



Lawrence Berkeley National Laboratory



# On-the-job Training

## Guidance for OJT Instructors

## Welcome

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On the Job Training (OJT) is a mixture of instruction, observation, and supervised activities. It is used to ensure that staff have the needed work-specific skills to work safely and effectively so is based upon the accepted principle that people learn best by doing. OJT is especially critical in situations where performing a task incorrectly can lead to injury, damage expensive equipment, spoil experiments, or worse. At Berkeley Lab, OJT is an important part of the worker qualification process. Line management is responsible for ensuring that their staff have the skills needed to perform their work safely and effectively, before they begin independent work. OJT is an effective method to achieve this.

## Who is qualified to provide OJT?

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What are the practical criteria or qualities that make someone qualified to provide OJT?

Broadly speaking qualified OJT instructors have strengths in five areas:

1. Strong knowledge of the science and operations
2. High-level expertise performing the tasks and operations
3. Strong knowledge of the hazards and the controls needed to work safely
4. Strong knowledge of emergency response procedures
5. Strong teaching, coaching or mentoring skills

Selecting an OJT instructor requires careful consideration. Though it is commonly either the supervisor or the Work Planning and Control Activity Lead or assigned designee, this may not always be the case; there may be others on the team who are better suited to providing OJT specific to one or more tasks or operations. Whomever line management assigns, the expectation is that the person assigned is qualified to provide the specific OJT based on the criteria outlined above. Choosing an instructor should be a careful and deliberate consideration.

It is also important to understand that the person who is assigned an OJT Instructor has a choice in the matter especially when they don't feel they are qualified or capable of performing that role, or they simply don't feel they are up to the task. This is similar to when a person is assigned to sit next to the emergency exit on an airplane, and with that have the responsibility to open the door and help others out. That person can decline and be re-seated if they don't feel qualified, capable or comfortable being in that situation.

## Determining the need for OJT

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The degree of formality and the comprehensiveness of OJT should be graded to the overall risk. Quite simply:

- The higher the risk the more effort and care should be expended in providing OJT.
- The less experience a person has, the more OJT, mentoring and oversight they will need.

Your role as someone who provides OJT is to:

1. Evaluate worker's current understanding and ability to perform the work safely and effectively.
2. Provide OJT to develop the necessary knowledge and skills needed to meet their responsibilities – close the gap between their current skills and the needed skills
3. When the Learner demonstrates they have the knowledge and skill to perform the tasks independently, then the Learner is qualified to work independently, assuming all other needed training requirements are satisfied. Until then, the worker should work under adequate supervision by a trained and qualified person until they have completed OJT and demonstrated they can work independently.

## OJT Method

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As stated earlier, on-the-job training is a mixture of instruction, observation, and supervised activities. Effective OJT is based on the Gradual Release learning model where the instructor gradually releases control and the learner becomes more independent through a three step process.

### 1. I Do It

Here the Instructor explains and demonstrates how to perform the task safely and effectively. The Instructor:

- a. Performs the task exactly the way they want the worker to perform it
- b. They repeat the task until the Learner has a clear understanding for how and why the activity or task is performed as demonstrated.
- c. They control the pace of instruction to meet the learners needs.
- d. They encourage the Learner to ask clarifying questions.

### 2. We Do It

Here the Learner teaches back what they observed. This involves having the learner tell the instructor what to do, and the Instructor performs the actions the Learner specifies (unless the learner asks the instructor to do something unsafe). This middle step is where the instructor gradually releases responsibility to the learner.

- a. The purpose of this step is to assess the extent to which the Learner understood the procedure or task that what was just demonstrated.
- b. It provides the opportunity to correct any misunderstandings before the person performs the task. This step is especially important if performing a task incorrectly can lead to injury, damage expensive equipment, spoil experiments, or worse.

### 3. You Do It

Here the Learner Performs the task or procedure while the Instructor observes.

- a. The learner attempts the task and explains each step before performing it.
- b. This step is very important because without it, you do not really know if the

- learner can perform the task safely.
- c. This final step proves the learner is capable of correctly and safely performing this task.

## OJT is Ongoing

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OJT is not a “one and done.” Learning new skills takes repeated practice over time. Depending on the complexity of the tasks, and the person’s prior experience, OJT can be expected to be a continuum that takes place over multiple days, or longer, supported by direct supervision and coaching. This is to say, that it is best to think of OJT as a process that extends over time.

It can be helpful to pair up new workers with experienced staff sometimes referred to as “job shadowing” so that learning is integrated into the work. Over time the new worker is given greater autonomy and independence as they grow their skill set. Providing positive and constructive feedback during this process is key.

