

ADDENDUM D
OVERVIEW LESSON PLAN

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Table-Top Training Design

INSTRUCTOR PREPARATION PAGE

Overview of Table-Top Training Design

COURSE TITLE: Table-Top Training Design (5480.20A Training Series)

LESSON TITLE: Overview of Table-Top Training Design

TIME REQUIRED: 1.75 hours

- REFERENCES:**
1. Table-Top Job Analysis Seminar of the DOE 5480.20A Training Seminar Series, DOE Training Coordination and Assistance Program, DOE/ID-10435, June 1993.
 2. DOE-STD-1074-95, "Alternative Systematic Approaches to Training."
 3. DOE Order 5480.20A, "Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities."
 4. DOE Order 5480.18B, "Nuclear Facility Training Accreditation Program."

OBJECTIVES: **Terminal:** Given a list of tasks selected for training, DESIGN a training program structure and ANALYZE the tasks in accordance with the stated criteria.

Enabling:

- OVERVIEW.1 - Describe how analysis and design products are used in each SAT phase.
- OVERVIEW.2 - State and briefly describe each step of Table-Top Training Design.
- OVERVIEW.3 - Explain the concepts of entry-level requirements, initial training, and continuing training, and cite examples of the content of each.
- OVERVIEW.4 - Describe the process for determining the content of the training program.

INSTRUCTIONAL AIDS:

Overview-P-1,	Terminal Objective
Overview-P-2,	Overview
Overview-O-1,	Enabling Objectives
Overview-O-2,	Methods

INSTRUCTOR PREPARATION PAGE

Overview-O-3,
Overview-O-4,

Traditional Task Analysis
Identify Additional Content

3 3"x5" Post-it note pads; stapler with staples; overhead projector and screen; transparency pens; 2 flipcharts with pads; 1 set flipchart markers; 1 set felt-tipped markers.

**PARTICIPANT
PREPARATION:**

None required.

**PRESENTATION
METHOD:**

Facilitation, group discussion, and exercises.

**EVALUATION
METHOD:**

Participation in class discussion, completion of exercises, participation during TTTD workshop.

**NOTES TO
INSTRUCTOR:**

Following an overview of SAT, this lesson introduces participants to the terms, processes, and products of this task analysis and design process. The intent is to provide them with enough information to function well during the TTTD workshop, during which they must design the training program structure and analyze the tasks selected for training.

The facilitator should prepare for this lesson by first obtaining examples of existing analyses from similar facilities, facility procedures or references, a job description, and other available information about the job that will be analyzed for the process. The facilitator should review these materials to develop examples that can be used throughout the lesson.

The team members and any observers who are learning the analysis and design processes should all participate as trainees during this lesson.

Table-Top Training Design

INSTRUCTOR PREPARATION PAGE

Overview of Table-Top Training Design

POST TTTD Overview-P-1, Terminal Objective, on a wall other than the TTTD wall and leave displayed throughout the lesson.

POST TTTD Introduction-P-2, Overview, on the same wall as Overview-P-1 and leave displayed throughout the lesson.

The whiteboard must be clean and large enough for the training structure for initial training and continuing training to be drawn.

Make sure whiteboard markers and an eraser are easily accessible.

Have transparencies ready.

INSTRUCTOR PAGE

I. INTRODUCTION

A. Preliminaries

1. Instructor's Name
2. Participant Materials
3. Participant Comfort

ENSURE name is visible

ELIMINATE distractions

B. Motivator

1. In this process we want to help you build the structure and content of a training program that you will be proud to call your own.
2. The obvious "goals" for your training program might be:
 - a. To teach job incumbents the knowledge and skills required for competent job performance.
 - b. To design the most efficient training program possible.
 - c. To build the most effective training program possible.
3. However, the training program should also help resolve any human performance problems toward which you may have noticed a trend.

