critical task as one that must be trained.

4. Perform a task analysis for each critical task.

5. Identify critical tasks that have been previously trained.

6. Identify critical tasks to be trained.

7. Prepare Job Performance Measures (JPM) for critical tasks to be trained.

8. Identify needs for training devices. NOTE: This will be a spin-off of developing JPMs.

9. Identify supporting skills and knowledges needed to perform tasks or task elements. Past "Lessons Learned" identifies this as being a major problem in the ISD process.

DATA REQUIREMENTS/DATA SOURCES

1. Data requirements. Sufficient data will be required to perform the following tasks:

a. Perform an OV-1 Job Analysis.

b. Identify OV-1 aviator job related tasks.

c. Differentiate between basic OV-1 aviator tasks and mission tasks.

d. Identify critical OV-1 aviator tasks to be trained at USAAVNC.

e. Analyze each critical task to determine task conditions, standards, and elements.

f. Identify critical tasks that have previously been trained.

g. Develop JPMs for each critical task selected for training at USAAVNC.

h. Identify supporting skills and knowledges required for task performance.

i. Validate the completed analysis.

2. Data Sources. Proposed sources of data for this analysis include.

a. Research of any previous OV-1 aviator analysis.

b. Auditing the existing OV-1 AQC, POI, Flight Training Guide, Lesson Plans, and Training Aids and Devices.

c. TC-144 Aircrew Training Manual (ATM) for Surveillance Aircraft.

d. Unit ARTEPs.

e. Army Occupational Survey Program (AOSP) Report.

f. OV-1D Operator's Manual and Checklist.

g. Validated task lists and analyses for aviators of other type aircraft.

h. Army Aviation Regulations and FAR, Part 91.

i. Interviews with incumbents (present/past), supervisors, IPs and SIPs.

j. Observations.

k. Coordination with USAICS.

l. Field validation surveys.

m. DOD FLIP.

n. Airman's Information Manual.

o. Appropriate FMs to include 1-5, 1-30, and 1-50.

p. Others if identified during the Analysis Process.

RESOURCE REQUIREMENTS/CONSTRAINTS

1. Time.

a. Requirements. Revised milestones coordinated with TAD Training Devices branch shows 30 March 1979 as the analysis completion date.

b. Constraints. Availability of trained analysts will affect required time. A management decision may be necessary concerning revision of resource allocation and/or priorities.

2. Personnel.

a. Requirements. PMO has programmed 330 analyst man-days for this project which equates to 3 analysts for a period of 4½ months. Additionally 21 SME man-days are programmed and will be requested from the Directorate of Training. An Education Specialist Career Intern has been assigned to this project on a half-day basis and will be performing "on the job training" as an anlyst. Approximately 7,000 lines of typing will be required. The Word Processing Center estimates this as 10 man-days and will be able to support it.

b. Constraints. Current and future projects assigned the Analysis Branch may limit the number of analysts available for this effort. If so, a management decision may be necessary concerning personnel allocation or suspense adherence.

3. Fiscal.

a. Requirements. The following TDY trips are deemed necessary to perform the analysis.

(1) One person to Fort Huachuca, Arizona to coordinate a draft task list with USAICS. The purpose of the coordination would be to determine which tasks were basic OV-1 aviator tasks and which were mission tasks.

(2) Two people to 131st MICAS, Fort Hood, Texas to field validate task list.

(3) Two people to the 159th MICAS, Dobbins AFB, Georgia and the 158th MICAS, Winder, Georgia to field validate task list. These units are in close proximity and the validation could be conducted concurrently.

(4) A trip to the 73rd MICAS in Germany was considered but time constraints and a proposed REFORGER exercise negated selection.

(5) Other OV-1 units were considered but the small number of aircraft and pilots in each could not justify the cost.

b. Constraints. None are anticipated.

DELIVERABLES

1. Job analysis deliverables.

a. Job background information, demographic data, and equipment configurations.

b. Target population data to include reading grade level, mental and physical requirements, and entry skill level requirements.

c. OV-1 aviator task inventory.

d. OV-1 aviator critical task list.

e. Audit trail - chronological listing of events by time.

f. "Lessons Learned."