## Timing of OJT

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It is best to provide OJT as close to the time when the worker is going to use the skills as possible. Research shows that people start to forget new information very quickly (as much as 90% retention loss within a day), unless they consciously apply what they are learning directly after. It is also important to allow for repeated practice, often referred to as “Spaced Learning” to deepen retention and build skills so OJT is best when it is followed with repeated practice at spaced intervals.

**Search terms:** “Ebbinghaus’ forgetting curve”, “Spaced learning”, “Distributed practice”

## Use of Procedures

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Generally speaking if a task has more than four to five steps, you want to have a procedure that workers can use as a memory aid and reference. Procedures help reduce errors that are caused by inaccurate recall of steps or other lapse of memory. Ideally the procedure is integrated into the OJT so that the learner sees the procedure as a useful product, and to help establish an expectation for using it afterwards. The goal of OJT is not to memorize a procedure; it is to perform the procedure skillfully, and using a job-aid is often necessary. In fact, you should encourage the use of procedures until the learner has internalized the steps through ongoing practice.

Tips:

- Have procedures readily available for reference, meaning place the procedure in the area it is used, for example next to the equipment. If it is not readily available or easy to access it probably won’t be used.
- Use images in situations where the task requires a visual assessment, for example determining if the seal on a pressure vessel is *properly sealed*. Pictures are really worth one thousand words
- Use of images are also important if English is not the primary language because pictures can help illustrate the procedural steps visually.

## Designing OJT

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Broadly speaking, there are three things that most good OJT includes:

1. A clear performance objective
  - a. What should the person be able to do *after* completing OJT
2. Outline of actions or steps the worker needs to perform safely and effectively
  - a. Specifically, what *must go right* for the task to be performed without incident?
3. Actions to take if something unexpected occurs
  - a. What the worker needs to be able to do in the event something unexpected occurs (off-normal event).

An OJT outline can be helpful as a planning tool to think through the steps that lead to successful performance. In addition to serving as an effective planning tool, it can help maintain consistency and continuity if, for example, there are different people providing the same OJT and in situations where a new OJT instructor takes over for someone else. Examples of OJT outlines are available from

<https://training.lbl.gov/OJT/>

## OJT Delivery Tips

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Every one of us has our own teaching style, and we should use this to good advantage. The following provides an overview of some qualities that help create an effective teaching and learning partnership.

### Be Prepared

- People generally accept the ideas of an organized person much faster than they accept the ideas of a disorganized one. It is especially important for the Instructor to be organized and familiar with the training process and have the teaching skills needed to provide effective instruction.

### Positive Support

- A positive and open attitude will have a positive effect and enhance the learner's performance. Learner's should feel safe making mistakes as they learn and you should encourage the learner to ask questions. Provide constructive and positive feedback and encouragement. Don't criticize.

### Patience and Empathy

- The key is to allow learners to learn at their own pace. No two Learners will be alike, yet usually they will all try to be successful in their efforts. Do not condemn poor performance but strive to understand what is causing it and work with the learner to fix it. Allow the learner the time and opportunity for practice in order to improve.

### Counselor and Advisor

- The learner expects your instruction and support. They need your feedback on their performance. They want to know what progress they have made and areas where they can improve. Be fair and objective when assessing their performance. Commend them on their strengths and help them to improve their weaknesses.

### Effective Communication Skills

- Communication skills are often referred to as interpersonal or people skills.
- These skills determine how others perceive you. To be effective as a Instructor, you must be responsible for making certain that the messages get through clearly in both directions; information from you to the Learner, and information from the Learner to you.
- The words you choose, the sequence you put them in, and the way you say them has a lot to do with how effective your communication will be. This includes the tone of your voice, your body language and other non-verbal cues that send messages to the Learner.

### Language challenges

- Language and cultural understandings can influence communication and learning. As an instructor if you sense that there is a language barrier that affects communication and understanding, stop and get support from someone who speaks the learner's primary language so that they can help translate and facilitate communication.

## Documenting OJT in Work Planning and Control

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A simple way to document OJT is through the "Manage OJT" functionality within Activity Manager. A tutorial is available here: <https://training.lbl.gov/OJT/OJT-Tool.html>

## CONCLUSION

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When on-the-job training is integrated into the culture of "doing great science" and "doing great business" it becomes an efficient and effective way to develop competent and qualified workers. This document provided an overview of the value of OJT, determining the need for OJT, and a framework for providing effective OJT.

## OJT RESOURCES

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<https://training.lbl.gov/OJT/>