WRITE these goals on a flipchart in advance and REFER to them now

INSTRUCTOR PAGE

A human performance problem is the difference between desired performance and actual performance. Training can help resolve those human performance problems that are a result of true knowledge or skill deficiencies (could the person do the task correctly if his/her life depended on it).

- a. Think about things that, if the people in this job position knew, could help people do their job even better, resulting in less:
 - time spent doing a task
 - re-work
 - difficulty for other job incumbents to do their jobs efficiently
 - occurrences
 - etc.
- b. These could be your specific goals for the training program:

Examples:

- Higher productivity

HAVE participants
BRAINSTORM these items
for a minute.
WRITE their responses on
a clean flipchart page.

INSTRUCTOR PAGE

- Better quality product, process, or service
- Fewer mistakes

4. In this process you will build your training program structure and content that will meet these goals. In essence, your contributions this week will help each person be a better, safer worker. That's a training program we hope you will be proud to call your own.

5. In this lesson we will give you an overview of the processes you will be accomplishing in this workshop, and some practice trying them prior to applying them to your own job position.

This will help you successfully contribute ideas during this process and keep us from making some time-consuming mistakes that commonly occur.

C. Lesson Title and Terminal Objective

D. Enabling Objectives

WRITE on the "goals" flipchart page a few goal statements, as related to the ideas they just brainstormed.

REFER to TTTD Overview-P-1, Terminal Objective.

SHOW: TTTD Overview-O-1, Enabling Objectives.

INSTRUCTOR PAGE

E. Overview

REFER participants to
Workbook page 3.

REFER to TTTD
Introduction-P-2, Seminar
Steps.

(10 min into lesson)

II. SYSTEMATIC APPROACH TO TRAINING

A. Overview of SAT

ASK: What are the steps
of SAT? (Write 5 phases
on flipchart)

1. SAT consists of Analysis, Design, Development, Implementation, and Evaluation.
 - a. This process (as the title implies) covers the Design phase of SAT.
 - b. You will get the opportunity to design your own training program, and determine the content that will be taught and how it is taught.

Transition: The success and effectiveness of the entire SAT training program hinges on the quality of the analysis data and the care with which you design your training program.

REFER to TTTD
Overview-P-2, Overview.

INSTRUCTOR PAGE

That is why you have been asked to participate in this process--to ensure that we build a training program structure meeting *your* needs and teaching accurate, complete information based on the valid task list.

III. TABLE-TOP TRAINING DESIGN

There are 8 steps in the TTTD process.

A. STEP 1: **Orient the Team**

1. This is what we are doing right now.
2. The purpose of this step is to get everyone to speak the same language. We all should understand our roles and our contribution to this process.

B. STEP 2: **Design the Training Program Structure**

1. Purpose

In order to know how best to teach people the tasks identified in job analysis, you must understand what a complete training program looks like.

REFER participants to
Workbook page 6.

INSTRUCTOR PAGE

We will use a flow chart method to help stimulate your thoughts and help you design the most efficient, effective training program that teaches workers the knowledge and skills required for competent job performance.

- a. By efficient, we mean there is no unnecessary repetition of training content as a person progresses through the training program--people should not have to complete more hours of training than is necessary.

- b. By effective, we mean:
 - 1) Teaching people "need-to-know" information in the training settings that will best suit the learning that must occur.

ASK: What do you think is meant by an "efficient" training program?

ASK: What do you think is meant by an "effective" training program?

I NSTRUCTOR PAGE

- 2) As a trainee progresses through the training program, building the trainees' knowledge to higher cognitive levels, as appropriate, so they can safely perform their tasks even in unusual or emergency situations.
- 3) Testing people using methods that will best evaluate their safe, competent job performance.

During this step we will begin building the training "flowchart," which will serve as the visual example and your "thinking board."

As we progress through the remaining steps in this process, we will modify this flowchart appropriately.

SHOW various examples of training structures developed as a result of this process.

(25/15 min into lesson)

Spend little time on this topic.

