



# OSH Training Development

This course is vital for anyone responsible for developing successful safety training courses. This course helps safety professionals gain the knowledge and skills necessary to develop and implement effective safety training that meets OSHA safety and health program requirements and ANSI/ASSE Z490.1-2009, Criteria for Accepted Practices in Safety, Health, and Environmental Training guidelines. You will learn if specific safety issues can be solved by training, how to identify training needs, the process of developing goals and objectives, how to create memorable learning activities, and the importance of documenting the training. For a more comprehensive look at safety training within an organization, complete the 36-Hour OSH Trainer Program or courses 703 Introduction to OSH Training and 723 Conducting OSH Training.

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# OSHAcademy Course 721 Study Guide

## OSH Training Development

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Contact OSHAcademy to arrange for use as a training document.

This study guide is designed to be reviewed off-line as a tool for preparation to successfully complete OSHAcademy Course 721.

Read each module, answer the quiz questions, and submit the quiz questions online through the course webpage. You can print the post-quiz response screen which will contain the correct answers to the questions.

The final exam will consist of questions developed from the course content and module quizzes.

We hope you enjoy the course and if you have any questions, feel free to email or call:

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## Course Introduction

The Occupational Safety and Health Act of 1970 does not address specifically the responsibility of employers to provide health and safety information and instruction to employees, although Section 5(a)(2) does require that each employer “. . . shall comply with occupational safety and health standards promulgated under this Act.” However, more than 100 of the Act’s current standards do contain training requirements.

This course is designed to help employers:

- design an effective safety training plan
- devise workable training strategies
- determine the appropriateness of training as a solution to worksite problems
- identify what safety training is required
- develop goals and learning objectives for the training
- develop effective lesson plans and learning activities
- conduct traditional classroom and on-the-job training (OJT)
- evaluate the effectiveness of the trainers, the training process and program
- improve the training program based on feedback from employees, supervisors, and others

This course is the second in the OSHAcademy Train-The-Safety-Trainer Series. Information within this course is intended to apply to a broad range of safety training and training programs. Course content will complement the guidance found in:

- the [OSHA 2254, Training Requirements in OSHA Standards and Training Guidelines](#) (OSHA),
- [ANSI Z490.1-2001](#), Criteria for Accepted Practices in Safety, Health, and Environmental Training.

See the [Comprehensive Course Synopsis](#)

Ultimately, the goal of this course and others is to help you prevent accidents. With this goal in mind, have fun and study hard on this informative online training course. Remember, if you have questions please free to send an email.

## Module 1: The Big Picture

*The only effective solution to any problem is to address its cause.*

The first step in the training process is a basic one; ask questions to determine if a problem can be solved by training. Whenever employees are not performing their jobs safely, we might assume training will bring them up to standard.

Let's say your supervisor comes to you and says his or her employees are not using safe procedures. The first assumption might be that they need training. Don't roll over and agree with that assumption. It's quite possible that training (for those employees anyway) may not be the solution to the problem.

It is possible that the supervisor and/or others in the organization may need to accomplish one or more of the following non-training strategies to help make sure employees use safe procedures and practices:

- Correct existing hazards using engineering controls
- Provide adequate resources to work safely
- Adequately enforce safety rules

Who knows, maybe the supervisor and others need the training! Let's not always assume employee safety training is the solution for unsafe behavior.

### What training can and can't do for workers

Worker training is essential to every employer's safety and health program. The time and money it takes to train workers is an investment that pays off in fewer workplace accidents and lower insurance premiums. Effective training also helps inexperienced workers, who tend to have higher injury and illness rates than experienced workers.

Ideally, safety and health training should occur before exposure or accidents occur. Training should cover both general safety and health rules and specific work procedures, and should be repeated if an observation, near-miss incident or injury accident occurs due to a lack of knowledge or skills. Problems that can be addressed effectively by training include those that arise from lack of knowledge of a work process, unfamiliarity with equipment or incorrect execution of a task.

## Training isn't as likely to help if workers lack

- *Cultural support:* If the culture doesn't support training, the worker is less likely to follow procedures that were trained.
- *Proper motivation:* If the worker doesn't care about the job, no amount of training will help.
- *Attention to the job:* To be successful the worker must pay attention to the job. I call this being "sober and focused."

You can argue that the underlying culture influences a worker's motivation and attention to the job, and I think you would have a good argument. Whatever its purpose, training is most effective when designed in relation to the goals of the employer's total safety and health program.

No amount of training is likely to improve workplace safety unless you make it part of an effective, integrated [Safety and Health Program](#).

## What is the current safety performance?

Before we can determine if a discrepancy is caused by a lack of knowledge, skills or abilities, we need to accurately describe the actual safety performance. For example, we might describe a safety performance discrepancy as, "failure to perform proper lockout/tagout procedures."

If, in our analysis, we discover the employee demonstrates a lack of knowledge, skills or abilities, then training is the answer. Non-training actions are not appropriate.

I think it is wise to assume that a new employee in your organization may require comprehensive safety training. To find out if they meet your standards, test what they know and can do. If they need training, give it to them before first exposure to hazards. Experienced current employees may only require training on new procedures or machinery. Again, if in doubt, "test them out!"

If you discover there is not a lack of knowledge, skills or abilities, training is likely not the answer. It is appropriate to use non-training corrective strategies to raise performance levels.