2. Task analysis deliverables.

a. Critical task analysis for each task selected for training to include the following:

(1) Task statement

(2) Conditions

(3) Standards

(4) Initiating cues

(5) Task elements

(6) References

b. JPMs for each critical task.

c. Suggested training site selection for each critical task.

d. List of supporting skills and knowledges needed to perform critical tasks.

e. List of tasks, or task element, with documentation, which were trained in previous courses.

f. Audit trail file.

g. Lessons Learned file.

PROPOSED SCHEDULE OF EVENTS	DATE
1. Initiate job analysis research.	15 Nov 78
2. Start Audit Trail and Lessons Learned Files.	15 Nov 78
3. Draft Job and Analysis Plan.	30 Nov 78
4. Coordinate Plan with Branch/Division Chiefs.	3 Dec 78
5. Brief Plan to Director, DTD.	
6. Obtain approval for plan.	
7. Coordinate approved Plan with Branch/Division Chiefs.	
8. Collect data sources.	Continuous

9. Determine if OV-1 "System Engineering" Packet is available.	10 Dec 78
10. If Packet is available, analyze and determine if it is valid or only needs minor revision. Decision will dictate future events. If Packet is not available or unsuitable, continue scheduled events.	23 Dec 78
11. Start job background and target population file.	5 Jan 79
12. Start task inventory.	5 Jan 79
13. Develop draft task validation form.	10 Jan 79
14. Review data sources.	15 Jan 79
15. Develop draft task inventory.	19 Jan 79
16. Test task validation form.	22 Jan 79
17. Revise task validation form (if necessary).	26 Jan 79
18. Coordinate task list with USAICS.	30 Jan 79
19. Field validate task list.	15 Feb 79*
20. Analyze field validation.	20 Feb 79*
21. Develop critical task list.	23 Feb 79*
22. Obtain approval of critical task list.	23 Feb 79*
23. Perform Task Analysis for critical tasks.	26 Feb 79
24. Identify tasks that have been previously trained.	
25. Develop/validate JPMs for tasks to be trained at USAAVNC.	12 Mar 79
26. Identify supporting skills and knowledges needed to perform critical tasks.	20 Mar 79
27. Finalize all deliverables and submit to Word Processing Center.	23 Mar 79

28.	Obtain approval of package.	29 Mar 79
29.	Submit package to Phase 2.	30 Mar 79

MANAGEMENT PLAN - JOB ANALYSIS FOR POLICE SERVICES COURSE

The worldwide assessment of military police activities surfaced numerous doctrine and training shortfalls. A majority of these shortfalls were directly related to the improper handling of people by military police, particularly in crises intervention type situations. A review of training provided the military police disclosed that instruction on how to deal effectively with the human dimension of the military community was virtually nonexistent. This finding coupled with the findings of the worldwide assessment identified the need to provide such training to all levels of military police.

OBJECTIVE

Using the instructional systems development model to develop course materials that provide military police with the skills and knowledges necessary to effectively interact with the human dimension of the military community.

RESOURCE REQUIREMENTS

Event (Milestones)	Targeted Completion Date
Develop analysis plan	25 Mar 78
DTD approval of analysis plan	28 Mar 78
IPR analysis plan	7 Apr 78
Develop tentative task list	15 Apr 78
Develop data collection materials	25 Apr 78
Collect data	20 May 78
Construct validated task list	15 Jul 78
Identify task selection criteria	27 Jul 78
Select critical tasks for training	4 Aug 78
DTD approval of tasks for training	8 Aug 78

Construct Job Performance Measures (JPM)	29 Aug 78
Prepare administrative testing tools	19 Sep 78
Validate JPM	28 Sep 78
Locate existing courses	7 Oct 78
Review existing courses	14 Oct 78
Determine if course validated	17 Oct 78
Document review results	20 Oct 78
Identify instructional setting criteria	21 Oct 78
Select instructional setting	27 Oct 78
DTD approval of instructional setting	28 Oct 78
Formal approval of completion of analysis by DTD	31 Oct 78

(Network Diagram is attached)

PERSONNEL

This analysis will require approximately 1.25 manyears to complete. Use of civilian consultants may reduce the amount of time spent; however, the individuals assigned must have an understanding of a system approach to training developments, a basic understanding of behavioral science as it applies to interpersonal communications between military police in a military community, and the understanding of procedures used to gather analysis data. Two individuals will be required to conduct this analysis effort within the current milestones established.

