

“Learn to Teach & Teach to Learn”

Soil Survey Division Training Guide (OJT) for Supervisors

- 1. Supervisor Responsibilities**
- 2. On-the-Job-Training (OJT)**

Teaching and learning is a three-legged approach, according to Steve J. Thien, Department of Agronomy, Kansas State University. Formal instruction through the National Employee Development Center (NEDC) and other sources is done in conjunction with on-the-job-training (OJT). The following is a grab bag of ideas and guides, from NEDC, Dr. Ed Jones of Management training consultants, Inc., Robert W. Pike in the Creative Training Techniques Handbook, and the U. S. Navy to help you, the supervisor, in your process of providing OJT to your employees.

“Learning is what they remember
after they have forgotten all that you said”

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Training Plans

Why a Plan?

It is difficult to get to where you want to be unless you map it out first. A training plan for your employees will help you:

- target topics
- target methods of delivery
- target who will lead training
- target proficiency level goals
- target dates for progress and completion
- track progress

The training plan, probably referred to as the Individual Development Plan (IDP) should be based on the employee's job description so that the training is what is needed to function within that position. Each position will have Knowledge, Skills, and Abilities (KSAs) levels that should be attained to function fully within that position.

New Employees

It is especially critical to start new employees off on the correct foot. We want them to be fully functional in their position as soon as possible. We also want them satisfied with the position and their learning process for retention purposes. Your state may have training plans and proficiency models to use to start this process. We also have a plan called the "New soil scientist training plan" on the Soils USDA website. 'Control+click' on the following to find this plan. You may edit it as necessary or just use it as a guide to develop your own plan that is relevant to your situation. Whatever you do, develop a plan and follow it with each new employee.

<http://soils.usda.gov/education/training/plans.html>

Individual Development Plans (IDP)

It is just as critical for supervisors to work with their more experienced employees to insure that they maintain a level of knowledge, skills, and abilities necessary to be productive using new technology, policy, and procedures as they evolve. Maintaining a current Individual Development Plan (IDP) will assist them. Again, your state may have a template for you to use. We also have an IDP on the Soils USDA website. 'Control+click' on the following to find this IDP. You may edit it as necessary or just use it as a guide to develop your own plan that is relevant to your employee's situation.

<http://soils.usda.gov/education/training/plans.html>

Competency (Proficiency) Models

At the time of development of this Guide, NRCS is planning to develop competency (or proficiency) models. Interdisciplinary teams will be used to develop models for all mission critical positions in NRCS, including those of soil scientists. When they become available, they will be available for your use for all employees, including yourself.

Supervisor Responsibilities to the Employee for NEDC Catalog Courses

Prerequisites

Part of an employee's learning process within the IDP is attendance at National Employee Development Center (NEDC) catalog courses. These courses can be found in Aglearn or in the NEDC catalog using the following url:

<http://www.nedc.nrcs.usda.gov/catalog/index.html>

In most cases, these courses have prerequisites in regards to employee experience and/or other learning experience. These prerequisites are necessary to insure that the employee has a good learning experience at that course. If the employee is not ready for a course for whatever reason, the learning experience may be negative and not benefit the employee, you, or the Agency.

It is your responsibility as the supervisor to make sure the prerequisites have been met. You may be asked by NEDC and/or the Soil Survey Division (SSD) to confirm meeting prerequisites as a condition to your employee's attendance at a course. Aglearn may block enrollment if a course prerequisite is not part of the employees completed training history.

Availability of Tools to Apply NEDC Catalog Course Learning

The availability of the appropriate tools, hardware, or software related to the training is necessary to facilitate retention of that learning. If the employee returns to you after the learning experience and does not have the tools available or is not given the opportunity to use them if they are available, the learning will be wasted. As you read further, you will see the importance of repetition in the learning process. The employee will never get enough repetition during the training course to facilitate full retention on their part. That must happen back on the job and the tools and the opportunity to use them must be available.

Providing Follow Up to NEDC Catalog Training to Add Value To and Complete That Training

You send your employees to training to fulfill a need. To make it happen, you the supervisor must be involved in the process. This continues the theme above in regards to opportunities to apply learning upon returning to their job. It continues the theme of repetition to reinforce learning.