For instance, discipline may be appropriate if an employee fails to wear eye protection as required and it is determined that he or she has been trained, knows how to use the eyewear, understands the safety rules and consequences, but has made the decision not to wear the eye protection. I emphasize "may" because root cause analysis may uncover a system weakness that allows the unsafe behavior. If the system fails the employee, fix the system!

To help figure out the appropriate solution, you can use the checklist on the next page. The checklist takes you through the decision-making process to determine one or more intervention options: training, resources, supervision, enforcement, and leadership.

### Safety Training Decision Tree

\_\_\_\_ Are employee knowledge, skills and ability (KSAs) sufficient?

- Yes. The employee has demonstrated adequate knowledge and skills to accomplish the task to standard. Go to the Non-Training Options checklist below.
- No. The employee does not have adequate knowledge and/or skills to accomplish the task to standard. Go to the Training Options checklist.

### Training Options Checklist

\_\_\_\_ Has the employee performed the task before?

- Yes. Continue to the next question.
- No. New employees and employees transferred to new jobs need to be formally trained before they perform any tasks that might cause injury. Conduct formal training.

\_\_\_\_ Is the task accomplished often?

- Yes. The employee accomplishes the task regularly. Provide feedback. Observe the task and provide one-on-one feedback on any discrepancies.
- No. The task is rarely accomplished. Examples might be tasks requiring the use of fire extinguishers, confined space rescue, or chemical spill procedures. Conduct practice. It's important to practice tasks from time to time when it's normally not required.

## Non-Training Options Checklist

\_\_\_ Are resources and support adequate?

- Yes. Management provides adequate physical resources and psychosocial support. Employees are provided with safe tools, equipment, machinery, workstations, and facilities. Workloads, pressure to perform, stress and work schedules are reasonable. Evaluate other options.
- No. The employee lacks the physical resources and/or psychosocial support to perform to standard. Employees are NOT provided with safe tools, equipment, machinery, workstations, and facilities. Workloads, pressure to perform, stress and work schedules are not reasonable. Provide the necessary resources and support to ensure employees are able to perform to safety standards.

\_\_\_ Is safety supervision/management adequate?

- Yes. Supervisors/managers effectively detect and correct hazards/unsafe behaviors before they result in injury or illness. Evaluate other options.
- No. Supervisors fail to effectively detect and correct hazards/unsafe behaviors before they result in injury or illness. Supervisors may lack training, looking the other way or otherwise ignore unsafe conditions and/or behaviors. Ensure adequate design and performance of supervisor safety plan to ensure supervisors are effectively trained and held accountable for performing safety responsibilities.

\_\_\_ Is safety enforcement adequate?

- Yes. An effective process exists to ensure employees are administered progressive discipline (when justified) for failing to comply with the employer's safety policies, procedures and rules. Supervisors insist that all employees comply. Evaluate other options.
- No. Management fails to ensure employees are administered progressive discipline, when justified, for failing to comply with the employer's safety policies, procedures and rules. Supervisors merely encourage, not insist, that all employees comply. Design and implement an effective safety accountability program.

\_\_\_\_ Do supervisors and managers comply with safety policies and rules?

- Yes. Supervisors and managers set the proper leadership example by complying with safety policies and rules. Supervisors communicate through word and deed that job security depends on working safe...not fast. Evaluate other options.
- No. Supervisors and managers do not set the proper leadership example by not complying with safety policies and rules. The words and actions of management lead employees to believe their job security depends on working fast, not safe. Design and implement an effective management leadership plan that includes supervisor/management safety responsibilities training.

## Module 1 Quiz

Use this quiz to self-check your understanding of the module content. You can also go online and take this quiz within the module. The online quiz provides the correct answer once submitted.

- 1. The first step in the training process is a basic one; to determine \_\_\_\_:**
  - a. if a problem can be solved by training
  - b. employee and task needs
  - c. the subject of training
  - d. if adequate time is available
  
- 2. According to the text, training isn't likely to help which of the following?**
  - a. lack of ability
  - b. lack of knowledge
  - c. lack of motivation
  - d. lack of skills
  
- 3. Ideally, safety and health training should occur \_\_\_\_\_ exposure or accidents.**
  - a. before
  - b. after
  - c. during
  - d. all of the above
  
- 4. Before we can determine if a discrepancy is caused by a lack of knowledge, skills or abilities, we need to \_\_\_\_.**
  - a. retest the employee
  - b. describe the actual safety performance
  - c. consider non-training options
  - d. interview the employee

- 5. According to the training decision tree, if an employee has frequently performed the task before, the trainer needs to \_\_\_\_\_.**
- a. analyze resources
  - b. provide feedback
  - c. conduct formal training
  - d. conduct practice

## Module 2: Categories of OSH Education

### How training needs arise

There are a number of things that might "trigger" the need for training. The three categories of triggers are potential triggers, internal indicators and external influences. If any of these are likely to occur in the future, one or more employees may need training.

*Potential Triggers:* Certain occurrences may trigger the need for training in your workplace. Are you considering the need for training for the following?