FISCAL

Budget

Some funds to assist in the front-end analysis have been made available by

the Training Developments Institute. Consultants and some travel may be applied against these funds. Because this is a new development and constitutes tasks not currently being taught or executed properly in the field, travel to authenticate the task list is not appropriate.

Validation of Job Performance Measures and evaluation of existing courses are planned at the following locations:

To validate JPM:

Fort McClellan

Fort Benning

Fort Benjamin Harrison

Fort Carson

Fort Lewis

To review existing courses within civilian community:

Los Angeles

San Jose

Sacramento

New York

Denver

DATA REQUIREMENTS AND SOURCES

Task group report: Provost marshal and military police activities - and assessment.

Plan to elevate organizational professionalism in law enforcement (PEOPLE).

Field Manuals

19-5

10-10

19-20

Consultants - Paid

Dr. John Stratton, Department Psychologist, Los Angeles Sheriff's Department.

Dr. Mike Roberts, San Jose Police Department.

Dr. George Killinger, Chairman, Pardons and Parole Board, Texas.

Consultant - Not Paid

Dr. Ted Morton, Senior Consultant, Police Officer Standards and Training Board, Sacramento, California.

(Additional sources to be added as they are located and reviewed)

DELIVERABLE PRODUCTS

At the completion of Phase I, the following documentation should exist and be maintained on file, in addition to this analysis plan:

All changes to the plan.

Data from review of previous analysis effort.

Task list and all supporting documents.

Critical task selection criteria.

Critical task list.

Validated job performance measures and accompanying scoring keys and administrative instructions.

Results of reviews of existing courses.

Instructional setting selection criteria.

Instructional setting for each task.

A detailed breakout of anticipated actions to be conducted during the analysis phase follows:

I.1 - Analyze job.

A. This analysis will support a new course of instruction. No current course now exists. The need for such a course was established as outlined under the job rationale and is intended to train military police how to deal effectively with the full spectrum of personalities they will encounter on a daily basis.

B. Little specific data has been collected to date on tasks performed by military police within the specific task areas now being analyzed. The majority of information already available concentrates on the relatively "hard skills" associated with duties such as handling of domestic disturbances, handling of persons under the influence of drugs, or handling juvenile delinquents. By "hard skills" I mean apprehension, search, probable cause, completion of military police reports, treating victims, applying first aid techniques, and that type of skill as opposed to the behavioral science oriented skills this course is oriented toward. Little has been taught in the past that would train an MP to be able to effectively interact with the individual to do such things as lower anxiety and insure that problems aren't complicated by improper actions.

C. Data as to task frequency will be collected by questionnaire from at least ten CONUS and overseas installations.

D. Survey tools to support this effort will be developed. Surveying of resident Noncommissioned Officer Advanced Course and Officer Advanced Course students is under consideration. The results of this survey will be a tentative task list prioritized by frequency and organized by skill level. Further validation is not considered necessary as training under development is designed to teach new skills.

E. Output for this step will consist of:

Validated task list and all supporting documents to provide audit trail from analysis through validated task list.

I.2 - Select Tasks/Functions.

A. Substantial data to support this function will be collected during Block I.1. Specific criteria must be established as a basis for the decision to select or reject a task for training. Approval of both the selected criteria used and the subsequent task list developed will be accomplished by the Director of Training Developments.

B. The output from this step will be:

An approved critical task list of the tasks selected for training, and complete documentation of methods and procedures followed, and the assumptions and considerations which govern the task list development.

I.3 - Construct Job Performance Measures (JPM).

A. Information required (e.g., cues, conditions, and standards) to develop JPM will be collected during Block I.1. During this block how to best measure if these or standards have been met will be determined.

B. Both validity and fidelity will be determined based on cost and time restraints imposed by equipment and administrative restrictions. Humane restrictions will also be a limiting factor.

C. Administrative scoring keys will be developed and validation of the job performance measures will be conducted at Fort McClellan, Fort Benning, and Fort Benjamin Harrison. Additional validations may be conducted in conjunction with other DTD/USAMPS visits (such as TEC validations) that are conducted during this time frame.