ASK: What do you think is meant by the term "entry-level requirements"?

INSTRUCTOR PAGE

2. Entry-Level Requirements

- a. "Entry-level requirements" means the training or other requirements the job incumbent must possess or have completed prior to entering the job-specific training program (where the tasks selected for training during job analysis will be taught).

The reason we think about entry-level requirements is to design the most efficient training program.

If we establish what the person has already been trained in, we can eliminate any duplicate training from the rest of the program.

- b. Selection requirements

DOE 5480.20A specifies the selection requirements for operating organization positions. For positions not addressed by DOE 5480.20A, the selection requirements for these positions need to be identified.

ASK: How can this contribute to the efficiency of the program?

CAUTION is required here due to possible legal problems.

INSTRUCTOR PAGE

Examples:

- Education (H.S. Diploma or GED)
- Experience (2 yrs operations experience, 1 of which is nuclear)
- Medical exam for color blindness, weight-lifting

c. Entry-level knowledge and skills

There may also be some knowledge and skills that you would expect a new person being hired for the job position to already possess (and not need to be trained in).

Examples:

- 10th grade reading level
- Basic math skills (addition, subtraction, multiplication, division to the 4th decimal place)

STRESS We must be careful to avoid "making up" selection requirements. These have to be based on the valid needs of the job, since they will probably be used as hiring criteria.

ASK: For one possible selection requirement and write on FLIP CHART under heading of "Entry-level"

INSTRUCTOR PAGE

Again, these entry-level knowledge and skills must be job-related. Your personnel department may already check for some of them via selection testing.

d. Entry-level training

Once hired, there will be some required entry-level training that people must successfully complete prior to entering the job-specific training program.

Examples:

- General Employee Training
- Radiation Worker Training
- Site Core Fundamentals
- Facility Employee Training

OBTAIN a possible example from the trainees and enter on the FLIPCHART under the Entry-level heading.

WRITE on FLIPCHART in the Entry-level area GET and ASK if this is a safe bet.

(30/20 min into lesson)

INSTRUCTOR PAGE

3. Initial Training

- a. Initial training is the job-specific training that new job incumbents receive.

Initial training will take place in various training settings, such as:

- Classroom
- On-the-Job Training (OJT)
- Self-study (in the form of instruction/reading booklets, kits that can be assembled/disassembled, computer-based training, etc.)
- Laboratory (not just chemical laboratories)

By designing a training structure, we mean identifying the sequence of training sessions (including the settings) and testing through which incumbents will progress during initial training.

REFER participants to Workbook page 7.

ASK: What do you think is meant by "initial" training?

ASK: What training settings do you have available here?

INSTRUCTOR PAGE

Discussion Points

Instructor / Trainee Activity

Later, we will begin identifying the content for each training and testing session.

b. Fundamentals training

Usually there is a "Fundamental" (or core) of courses involved in initial training.

Examples:

- Chemistry
- Physics
- Electricity
- Systems overviews

1) These fundamentals are often taught as classroom or self-study. It would not benefit anybody if there were only one person going through fundamentals every year and if all training were classroom lessons.

2) The subjects taught in fundamentals can be derived from many sources.

- Currently existing courses at your facility

(35/25 min into lesson)

WRITE an example of fundamentals training on the Flowpath flipchart

INSTRUCTOR PAGE

- DOE Standards and training documents
- GOCO Guidelines (i.e., Chem Tech Manuals)
- Brainstorming

c. Initial training models

After fundamentals there will be **other** initial training in which new job incumbents learn:

- the train tasks
- the overtrain tasks
- any team/communications training applicable to the job position

We can design the structure of initial training in any way that makes sense for the job.

Example Training Structure 1:

Maybe there will be several "qualification areas" that involve a combination of:

- classroom sessions and associated written tests, and

REFER participants to Example 1 on Workbook page 7.