- New hires
- Promotions or job transfers
- New work procedures
- New working relationships between workers and managers
- Change of training curriculum
- Increased or revised workload
- Change in ownership

*Internal Indicators:* If, in your analysis of the safety management system, you discover the following trends, safety training may be required:

- Increase in expressed safety concerns
- Increase in incidents, accidents, illness
- Increase in grievances
- Increase in non-compliance behaviors
- Increase in staff turnover
- Poor safety/quality evaluation ratings
- Harassment or violence in the workplace

- Decreasing moral and low levels of motivation

*External Influences:* As I'm sure you are aware, employers do not operate in a vacuum. From time to time, OSHA and other government agencies promulgate rules and guidelines that affect the way work is conducted. Here are more examples of external factors that require safety training:

- New legislation
- Changes to legislation
- Competitor activity
- Professional body regulations and requirements
- Quality Assurance (QA) codes of practice
- Funding Council requirements

### Determining what training is needed

If the problem is one that can be solved, in whole or in part, by training then the next step is to determine what training is needed. For this, it is necessary to identify what the employee is expected to do and in what ways, if any, the employee's performance is deficient.

When designing a new training program, or preparing to instruct an employee in an unfamiliar procedure or system, a job hazard analysis can be developed by examining engineering data on new equipment or the safety data sheets on unfamiliar substances. The content of the specific OSHA standards applicable to a business can also provide direction in developing training content.

If learning needs can be met by revising an existing training program rather than developing a new one, or if employees already have some knowledge of the process or system to be used, appropriate training content can be developed through such means as:

1. Requesting employees to provide, in writing and in their own words, descriptions of their jobs. These should include the tasks performed and the tools, materials and equipment used.
2. Observing employees at the worksite as they perform tasks, asking about the work, and recording their answers.

3. Examining similar training programs offered by other companies in the same industry, or obtaining suggestions from such organizations as the American Society of Safety Engineers (ASSE), National Safety Council (NSC), and insurer and OSHA consultants.

Employees can provide valuable information on the training they need. Safety and health hazards can be identified through the employees' responses to such questions as whether anything about their jobs frightens them, if they have had any near-miss incidents, if they think they are taking risks, or if they believe that their jobs involve hazardous operations or substances.

### **Get information about the learner and the task**

It's important to conduct the needs assessment process to gather information about the learner, and the task so that we can design appropriate training that meets specific learner needs.

To get information about the learner:

- observe workers doing work
- interview and/or survey workers
- review employee personnel records
- determine demographics (age, gender, race)
- determine experience level
- determine learning styles
- determine aptitudes, knowledge
- determine attitudes toward subject being taught

To get information about task requirements, it's a good idea to do the following:

- review applicable regulations
- conduct an on-site job task analysis
- conduct employee interviews

- observe employees doing work
- administer employee questionnaires
- administer supervisor questionnaires
- conduct management interviews
- analyze injury and illness history
- review skills standards

### Matching Training to Employees

While all employees are entitled to know as much as possible about the safety and health hazards to which they are exposed, and employers should attempt to provide all relevant information and instruction to all employees, the resources for such an effort frequently are not, or are not believed to be, available. Thus, employers are often faced with the problem of deciding who is in the greatest need of information and instruction.

One way to differentiate between employees who have priority needs for training and those who do not is to identify employee populations which are at higher levels of risk. The nature of the work will provide an indication that such groups should receive priority for information on occupational safety and health risks.

### The Job Hazard Analysis

The Job Hazard Analysis, also called a Job Safety Analysis, is a procedure for studying and recording each step of a job, identifying existing or potential hazards, and determining the best way to perform the job in order to reduce or eliminate the risks. Information obtained from the JHA is used to develop Safe Job Procedures (SJP) which can be used as an excellent training resource when teaching employees how to properly perform hazardous procedures. For more information in developing an effective JHA, take [OSHAcademy Course 706](#).

### Prioritizing Safety Training

One method of prioritizing safety training is to pinpoint hazardous tasks. In most industries there are some employees who operate at greater risk than others. In other cases the degree of risk of a task is influenced by the conditions under which it is performed, such as noise, heat or cold, or safety or health hazards in the surrounding area. In these situations, employees should

be trained not only on how to perform their job safely but also on how to operate within a hazardous environment.

A second method of prioritizing safety training is to examine incidents and accidents, both within the company and within the industry. If employees in certain jobs are experiencing higher accident and injury rates than other employees, training may be one way to reduce that rate. In addition, thorough incident/accident analysis can identify not only specific employees who could benefit from training but also identify company-wide training needs.

Research has identified the following variables as being related to a disproportionate share of injuries and illnesses at the worksite on the part of employees:

1. The age of the employee (younger employees have higher incidence rates).
2. The length of time on the job (new employees have higher incidence rates).
3. The size of the firm (in general terms, medium-size firms have higher incidence rates than smaller or larger firms).
4. The type of work performed (incidence and severity rates vary significantly by [Standard Industrial Classification](#) (SIC) Code).
5. The use of hazardous substances (by SIC Code).

These variables should be considered when identifying employee groups for training in occupational safety and health.

### **What about supervisor and manager safety training?**

Some organizations consider the safety and health function as primarily a human resource or staff responsibility. They fail to understand safety as a part of overall operations (production or service), and even worse, they believe safety education and training need not be given to line managers: A big mistake. Consequently, some employers neglect to adequately educate managers about general safety and health concepts and how to apply them in the workplace.

Managers who understand both the way and the extent to which effective safety and health protection impacts on the overall effectiveness of the business itself are far more likely to ensure that the necessary safety and health management programs are designed and perform well.