D. The output from this block will be:

Validated job performance measures, and accompanying scoring keys and administrative instructions necessary to administer the appropriate tests.

I-4 - Analyze Existing Courses.

A. Analysis of courses is included to avoid unnecessary duplication of effort whenever possible. The primary purpose of this analysis is to determine the degree to which an existing course teaches the same tasks that USAMPS needs to teach and take maximum advantage of work already done.

B. The first action required will be to locate existing courses and obtain sufficient information to make a careful analysis. The second action is the analysis itself.

C. These efforts will concentrate both on the military and civilian community with visits to the locations outlined below being currently planned.

Military: Academy of Health Sciences, Fort Sam Houston, TX.

Civilian: Police Officer Standards and Training Board, Sacramento, California.

Los Angeles Police Department

Los Angeles County Sheriff's Department

San Jose Police Department

D. Output from this block will be:

A summary listing of the courses analyzed and the sources examined to discover the course. Copies of the lesson materials for use in Phase 3, Block III.3. Also included will be the rationale for selection of the course materials.

I-5 - Selection of Instructional Setting.

A. Criteria will be established upon which to base logical decisions on site selection. Priority will be those traditionally established by the ISD model. The criteria and site selection will be approved by the Directorate of Training Developments.

B. Output from this block will be:

Lists os tasks selected for training along with their assignment to appropriate training sites, and documentation and explanation of rationale for choices.

Job Analysis Plan
MOS: 2238
Title: HAWK Battery Repair Technician
Plan Dated 9 Mar 78

INDEX

(NOTE: This job analysis plan complies with TRADOC Circular 351-4, dtd 30 Jan 78)

1. Rationale.

The present course was not developed using the IDS process or the systems analysis process. Development of effective and efficient instruction for MOS 223B requires a job analysis.

2. Objectives.

a. Identify the real-world instructional need and priorities of MOS 223B.

b. Upgrade or revise the course to satisfy the instructional needs and priorities of MOS 223B.

c. Increase the effectiveness and efficiency of the 223B course.

d. Provide data for the future development of a 223B Soldier's Manual (SM) and Skill Qualification Test (SQT).

3. Resources Requirement.

a. Time. See milestone timetable at Incl 1.

b. Personnel.

(1) Qualifications. To the extent possible the members of the analysis team will be subject matter experts and trained in ISD and/or CRI job analysis technologies.

(2) Composition of Analysis Team.

(a) One permanent team chief.

(b) Additional personnel as required by volume of work.

c. Fiscal.

(1)	1.25 (GS-9) MY -	$25,000.00
(2)	Materials	300.00
(3)	Printing	700.00
(4)	Postage/handling	500.00
	Total	$26,500.00

4. Data Requirements and Sources.

	Name	Location	Accessing
a.	TMs	in-house library	sign-out
b.	FMs	in-house library	sign-out
c.	ARs	in-house/on base	sign-out
d.	Circulars	in-house/on base	sign-out
e.	Pamphlets	in-house/on base	sign-out
f.	Program of Instruction	in-house	sign-out
g.	Soldier's Manuals	in-house	sign-out
h.	TOE/TDA	in-house/on base	sign-out
i.	Field feedback reports	in-house/on base	sign-out
j.	Survey of incumbents	in-house/on base	interview
k.	Survey of present and prior commanders of Hawk units	in-house/on base	interview
l.	MWOs and product improvement program	in-house/on base	interview

5. Deliverable Products.

a. Job background information. A tentative job background description is at Incl 3. The tentative description will be modified as necessary based on personal interviews with MOS incumbents.

b. Target population data. A tentative target population description is at Incl 4. The tentative description will be modified as necessary based on personal interviews with incoming students.

c. A tasks inventory.

d. A validated critical task list. The critical tasks will be determined by applying the five criteria below:

(1) Task learning difficulty.

(2) Frequency of task.

(3) Task delay tolerance.

(4) Probable consequences of inadequate performance.

(5) Percent performing.

e. A validated JPM for each critical task.

6. Key Decision Points.

The key decision points, in-process coordination and milestones timetable are at Incl 1.