INSTRUCTOR PAGE

- OJT sessions and associated performance tests followed by a comprehensive exam that "qualifies" the person to perform tasks in that qualification area.

Example Training Structure 2:

Or perhaps there will be a series of "pre-OJT" training sessions in the classroom, laboratory, or self-study settings, followed by OJT and then in-plant performance tests.

After all initial training is complete, if the job position involves significant hazards, you may want to have overall "job-qualification" exams [written exam, operational evaluation, and/or oral exam (oral walkthrough or oral board)].

REFER participants to Example 2 on Workbook page 8.

INSTRUCTOR PAGE

- d. Remember that the training program is **YOURS** and should be designed to fit your needs.

Take into account the tasks themselves. What tasks can or should be taught together (efficiency and effectiveness)?

- e. You now have an example of a mini training program. Entry-level selection criteria, knowledge, and skills; fundamentals training; and OJT job-specific training to qualify you for your job. There is one piece missing though.

4. Continuing Training

- a. Continuing training is meant to maintain and build on the knowledge and skills learned in initial training and from ongoing operating experience.

ASK: What tasks could be taught together? (Pull **two** tasks off the wall and move them to the front of the room.) MAKE UP a name for this "OJT Course" and place on the Flowpath flipchart.

(45/35 min into lesson)

ASK: What do you think is meant by "continuing" training?

INSTRUCTOR PAGE

The continuing training program encompasses a variety of types of training, all conducted at different intervals. DOE 5480.20A requires applicable job incumbents to complete all continuing training in 2-year cycles.

b. Annual training

Some training may need to take place more frequently than every 2 years.

1). Drills

For example, you might want to have "drills" every 6 months or every year on abnormal procedures and emergency response. The need for drills would usually be based on the "vital" tasks. There may be no need for drills at all.

2). Regulatory requirements

Other annual training would be the regulatory-required training such as OSHA training and safety training.

REFER participants to Workbook page 9.

(60/50 min into lesson)

I NSTRUCTOR PAGE

c. Biennial training

As per DOE 5480.20A and the facility procedures, job incumbents have to "re-qualify" at least every two years by maintaining satisfactory job performance and completing continuing training.

The content of the biennial "re-qualification" training would usually be on overtrain tasks and other items required via regulatory requirements. Again, there may be an overall job-qualification exam every 2 years at the end of all continuing training.

d. As-needed training

The "as-needed" continuing training that would take place within the 2-year time-frame would be in:

- 1). Pre-train tasks, which would be taught in formal training sessions.
- 2). Information gathered through program evaluation activities would also be conveyed, such as:
 - lessons learned
 - plant modifications

INSTRUCTOR PAGE

- new/revised procedures, etc.

For most job positions, this information would typically be communicated to qualified job incumbents in a variety of ways:

- shift briefings
- required reading
- classroom/OJT/lab training, etc.

Depending on the hazards involved in the facility and job position, the shift briefings and required reading may need to be documented through testing.

- 3). This "as-needed" training block is not something we can plan at this point in this process.

MAJOR TRANSITION

Once we have established the training program structure, we are ready for Step 3 of the TTTD process.

(1 hr 5 min/55 min into lesson)

INSTRUCTOR PAGE

C. Step 3: **Place The Tasks In The Training Program Structure**

1. Purpose

- a. The purpose of this section is to assign each task to one of the major training blocks in the training program structure.
- b. There are a few factors that can influence where you might want to place a task.
- c. Ask yourself the following questions:
 - Where does it make the most sense to teach this task?
 - Under which topic will the information associated with completing this task be taught?
- d. Sometimes an entire duty area with all of its tasks will be placed under a particular topic. At other times the tasks under one duty area will be split up and placed under different topics.

Remove some possible common tasks from the wall and place under a topic and ASK: These tasks look like they could be taught together under this topic. Would these tasks be taught together and is this the best place for it?