First-line supervisors have an especially critical role in safety and health protection because of their immediate responsibility for workers and for the work being performed. Effective training

of supervisors will address their safety and health management responsibilities as well as information on hazards, hazard prevention, and response to emergencies. A short list of topics for supervisor safety training includes:

- How to conduct a safety inspection
- Hazards in their specific workplace
- How to conduct an accident investigation
- How to properly recognize and discipline employees
- What is safety leadership
- How to conduct a Job Hazard Analysis
- How to apply hazard control strategies
- Introduction to the safety management system
- How to conduct on-the-job training (OJT)

## Module 2 Quiz

Use this quiz to self-check your understanding of the module content. You can also go online and take this quiz within the module. The online quiz provides the correct answer once submitted.

- 1. Which of the following is considered a potential trigger?**
  - a. increase in grievances
  - b. increase in staff turnover
  - c. new work procedures
  - d. competitor activity
  
- 2. If the problem is one that can be solved, in whole or in part, by training then the next step is to:**
  - a. determine what training is needed
  - b. determine if non-training solutions are needed
  - c. determine who is responsible for training
  - d. determine if OSHA requires the training
  
- 3. One method of prioritizing safety training is to \_\_\_\_\_**
  - a. review written job descriptions
  - b. conduct opinion surveys
  - c. pinpoint hazardous tasks
  - d. analyze similar training programs
  
- 4. Which of the following is not listed as a method of gathering information about the learner?**
  - a. Review employee personnel records
  - b. Checking the learner's injury record
  - c. Determine experience level
  - d. Interview and/or survey workers

**5. Which of the following will help to get information about task requirements?**

- a. observe employees doing work
- b. review skills standards
- c. conduct management interviews
- d. all of the above

## Module 3: Developing the Training Program

### Narrow the focus with goals and objectives

Once the kind of training that is needed has been determined, it is equally important to determine what kind of training is not needed. Employees should be made aware of all the steps involved in a task or procedure, but the training should focus only with those steps on which improved performance is needed. This avoids unnecessary training and tailors the training to meet the needs of the employees.

Determining what the learner needs to know and do should be developed before the training session. Writing goals and objectives will help make sure your training is appropriate and useful to the learner. Effective goals and objectives help ensure training stays on track so that learners gain the specific knowledge and skills required. The American National Standards Institute (ANSI) Z490.1-2001 guidelines require goals and objectives be written for safety training.

In this module, we'll define goals and objectives, and discuss the steps in writing effective learning objectives which are important when developing both instruction and training.

### Goals and Objectives: What's the difference?

One of the most important, yet for some, the most difficult activities in the training process is writing clear-cut, competency-based learning objectives that describe what the learner will be able to do at the end of the training session. Some trainers believe goals and objectives are basically the same thing; not so. Let's take a look.

#### What is a goal?

A goal is nothing more than a wish. We've all stated goals like, "*I wish I could lose some weight,*" from time to time. Goals are broad in the sense that they state general intentions. They are not specific enough to be measured. Objectives, on the other hand, are narrow and are set for certain tasks in particular. (More on objectives soon.)

Goals are appropriate for general safety instruction because this type of training does not require measurement of observable, measurable outcomes.

Goals are normally unnecessary when developing specific technical safety training because they are too general in nature and therefore, insufficient.

Technical safety training that teaches safety procedures requires written objectives to make sure employees are proficient. Otherwise, they might be injured or killed!

#### There are two basic types of goals:

A **training goal** is a general statement about what the trainer wants to do. It states how the trainer will achieve the intended outcome of training. Training goals might be stated in an instructor guide, but not in the student workbook or handout. For instance, training goals might look like this:

- Talk about the company's hazard reporting procedures
- Introduce students to confined space entry requirements

Notice the examples state what the trainer will do: they use action verbs.

A **learning goal**, on the other hand, is a general statement about what the trainer wants each student to know and/or do. It summarizes what the learner, not the trainer, will know or be able to do. Learning goals would be included in the student workbook or handout.

For instance:

- Understand hazard reporting procedures
- Gain a greater awareness of confined space entry
- Perform first aid procedures

Notice the first two examples above describe what the learner will know. They use passive verbs (understand, gain awareness). The second example uses an action verb to describe what the student will do. It's important to "know" the difference.

### What's an objective?

As mentioned earlier, Level Two training requires evaluation of student knowledge and skills at the end of training while in the learning environment. An operational objective is similar, yet much more specific, than a goal. Operational objectives describe time limits, performers, test conditions, behaviors, and performance standards. As with goals, there are two basic types of objectives.

A training objective is a specific statement describing what the trainer is going to do during or immediately after training. For instance, a training objective might state:

- During the first hour of the training session, the trainer, given a full-face respirator, will discuss and perform each step of the respirator don-doff procedure.

- By the end of class, the instructor will use a real-world scenario to discuss and present examples for each step in conducting root cause analysis.

A learning objective is a specific statement describing what the learners will know and/or be able to do after training. It describes results, rather than the means of achieving those results. It defines expectations for the learner. Here are some examples:

- By the end of the class, each student, when given a full-face respirator, will be able to correctly perform all steps of the don-doff procedure.
- By the end of training, the learner will be able to discuss at least two advantages of conducting incident analysis when asked by the trainer.

In this module, we primarily focus on a discussion of learning objectives.

### The Importance of Learning Objectives

It's very important that we write learning objectives clearly so that both trainers and learners understand what the learner is expected to do at the end of training. Writing learning objectives is required by ANSI Z490.1 guidelines when hazardous procedures and practices are taught. Virtually all Level Two technical training requires testing. Because employees must be tested, learning objectives are necessary to design specific measures and standards into training.