JOB ANALYSIS MOS 223B
KEY DECISION POINTS, COORDINATION
AND MILESTONES TIMETABLE

Participants Involvement Codes:
X - Action
I - Input
R - Review
A - Approve

	Events	Process Participants: Analysis Team	Chief Analysis Branch	Chief ITAD	Chief Design Branch	DSM Rep	DOE Rep	Director DTD	Sch Comdt	Estimated Completion Date
001	Make Plan	X	R/I	R/I						10 Mar 78
002	Plan approved		A	A						20 Mar 78
003	Analyze present course, review literature	X	X/I		I					15 Mar 78
004	Draft initial task list	X	R/I							30 Mar 78
005	Authenticate module A	X	R/A	A	R/I	R/I	R/I			30 Apr 78
006	Authenticate module B	X	R/A	A	R/I	R/I	R/I			30 Aug 78
007	Verify module A	X	R/A	A	R/I	R/I	R/I			30 May 78
008	Verify module B	X	R/A	A	R/I	R/I	R/I			30 Sep 78
009	Develop validation questionnaire, module A	X	R/A	A	R/I	R/I	R/I	A	A	30 Jun 78
010	Develop validation questionnaire, module B	X	R/A	A	R/I	R/I	R/I	A	A	30 Nov 78
011	Questionnaire to incumbents, module A	X	A							20 Jul 78
012	Questionnaire to incumbents, module B	X	A							20 Dec 78
013	Questionnaires returned to DTD - module A	X								01 Oct 78
014	Questionnaires returned to DTD - module B	X								01 Mar 79
015	Tasks selected for training - module A	X	R/A	A	R/I	R/I	R/I	A	A	01 Nov 78
016	Task selected for training - module B	X	R/A	A	R/I	R/I	R/I	A	A	01 Apr 79
017	JPMs constructed - module A	X	R/A	A	R/I		R/I			10 Jan 79
018	JPMs constructed - module B	X	R/A	A	R/I		R/I			10 Jun 79
019	JPMs validated - module A	X	R/A				R/I			10 Apr 79
020	JPMs validated - module B	X	R/A				R/I			10 Sep 79
021	Consolidated task inventory complete	X	R/A							20 Sep 79
022	Consolidated critical task list complete	X	R/A							30 Sep 79
023	Job background description	X	R/A	A			R/I			30 Oct 78
024	Target population description	X	R/A	A			R/I			30 Oct 78
025	Documentation completed	X	R/A	A						30 Oct 79
026	Lessons learned completed	X	R/A	A			R/I			30 Oct 79

Phase 1 of Data Collection Plan.

Compile a task inventory (minus cues, conditions and standards). The task inventory will be made by analyzing the existing course, reviewing existing literature and using the judgement of in-house subject matter experts.

The task inventory and the task selection criteria (see para 5d) will be prepared in questionnaire format on FB Form 11595, Matrix Task Inventory.

NOTE: A cursory task inventory indicates a task count of approximately 2000 tasks for MOS 223B. Due to the large number of tasks, the task inventory will be divided into two modules. The duty areas encompassed in each module are shown below.

Module A

A1. Supervision, management, and training.

A2. Firing section equipment (44C MOS area).

A3. Tactical operations.

A4. Power generating equipment.

A5. ICETS.

Module B

B1. Fire control equipment (24E MOS area).

B2. ICC/IPC (24G MOS area).

The division of the task inventory into two modules is necessary to prevent overloading the respondents. Overloading would decrease the quality and number of responses. Module A data will be collected first then Module B. The return data collected from module A will undergo processing

at the same time module B data is being collected. Estimated completion dates and data collection key events are shown at inclosure 2.

Phase 2 of Data Collection Plan.

Authenticate the task inventory. A minimum of eight incumbents and two I-Hawk battery commanders or former commanders stationed at Ft Bliss will be interviewed using the one-on-one technique. The purpose of the interviews are to collect data concerning the readability, sequencing, completeness, applicability, accuracy, succinctness and etc. of the task statements and questionnaire.

Phase 3 of Data Collection Plan.

Based upon data collected during interviews revise the task statements and questionnaire.

Phase 4 of Data Collection Plan.