INSTRUCTOR PAGE

- e. Reconstruct the flow chart showing the revised path in which a job incumbent would proceed during the initial training and/or program. Be sure to include:
 - the topics of training sessions
 - the settings in which they take place
 - any types of re-qualification testing (e.g., written, performance, etc.) associated with the training.

Transition: As you will notice, Steps 2 and 3 are often performed or at least thought about together. At this point you have designed the structure of your training program and decided where the tasks will be taught. We now go on to the next step in the process.

D. Step 4: **Prioritize Courses for Development Efforts**

1. This step gives you the opportunity to review the program structure and determine which courses should be developed first.
2. This is important information the developer needs in order to assign priorities.

INSTRUCTOR PAGE

3. This is also an opportunity for a management viewpoint on where development efforts should concentrate.

ASK: What might be a management priority and is it also the workers' priority for development? (Identify their response on the Flipchart)

(1 hr 10 min/60 min into lesson)

E. Step 5: **Determine Course Content**

1. This step determines what a new employee should be taught to enable them to become a safe, efficient worker.
2. There are several methods for determining the content of a topic area. These methods include document analysis, brain storming, NGT/CDM, and traditional task analysis.
3. Combinations of the above methods may be necessary depending upon the situation. We encourage you to determine the most appropriate method.

SHOW: TTTD Overview-O-2, Methods.

INSTRUCTOR PAGE

4. If you are aware of or discover another method that would be beneficial to the situation, we encourage you to employ it. The goal is to use methods that will most efficiently and effectively accomplish the goal of analyzing the content of the chosen topic.
5. Traditional task analysis
 - a. This method is probably the most common method used, but it is also the most involved.
 - b. Task analysis consists of:
 - Looking at each task individually,
 - Breaking each task down into its basic elements, and
 - Identifying the root knowledge and skills for each element of that task.

SHOW: TTTD Overview-O-3, Traditional Task Analysis.

POINT OUT a Task removed from the wall earlier.

IDENTIFY some elements that could be part of this task and FLIPCHART.

For an element, IDENTIFY some knowledge and skills and FLIPCHART.

POINT OUT that this could be good information for creating a procedure or necessary for a high hazard task.

INSTRUCTOR PAGE

- c. This method can be used where there is no procedures and one must be developed or when the hazards are extremely high.
 - d. The results are very detailed and usually are at the most basic level.
 - e. Very few tasks require this level of rigor to determine the content necessary for the training program.
6. Document analysis
- a. This is an effective method if good procedures and documents already exist.
 - b. It consists of looking at the documents that are relevant to the training session and determining what the worker would need to be taught, in addition to using the procedure, in order to perform the tasks safely and efficiently.
 - c. Questions you can ask yourself are:
 - What do you wish you had been taught prior to performing the task?

ASK: Do you want to use this method?

Using the same task identified above, COMBINE the grouped tasks and walk through an example of document analysis and FLIPCHART the results.

INSTRUCTOR PAGE

- What is missing from the procedure that is required to perform the task?
- What information in the procedure is not clear and requires training?

ASK: Might you want to use this method?

7. Brainstorming and NGT/CDM

- a. These methods use a group, such as yourselves, to conduct content analysis.
- b. They can be used in conjunction with the above methods or alone.
- c. Which of these methods should be used depends on which can achieve the desired information more efficiently.
- d. Given the training course, brainstorm the content required for the course.
- e. The participants' expertise is vital to achieving the desired results.

8. Template Method

- a. This method can be used when the same content applies across several topic areas.

INSTRUCTOR PAGE

- b. For instance, an individual who works on several different systems or uses several different instruments will need to know the same information about each system or instrument.
 - c. Rather than take each and every system or instrument and analyze each one for its content, develop a template that applies to all of them.
 - d. All that needs to be filled in is the name of the system. The content applies no matter what system name is inserted in the blanks.
9. Once the content is identified, you should evaluate your work to determine whether the content identified is correct for an effective training program.