Effective learning objectives also:

- help the instructor design and select instructional content and procedures
- help the instructor organize the learner's own efforts and activities
- help the instructor evaluate or assess the success of instruction

### The ABC'S of a Learning Objective

An effective learning objective describes outcomes in terms of observable, measurable behaviors. They should be based on an objective needs analysis, not on conjecture or existing trainer guides. The objective should specify the knowledge, skills, and abilities (SKAs) that make performing the task possible. To make sure your learning objectives are clear and concise, be sure include each of the four components: **A**udience, **B**ehavior, **C**onditions, and **S**tandard.

Let's use the following learning objective to get a better idea about the four criteria. The numbers within the objective refer to the related criteria discussed below:

*At the end of the training session, (1) each student (2) will list (3) without help (4) all steps of the accident investigation procedure in proper order.*

Now, Let's take a look at the five criteria of an effective learning objective:

1. The objective identifies the **audience**.

Example: "**each student**"

2. Next, the objective should describe a **behavior**. The behavior is the "action" component that must be observable and measurable.

Example: "**will list**" [More](#) examples.

3. The objective should describe the **conditions** under which performance is measured.

Example: "**without help**"

The student may or may not be assisted as a condition under which they must perform. The condition specifies constraints, limitations, and resources such as tools, working aids, assistance, supervision, and physical environment is given to the learner to perform.

4. The objective should specify an acceptable **standard** of performance. It's important to clearly state how well the student must perform. Establish quantitative and qualitative criteria for acceptable performance.

Criteria should describe how well the learner must perform such as:

- Written exam - complete a multiple choice test in terms of percent correct
- Oral exam - discuss key elements
- Skill demonstration - perform steps of a task

Example: "**all steps...in proper order.** "

## Developing Objectives

James Evans', 1961 NSPI paper, *Behavioral Objectives Are No Damn Good*, recommends that the trainer work backwards to develop objectives by first developing the performance test, then writing the learning objectives. The following approach outlines this simplified procedure for writing learning objectives.

### **Step 1: Complete a simulated task analysis**

Picture the job environment, materials, and events so you have an understanding of the job to be performed. (An actual Job Hazard/Safety Analysis would be better if possible.)

### **Step 2: Identify performance requirements**

Identify the specific things the employee is required to do in order to perform the job in question. These specific "performance items" should be written down in preparation for developing the criterion test.

### **Step 3: Develop a criterion test**

The criterion test should have a direct relationship to the performance requirements of the job. It should also require the actual behavior that we want the learners to be able to perform. If we want them to be able to explain, the criterion test item should ask for an explanation. For instance: If we want them to be able to properly use a respirator, the test should tell them to inspect it, and so on.

In developing a criterion test there are three areas of concern:

1. What questions do we want the learner to be able to answer, and what are the minimum critical components of an acceptable answer?
2. What problems do we want the learner to be able to solve, and what are the critical components of an acceptable solution?
3. What actions or tasks do we want the learner to be able to carry out, and what are the critical components of acceptable action?

## Module 3 Quiz

Use this quiz to self-check your understanding of the module content. You can also go online and take this quiz within the module. The online quiz provides the correct answer once submitted.

**1. Which of the following statements is considered a good example of a training goal?**

- a. Increase appreciation for safety in the workplace
- b. Present the seven elements of a safety management system
- c. Learn how to complete an accident investigation procedure
- d. Students will be able to identify respirator defects

**2. Which of the following statements is considered a good example of a learning goal?**

- a. Show students how to conduct a safety inspection
- b. Inform employees about the company's safety policies and rules
- c. Know the steps of an accident investigation
- d. Teach new employees how to insert ear plugs

**3. Which of the four components of a learning objective is missing from the following statement?**

***"At the end of training, each employee will be able to select the most appropriate respirator for the task."***

- a. Audience
- b. Behavior
- c. Condition
- d. Standard

4. Which of the four components of a learning objective is missing from the following statement?

*"At the end of training, each employee will be able to select the most appropriate respirator for the task."*

- a. Audience
- b. Behavior
- c. Condition
- d. Standard

5. Which of the four components of a learning objective is missing from the following statement?

*"At the end of training, when presented with a requirement to perform a simulated lockout/tagout procedure, each employee will be able to perform the procedure."*

- a. Audience
- b. Behavior
- c. Condition
- d. Standard

## Module 4: Trainer Roles and Responsibilities

### Learn by Doing

Once the objectives for the training are precisely stated, then learning activities can be identified and described. Remember, when OSHA uses the terms "demonstrate" in their standards, the intent is that employees must be able to prove they can do something by actually doing it in the learning environment.

This means you'll need to include a "hands-on" learning activity to show employees' how to do things. It also means you'll need to give them a chance to practice the procedure or task they're learning. Makes sense, doesn't it?

Learning activities are important for a number of reasons:

- They enable employees to demonstrate that they have acquired the desired skills and knowledge
- They help ensure that employees effectively transfer the skills or knowledge from the training session to the job
- They help make training more interesting, increase motivation to learn

### Simulate the Job

To ensure employees transfer the adequate knowledge and skills from the learning activity to the job, the learning situation should simulate the actual job as closely as possible.

You may want to arrange the objectives and activities in a sequence that corresponds to the order in which the tasks are to be performed on the job, if a specific process is to be learned. For instance, if an employee must learn the beginning processes of using a machine, the sequence might be:

1. Check that the power source is connected.
2. Ensure that the safety devices are in place and are operative.
3. Know when and how to throw the switch; and so on.