Authenticate the task list and questionnaire using a jury of experts. A jury of at least eight members selected on the basis of experience, background and knowledge will form the jury. The jurymen will come from personnel assigned to ft Bliss. The jury will be asked to make judgements concerning the readability, sequencing, completeness, applicability, accuracy, succinctness, and overall quality of the task statements and questionnaire.

Phase 5 of Data Collection Plan.

Based upon the judgements rendered by the jury, revise the task statements and questionnaire.

Phase 6 of the Data Collection Plan.

Submit the questionnaire to incumbents for validation. In commands with a high incumbent population, the questionnaire will be packaged and mailed to

major AD commander for distribution to incumbents. In commands with a low incumbent population, the questionnaire will be mailed directly.

The MOS population is less than 1000 and a 100 percent survey will be made. A letter explaining the purpose of the survey and soliciting cooperation will be prepared for the commandant's or assistant commandant's signature. The letter will precede or accompany the questionnaires.

Phase 7 of the Data Collection Plan.

Assemble and tabulate collected data.

JOB BACKGROUND

MOS 223B

I-HAWK MAINTENANCE SUPERVISOR

1. Grade Authorization: Warrant officer W1 through W4.

2. Total MOS Population: 250.

3. Possible Utilization (Assignment).

   a. Towed I-HAWK battery

   b. TRIAD I-HAWK battery

   c. Towed I-HAWK battalion headquarters

   d. TRIAD I-HAWK battalion headquarters

   e. AD Group headquarters

   f. AD Brigade headquarters

   g. AD Command headquarters

   h. Senior instructor USAADS

   j. Branch or section chief within USAADS and USAADCEN staff

   k. Member of Military Advisory and Assistance Group (MAAG)

   l. Member of Tactical Assistance Field Team (TAFT)

   m. Staff member of Major Army Commands (MACOM)

4. Geographic Areas of Assignment.

The geographic areas of assignment are subject to change, based on needs of the service. The CONUS population is concentrated at Fort Bliss, Texas and Homestead, and Key West, Florida. The overseas population is concentrated in Germany and Korea. The majority of the MAAG and TAFT assignments are in Mideastern countries.

5. Equipment Configurations.

There are two primary equipment configurations: The towed battery and the TRIAD battery. The job is essentially the same in both configuration and no special training is required. However, items of I-HAWK equipment can be expected to undergo improvement (modification) requiring additional training for the 223B.

6. Informal Assignment Policy.

MTOE's and TDA's and other documentation authorizing 223B warrant officers do not stipulate rank, only warrant officer, MOS 2233. Normally the senior, more experienced warrant officer (W4-W3) are assigned to AD headquarters, MAAG, TAFT and MACOM staffs. Less experienced warrant officers (W2-W1) are normally assigned to a battery to gain experience.

7. Authorized Versus Assigned 223B Slots.

Each I-HAWK equipped battery is authorized two 223Bs. Shortages frequently occur resulting in only one 223B being assigned to an I-HAWK equipped battery.

8. Special Technical and Training Assistance.

In fielded I-HAWK units in addition to the normal support arrangements (senior warrant at the headquarters, direct and general support units, etc.) special technical and training support may be available. MICOM and other MACOMs frequently assign civilian maintenance technicians (for example MCTs) to provide technical and training support to I-HAWK units.

9. The 223B job consists of the following duties:

a. Organize, manage, evaluate and directly supervise organizational maintenance of the I-HAWK missile system and related support equipment.

b. Provide assistance in establishing training programs for I-HAWK mechanics and crewmen.

c. Supervise the missile system primary load list (PLL) and missile system technical supply activity.

d. Advice the commander on all technical considerations affecting employment of the I-HAWK system.

10. Synopsis.

The I-HAWK battery normally operates from an assigned permanant tactical site within the defense. The site may be considerable distance from higher headquarters and the maintenance and logistics support units. The I-HAWK battery operates ~~in~~ an assigned and scheduled state of alert (15 minutes 30 minutes etc.). The battery participates in frequent air defense and mobility exercises. Higher headquarters conduct frequent unannounced operational readiness evaluations (OREs), maintenance effectiveness evaluations, tactical effectiveness evaluation (TEE) and other evaluations to assess the battery's readiness status. Annually each battery participates in an evaluated (scored) annual service practice (ASP) missile firing. ASP is a major training event. The results achieved during ORES, TEEs and ASP are generally considered as prime indicators as to the condition of the battery.