F. Step 6: **Identify Additional Content**

1. This step ensures that you have not forgotten any content mandated for inclusion in the program by various requirements.

STATE that other content could possibly be included in the training program due to recent industry events.

INSTRUCTOR PAGE

2. Information to consider include accidents or incidents that occurred, why they occurred, what could have been done to prevent them, lessons learned from industry, etc.
3. Using brainstorming or NGT/CDM, identify the regulatory requirements and, as possible, industry and facility events that impact the job position being analyzed.

G. Step 7: **Identify Applicable Existing Training**

1. This step spends some time identifying possible sources of existing training material.
2. In this day and age of cost savings, we are not immune. If a course exists and is adequate, why reinvent the course?
3. If a course exists and is adequate with some modification, we would still save time and money.
4. Sources for existing materials include your own facility, any other DOE facility, Guides to Good Practices, and GOCO Manuals.

SHOW: TTTD Overview-O-4, Identify Additional Content.

Using the same tasks as above, ASK: What might be some regulatory required training for your job and these tasks?
(FLIPCHART the result)
(1hr 30min into lesson)

INSTRUCTOR PAGE

H. Step 8: **Write the Learning Objectives**

1. In this step you use the content for the training program to write learning objectives.
2. Depending on the circumstances of this process, a lesson will be taught on how to write learning objectives.

NOTE: The lesson on writing learning objectives is taught later in this process if necessary. Do not spend any time here.

IV. **SUMMARY AND REVIEW**

- A. By the end of this process you will have designed your training program, determined what will be taught in your courses, in what settings the material will be taught, and will have written learning objectives for the courses.
- B. This is exactly what a developer needs to write test items/performance measures, develop OJT materials, and develop the remainder of the training program.

INSTRUCTOR PAGE

Discussion Points

Instructor / Trainee Activity

C. Your job is not done, however. Because it is your program, you must be available to the developer to answer questions and to review and pilot the materials.

ASK: What are the end products of Table-Top Training Design?

D. Review Enabling Objectives

1. Table-Top Training Design is one method used to design a training program.

ASK: What are some methods for determining content?

2. There are several methods to determine the content of your training program.

E. Terminal Objective

REFER to TTTD
OVERVIEW-P-1, Terminal
Objective
(1 hr 45 min)

Overview of Training Design

Terminal Objective

Given a list of tasks selected for training, DESIGN a training program structure and ANALYZE some of the tasks in accordance with the stated criteria.

POSTERS AND OVERHEADS

Enabling Objectives

- Describe how analysis and design products are used in each PBT phase
- State and briefly describe each step of the Table-Top Training Design Seminar
- Explain the concepts of entry level requirements, initial training, and continuing training, and cite examples of the content of each
- Describe the methods for determining the content of the training program

TTTD OVERVIEW-O-1

Determine Course Content

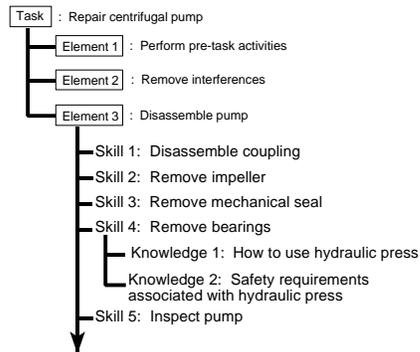
Methods

- Traditional Task Analysis
- Document Analysis
- Brainstorming
- Nominal Group Technique - Consensus Decision Making
- Template Method

TTTD OVERVIEW-O-2

POSTERS AND OVERHEADS

Determine Course Content Traditional Task Analysis



TTTD OVERVIEW-O-3

Identify Additional Content

**Regulatory
Requirements**

**DOE
Orders**

ORPS

**Safety
Analysis
Reports**

**Recent
Facility
Events**

**Facility
Required
Training**

TTTD OVERVIEW-O-4