### Important questions to ask

A few factors will help to determine the type of learning activity to be incorporated into the training. You may want to ask some very important questions to determine what type of learning activity will best meet your objectives:

- Will the employer make necessary training resources available?
- Can a group training program that uses an outside trainer and film be organized?
- Should the employer personally train the employees on a one-to-one basis?
- Is the learning oriented toward physical skills (such as the use of special tools) or toward mental processes and attitudes?

These factors and others will influence the type of learning activity designed by employers. The training activity may be group-oriented, including lectures, role-play and demonstrations; or designed for the individual as with self-paced instruction.

The determination of methods and materials for the learning activity can be as varied as your imagination and available resources will allow. You may want to use charts, diagrams, manuals, slides, films, viewgraphs (overhead transparencies), videotapes, audiotapes, or simply blackboard and chalk, or any combination of these and other instructional aids.

Whatever the method of instruction, learning activities should be developed in such a way that the employees can clearly demonstrate that they have acquired the desired knowledge and skills.

### Training Presentation Strategies

You now know basically what subjects you're going to present, but which presentation strategy is going to work best for you? Let's take a look at several alternatives:

- *Formal classroom training:* In many cases, formal training in-house or from an external source can get learners trained quickly when needed. Classroom training is best if the class is composed of students from different departments or facilities. Here's a simple [Classroom Training Model](#).
- *On-the-job training (OJT):* OJT Considered the best overall training strategy since most safety training requires that employees demonstrate (prove) adequate knowledge and skill to perform procedures and practices. Remember, employees must be trained

before exposed! Conducting a simulated procedure or task in the learning environment is really the only way you can certify adequate knowledge and skills to perform hazardous tasks without exposure the employee to actual hazards. Here's a [Safe OJT Training Model](#)

- *Mini training sessions:* This method is perhaps the best method to keep employees up on the latest changes to OSHA standards and changes in company policy, procedures, and rules. Mini training sessions, tail-gate meetings, and safety meetings can be as short as five minutes or up to 30 minutes.
- *Computer based training (CBT):* This is growing in popularity because employees can fit short training sessions on the computer into their busy schedules at work or at home. To meet the intent of OSHA law, CBT needs to include opportunities for interaction with a qualified trainer (like OSHA online training). Note: Be careful not to rely solely on CBT when training procedures and practices that are hazardous. CBT will not be adequate. Make sure opportunities for communicating via email, video-conference, or on-site interaction is incorporated into any CBT strategy. [More on this subject.](#)

### Three important training requirements

No matter the training strategy used, it's important to make sure employees get practice before they are actually exposed to hazards in the work environment. Some of the key requirements are stated or implied in OSHA rules. Three of the most important are:

- *Demonstration:* Workers should be able to demonstrate that they have both the knowledge and ability to perform a hazardous task or procedure safely before they are allowed to begin work.
- *Retraining:* Any time the employer believes a worker lacks adequate knowledge or ability to perform a task safely, that worker should receive retraining to improve their proficiency.
- *Certification:* Employees who must perform a hazardous task or procedure should be certified as "qualified" by the employer. In most instances a attendance roster, by itself, will not be considered adequate documentation for most safety training. Ultimately, the employer is responsible for certification. It's also important to realize that OSHA does not "certify" anyone qualified to do anything... they just don't do it.

## Sequencing - Don't put the cart before the horse

Sequencing training content and material is almost as important as the content itself. And, it can defeat the purpose of a training program if it is not carefully thought out. Trainers should be concerned about the logical sequencing of training, because if the lesson does not unfold in a building, reinforcing way, learning may be less effective. Consider the following basic sequencing strategies:

1. *General to the specific:* Move gradually to the many and varied specific on-the-job applications of the concepts discussed. For instance, all of these topics may be effectively taught using this strategy:
  - characteristics of chemicals
  - identifying hazards
2. *Simple to the complex:* The design begins with a fairly simple conceptual overview of the subject to be learned. In our lockout/tagout training, we might talk about how to "lock out" a coffee maker before covering lockout procedures for a more complicated machine. As an example, all of these topics may be effectively taught using this strategy:
  - analyzing incidents and accidents
  - machine guarding techniques
3. *Theory to practical application:* You might introduce learners about general energy sources before covering more specific sources of energy expected while conducting lockout/tagout procedures. All of these topics are among those that may be effectively taught using this strategy:
  - safety management strategies
  - employing engineering controls

4. *Known to unknown concepts, ideas, or processes:* For instance, we all know machinery requires some form of energy to work, but in many instances, we may not realize that multiple energy sources involved. Once again, these topics, and many others, may be effectively taught using this strategy:
  - analyzing incidents and accidents
  - machine guarding techniques
  
5. *Step by Step:* For On-the-Job Training (OJT), sequence the content so that it corresponds to the steps of the task. Of course, when we train lockout/tagout procedures or how to use hazardous chemicals, it's very important to perform all steps correctly in their proper order.

### Training methods and media

Hands-on training is usually quite effective in training because it uses a simulated work environment that permits each student to have experience performing tasks, making decisions, or using equipment appropriate to the job assignment before they are exposed to actual workplace hazards. To ensure that employees transfer the skills or knowledge from the learning activity to the job, the learning situation should simulate the actual job as closely as possible.

Determining methods and materials for learning activities can be as varied as your imagination and available resources will allow. You may want to think about using:

charts	diagrams	role play
instruments	props	exercises
overheads	videos	question/answer
flipcharts	dry erase boards	case studies

Whatever the method of instruction, learning activities should be developed in such a way that you can clearly demonstrate learners have acquired the desired skills or knowledge.