74D/74F/74Z Job and Task Analysis Plan

I. Rationale:

a. In late 1977 and early 1978 SQT's for MOS's 74D (Computer Operator) and 74F (Programer/Analyst) were administered throughout the Army. The SQT's have now been declared "for training only" because the test pass-fail statistics are alarming and because the 74D/F incumbents and their supervisors are complaining loudly. The FEA for 74D/F conducted in early 1975 focused on the IBM 360/30 (division computer system) because both the TRADOC and CSC, Ft Belvoir advised ADMINCEN that by 1979 85% of the Army's ADP would be oriented to IBM 360/30. What in fact has turned out to be reality is that in 1978 less than 30% of the Army's ADP equipment is IBM 360/30. It is now anticipated that by 1982 the "mini" will have supplanted all but a few of the bigger computers. It must be recognized that ADP equipment changes at a phenomenally high rate. The "old" FEA was equipment specific; therefore, the SQT was equipment specific. Knowing now that (as of Dec 1978) there are 123 different computer systems used by the Army, can the Army test 74D/F under conventional SQT format? Effort must be undertaken to find a way to analyze tasks generically and to test 74D/F totally PCC.

b. Under EPMS, 74D and F have four skill levels. 74Z (ADP Senior Sergeant) has only SL5. At SL5 the 74D and 74F must become 74Z's. 74D is hardware; 74F is software. With the constantly changing, always confusing "state of the art" in ADP, it may be unrealistic for the Army to expect a 74Z from the 74D MOS to know how to perform 74F tasks. Further study and analysis are needed; a way must be found to ease the burden in 74Z's.

II. Objectives.

a. Identify and write 74D/F generic tasks so that 74D/F tasks will not be language or equipment specific. (Power-up the computer as opposed to power-up the IBM 360/30, power-up the Honeywell 8000; solve the problem as opposed to write a COBAL program to be run on IBM 360/30.)

b. Write a recommendation to MILPERCEN showing how to solve the problem caused 1) when a hardware-oriented 74D40 becomes a 74Z50 facing hardware-software supervisory tasks or 2) when a software oriented 74F40 becomes a 74Z50 facing software-hardware supervisory tasks.

III. Resource Requirements:
a. Time - 30 months

CY 1979 | CY 1980 | CY 1981

J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S

Assemble a list of places from which persons will be invited to ADMINCEN from the field - places where 74D/F/Z's work in different "environments"

Identify data sources

Collect data from sources and field visits

Study Data

Prepare "gross" task lists

Refine lists

Line up specific persons to come in on a consensus effort

Consensus group studies and establishes list

Analysis of tasks

Consensus Group

CODAP

Select critical tasks

Wrap up all deliverables
a. Job Background Data
b. Target Population
c. UPM's

Send out & await feedback from task summaries

Revise as needed

Prepare proposal for MILPERCEN SQT administered to field one year later 1982 to 74D/F up to SL4

IV. Data Requirements and Sources

(1) Current 74F, D, Z task lists.

(2) 1976 SM for 74D, F, Z (gives task summaries)

(3) Most recent CODAP survey

(4) References outlined in 1976 74D, F Commander's Manual

(5) References from App A 1976 74Z Commander's Manual

(6) Item analyses from 1977-78 administration of 74D, F SQT

(7) DOE reports of 1977 visits, investigations

(8) Files collected as feedback. (questionnaires from 1976 SM and other feedback) from CMF 74

(9) Existing JPM's, TLO's, TSA's prepared in the 1976-76 FEA of 74D/F/Z

(10) SME's

(11) Direction from CDR, COMDT, DTD

(12) Guidance from CSC - Computer Systems Command at Ft Belvoir and CSC Ft Lee

(13) EPMS master plan

(14) Technical representation from selected manufacturers

V. Deliverables.

a. Job background data.

(1) Who performs

(2) At wnat SL are the tasks performed

(3) What levels of supervision are needed, desirable

(4) Authorized slots for 74D, F, Z

(5) Current strengths for 74D, F, Z

(6) Identification of all ADP equipment used by Army

b. Personnel.

(1) Background

(a) SME's - 74D, 74F, 74Z (w/hardware background)

(b) Ed Spec - 2 years experience in analysis

(c) Mil Supervisor of effort (officer 04 w/ADP background)

(d) ADMIN type 71L to handle logistics.

(2) Number required.

(a) 2 74D30 (E-6) for 30 months

1 74D40 (E-7) for 30 months

2 74F30 (E-6) for 30 months

1 74F40 (E-7) for 30 months

2 74Z50 (E-8)

(b) 2 GS 11 Ed Spec 2 years experience in analysis for 30 months

(c) 1 Officer (04) for 30 months.

(d) 1 71L20/30 for 30 months

Rationale for personnel: This undertaking is so vast, we are asking for 2 GS 11's and for 3 SME's for 74D, F and 2 SME's for 74Z.

c. Money.

(1) Travel

Estimated: XXX (arrived at w/budget analyst)

Est Grade	Estimated Travel	Aprox Time	Est Days	Est Cost
E6/E7	FBH to *fld (800 miles)	May-Jun 79	4	XXX
E6/E7	FBH to *field (800 miles)	May-Jun 79	4	XXX
E8	FBH to *field (800 miles)	May-Jun 79	4	XXX
GS11	FBH to *field (800 miles)	May-Jun 79	4	XXX
GS11	FBH to *field (800 miles)	May-Jun 79	4	XXX
GS11	FBH to *field (800 miles)	May-Jun 79	4	XXX
*CONUS				
E6/E7	FBH to Europe	May-Jun 79	8	XXX
E6/E7	FBH to Europe	May-Jun 79	8	XXX
E8	FBH to Europe	May-Jun 79	8	XXX
1 GS11	FBH to Europe	May-Jun 79	8	XXX
1 GS11	FBH to Europe	May-Jun 79	8	XXX
1 GS11	FBH Europe	May-Jun 79	8	XXX
2 E7	from CONUS units to FBH (800 miles)	Apr 80	30	XXX
2 E7	from CONUS units to FBH (800 miles)	Apr 80	30	XXX
2 E7	from CONUS units to FBH (800 miles)	Apr 80	30	XXX
2 E8	from Europe to FBH	Apr 80	30	XXX
1 E7	from Europe to FBH	Apr 80	30	XXX
1 E7	from Europe to FBH	Apr 80	30	XXX
1 E8	from Europe to FBH	Apr 80	30	XXX
2 E7	from field to FBH	Nov 80	30	XXX
2 E7	from field to FBH	Nov 80	30	XXX
2 E8	from field to FBH	Nov 80	30	XXX
1 E7	from CONUS to FBH	Nov 80	30	XXX
1 E7	from CONUS to FBH	Nov 80	30	XXX
1 E8	from CONUS to FBH	Nov 80	30	XXX

(2) Printing Money.

- 50,000 print units in FY 79
- 50,000 print units in CY 80
- 50,000 print units in CY 80

(7) CODAP report - estimate time - March 1981

(8) CSC long-range projections - "best guess" on takeover by minis

(9) Consensus group judgements about 74D, F, Z

(10) Recommendations for job descriptions, AR 611-201

(11) Any input other than above required by MILPERCEN

b. Target population data

(1) Entry skill level requirements

(2) RGE for 74D, F, Z

(3) Mental requirements

(4) Physical requirements

(5) Military experience

(6) Interests in life

(7) Any input other than above required by MILPERCEN.

c. Task inventory.

- Comprehensive task inventory for 74D, F, Z

d. Critical task lists

- Lists (for 74D, F, Z) of tasks selected as critical

e. A recommendation to send to MILPERCEN to restructure MOSC 74Z5.

f. A task analysis (numbered tasks, conditions, standards, performance measures, references (working and study) for each task selected for training for 74D, F, Z.

g. A JPM for each task selected for 74D, F, Z.

VI. Milestones

See the chart prepared at III a (Resource Requirements - Time). The milestone chart identifies the starting points and ending points of the major events.

III. Resource Requirements:
a. Time - 30 months

CY 1979 F M A M J J A S O N D | CY 1980 J F M A M J J A S O N D | CY 1981 J F M A M J J A S

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