## Tips on Preparing Visual Aids

- Start with at least a rough outline of the goal and major points of the presentation before selecting the visual aid(s). For example, a particular scene or slides may trigger ideas for the presentation, providing the power of images. Do not proceed too far without first determining what you want to accomplish, what your audience wants to gain, and what the physical setting requires.
- Each element of an audio-visual product - a single slide or a page of a flip chart presentation, for example, - must be simple and contain only one message. Placing more than one message on a single image confuses the audience and diminishes the potential impact of visual media. Keep visual aids BRIEF.
- Determine the difference between what you will say and what the visual aid will show. Do not read straight from your visuals.
- Ask the audience to read or listen, not both; visual aids should not provide reading material while you talk. Rather, use them to illustrate or highlight your points.
- Give participants paper copies of various graphic aids used in your presentation. They will be able to write on the paper copies and have them for future reference.
- Assess your cost constraints. For example, instead of purchasing photos and diagrams to use in your presentation perhaps you can use your own photos and diagrams.
- Account for production time in your planning and selection process. Slides must be developed, videotape edited - you do not want to back yourself against a wall because the visuals are not ready. You can often get production work done in 24-48 hours, but it is much more expensive than work that is done on an extended schedule.
- Use local photographs and examples when discussing general problems and issues. While a general problem concerning welding safety, for example, may elude someone, illustrating with a system in use at the site can bring the issue home.
- Use charts and graphs to support the presentation of numerical information.
- Develop sketches and drawings to convey various designs and plans.

- When preparing graphics, make sure they are not too crowded in detail. Do not over-use color. See that line detail, letters, and symbols are bold enough to be seen from the back of the room.
- Do not use visual aids for persuasive statements, qualifying remarks, emotional appeals, or any type of rhetorical statement.
- If you have handouts, don't let them become a distraction during the presentation. They should provide reinforcement following your address. Consider giving them out after the presentation, unless the audience will use them during the presentation or will need to review them in advance of the presentation.
- Practice presenting the full program using graphic materials so you are familiar with their use and order. If you use audio-visual materials, practice working with them and the equipment to get the timing down right.
- Seek feedback on the clarity of your visuals and do so early enough to allow yourself time to make needed adjustments.

### **Developing Training Materials**

If a number of trainers are expected to present the training, you may want to prepare a lesson plan and trainer's guide that bring all aspects of the training course into a readily usable form. The trainer's guide would include a course outline for each instructional block and a program of instruction for the entire course. Be sure to include reference materials and a list of additional resources that might be useful in presenting the course.

Below is a sample lesson plan for one module for a course in Personal Protective Equipment.

<b>OBJECTIVE:</b> At the end of this module, given a pair of earplugs, the student will be able to properly insert and remove the earplugs with no error.	
INSTRUCTOR ACTIVITY	STUDENT ACTIVITY
<ol style="list-style-type: none"> <li>1. Welcome students as appropriate.</li> <li>2. Introduce yourself if needed.</li> <li>3. Discuss ground rules, getting around as needed.</li> <li>4. Explain the purpose of this module.</li> <li>5. Explain the importance of using earplugs.</li> <li>6. Describe the course objective.</li> <li>7. Describe how the skill will be checked.</li> <li>8. Describe company mandatory safety rules related to the use of earplugs.</li> <li>9. Demonstrate how to properly insert the earplugs.</li> <li>10. Demonstrate how to properly remove the earplugs.</li> <li>11. Describe common errors and consequences of earplug use.</li> <li>12. Administer performance test.</li> <li>13. Recognize students for performance.</li> </ol>	<ol style="list-style-type: none"> <li>1. Introductions</li> <li>2. Ask questions about ground rules, getting around.</li> <li>3. Ask questions about safety rules.</li> <li>4. Ask questions during the demonstration.</li> <li>5. Students practice inserting and removing earplugs.</li> <li>6. Students claiming to be ready are tested first, while others continue practicing as needed.</li> </ol>



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## Module 4 Quiz

Use this quiz to self-check your understanding of the module content. You can also go online and take this quiz within the module. The online quiz provides the correct answer once submitted.

- 1. To ensure employees transfer the adequate knowledge and skills from the learning activity to the learning situation should \_\_\_\_.**
  - a. simulate the job
  - b. stimulate the learner
  - c. actualize the learner
  - d. compartmentalize the learning
  
- 2. When you see the term, "demonstrate," in OSHA standards, the intent is that employees \_\_\_\_.**
  - a. answer the question correctly
  - b. indicate they agree with the rule
  - c. can prove they can do the task
  - d. be able to comprehend the concept
  
- 3. This training strategy is considered the best overall training strategy in demonstrating adequate knowledge and skill to perform procedures and practices:**
  - a. Job Safety Analysis (JSA)
  - b. On the Job Training (OJT)
  - c. Task Analysis (TA)
  - d. Classroom Training
  
- 4. When trying to train new employees on how to use chemical substances, which of the following would be the most effective sequence strategy?**
  - a. general to specific
  - b. simple to complex
  - c. known to unknown
  - d. step-by-step

- 5. When the supervisor thinks a worker has inadequate knowledge or ability to perform a task safely, that worker should receive \_\_\_\_\_.**
- a. disciplinary action
  - b. counseling
  - c. retraining
  - d. orientation

## Module 5: Evaluating the Training-ANSI

### Protect the Employee and the Employer

As a member of your employer's safety staff, it's not only your responsibility to help protect employees, it's also your obligation to help protect the employer. One of the best ways to do that is to ensure strong safety training documentation.

It's not just a good idea for the employer to keep complete and accurate records of all safety and health training, it's required by more than 100 OSHA standards, and it's also recommended by ANSI Z490.1-2009.

Records can provide evidence of the employer's good faith effort to comply with OSHA standards. Strong documentation can also help the employer defend against claims of negligence. Documentation can also supply an answer to one of the first questions an accident investigator will ask: "Was the injured employee adequately trained to do the job?"

### Attendance Rosters

As we learned in a previous module, if your training or safety meeting presents general information related to safety, it is most safety "instruction." Since we do not evaluate employee performance to determine ability to perform hazardous tasks or procedures, it may be perfectly fine to use the attendance roster to document the training. An attendance roster may include the following information:

- date
- subject
- names attendees
- other identifying information

### Formal certification of training

When safety training requires employees to demonstrate knowledge and skills in performing hazardous procedures or using safe practices, an attendance roster may not be legally sufficient to document the training.

Attendance Roster			
Name of Course			
Location			
Course #		Date	
	Name	Organization	E-mail
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Technical safety training should include a formal certification. Certification of training usually involves issuing a certificate of competency or qualification. According to ANSI Z490.1-2009, Section 7.4, Issuing Certificates, recommended certification of training should include:

- Trainee's name
- Course title
- Date, location and hours of instruction
- Statement that the trainee has successfully completed the course
- Name and address of training provider
- Date periodic refresher training is due (if required) or expiration date
- A unique trainee identification number

- The level of training or type of certificate awarded
- Any other information required by regulation
- Number of credits (CECs, CEUs, etc), if issued. Make sure employees have met all requirements for credits.

To make your documentation stronger, you may want to consider including the following information:

- Trainee statement that he/she was provided opportunity to ask questions and perform procedures and practices.
- Trainer statement that trainees, through testing, demonstrated adequate knowledge.
- Trainer statement that measurement (testing) of knowledge and skills was conducted and that trainees met or exceeded required levels of performance
- Trainee statement of intent to comply with the procedures, practices, policies, and rules.
- Trainee statement of understanding that failure to comply may result in discipline
- A list or description of the specific subject(s) being trained. Describe the safety procedures, practices, policies, rules addressed in training.
- A list or description of the specific procedures practiced in the learning environment.
- Certification - a place for trainee and trainer signatures



On the second page of the certification, information about the subjects, performance exercises, and tests is described.

### Sample Training Certification - Page 2

The benefit of including this second page in the document is that it can also serve as a lesson plan for your training. The learning objects you've written will help you develop the list of subjects and performance exercises. It outlines the subjects and exercises that need to be conducted to make sure required training is accomplished.

The following information was discussed with students: (check all covered subjects)

- Overview of the hazard communication program - purpose of the program
- Primary, secondary, portable, and stationary process container labeling requirements
- Discussion of the various sections of the MSDS and their location
- Emergency and Spill procedures
- Discussion of the hazards of the following chemicals to which students will be exposed
- Symptoms of overexposure
- Use/care of required personal protective equipment used with the above chemicals
- Employee accountability

The following practice/performance exercises were conducted:

- Spill procedures
- Emergency procedures
- Personal protective equipment use

The following written test was administered: (Or "Each student was asked the following questions:") (Keep these tests as attachments to the safety training plan and merely reference it here to keep this document on one sheet of paper)

- What are the labeling requirements of a secondary container? (name of chemical, and hazard warning)
- When does a container change from a portable to secondary container? (when employee loses control)
- What are the symptoms of overexposure to \_\_\_? (stinging eyes)
- Where is the "Right to Know" station (or MSDS station) located? (in the production plant)
- What PPE is required when exposed to \_\_\_? (short answer)
- How do you clean the PPE used with \_\_\_? (short answer)
- What are the emergency procedures for overexposure to \_\_\_? (short answer)
- Describe spill procedures for \_\_\_. (short answer)
- When should you report any injury to your supervisor? (immediately)
- What are the consequences? if you do not follow safe procedures with this chemical (injury, illness, discipline)

## Module 5 Quiz

Use this quiz to self-check your understanding of the module content. You can also go online and take this quiz within the module. The online quiz provides the correct answer once submitted.

- 1. According to the text, one of the best ways you can help to protect your employer is to ensure \_\_\_\_.**
  - a. strong documentation
  - b. adequate accountability
  - c. safety committee control
  - d. OSHA avoidance
  
- 2. In most instances, for technical safety training, documentation should be \_\_\_\_.**
  - a. reviewed for accuracy
  - b. retained for at least three years
  - c. a formal attendance roster
  - d. formal certification
  
- 3. An attendance roster that lists date, subject, and names of those attending, may be sufficient as a training document for this type of training.**
  - a. Instruction
  - b. Technical
  - c. On-the-job (OJT)
  - d. Type A
  
- 4. According to the text, maintaining adequate training records can do all of the following, EXCEPT:**
  - a. ensure training was effective
  - b. verify training was conducted
  - c. defend against negligence claims
  - d. provide evidence of good faith effort

**5. Which of the following is not listed in the text as a method to make your documentation stronger?**

- a. statement of understanding
- b. list of specific subjects
- c. statement of intent to comply
- d. course title and location