With some courses, the learning will not be complete with completion of attendance at the catalog course session. The course, as spelled out in the NEDC course description, may include a project to be successfully completed in order to receive credit for completing the course. If a project is assigned, it will be done in a manner that is productive. In other words, the assignment will entail application or development of data for your survey area. You as the supervisor will be asked to work with the employee to make this happen.

Some courses will have tools or applications used that are different from what you may use in your project. In that case, it will be your responsibility to show your employee how to work with your own and ensure that they use them appropriately in completing the assignment.

You may also want to take the employee's learning and provide a local twist to it. Some subject matter will be taught from a more or less generic national perspective with a regional twist based on location of the course session. For example, map unit design may be a topic in a course taught in Lincoln, NE from a national perspective with field trips that have an aeolian over glacial till twist to them. You will want to apply the map unit design principles your employee learns to your local geomorphology and land use needs.

Completion of all SSD/NEDC training includes the opportunity to earn CEUs(**Continuing Education Units**). This will usually have requirements beyond

mere attendance. In most cases, it will be based on a minimum post test score. CEUs are used to maintain professional accreditation, certification, and/or licensing, usually required by boards responsible for these professional statuses. Upon earning, the CEUs will be entered in Aglearn as **Credit for Professional Education** (CPEs), which can be found when the employee prints out a “Report” for “Learning Hours”. CEUs are provided per guidelines from the ***International Association of Continuing Education and Training*** (IACET), based on one (1) CEU per 10 hours of instruction, after meeting certain guidelines. The Soil Survey Division has worked with NEDC to complete all requirements for CEU assignment for each course.

Tips and Techniques for OJT

Applying Adult Learning Theory

1. Adults have a need to know why they should learn something.

Training should be based on valid needs of the intended audience. All information provided should include reasons for learning. The benefits of learning should be clearly shown. Activities should be based around real work experiences.

2. Adults have a greater volume and different quality of experience than youth.

Design training activities that reflect the actual work the learners will perform. Provide activities that permit learners to compare the theoretical aspects of the training with their experiences.

3. Adults enter into a learning experience with a task-centered (or problem-centered or life-centered) orientation to learning.

Design training so that learners are solving problems or are performing tasks as close to those encountered on the job as possible. When large amounts of information support the problem solving activities, present this information as reference material. Teach learners how to use the information to successfully complete the problem solving activities. Don't do an information dump. Focus activities on "doing" something with information rather than simply "knowing" the information.

More on the application of adult learning theory can be found at:

ftp://ftp-fc.sc.egov.usda.gov/NEDC/isd/adult_learning_theory.pdf

Logic

All information entering the mind is screened by an analytical process that rejects, or at least questions, ideas that don't make sense. Use the following principles to prepare lessons logically.

1. Each point must make sense by itself.
 - The “why” behind your point; they want to know the reason behind your point
 - State your point then ask the learners to apply it to specific instances
2. The points must come in a logical sequence. These can be:
 - Whole to part; big picture first, then specific parts (NSSL data sheet first, then the tiers, then the columns, for example)
 - Importance
 - Time
 - Geographically
 - Magnitude
 - Difficulty
 - Order of performance

The Five Step Process of Instruction

Step 1 – Prepare – establish shared mental model with trainee

- A. Prepare yourself for helping them learn
 - Have thorough familiarity with the subject
 - Breakdown the components of the subject
 - Design training that:
 - Explains how, what, where, why
 - Is clear as to what you expect of them
 - Is clear as to how you are measuring them
- B. Prepare the employee for learning
 - Put them at ease
 - Give them the big picture
 - Let them know what's in it for them
 - Gauge their reactions and respond accordingly

Step 2 – Demonstrate

- A. Tell them about the subject
- B. Show them the task
 - Go through it several times and allow time for questions and discussion

- Avoid too many details
- Demonstrate how to do it
- Explain why it is done this way

Step 3 – Let them try with coaching from you

- Have them tell you
 - They describe job and steps involved
 - Don't move on until they have it down
- Have them "show themselves"
 - You follow the instructions as they give them to you
- Have them explain
- Let them try
- Correct their mistakes
 - Take one thing at a time
 - Set a pattern for correction
 - Establish what is wrong (try to get them to identify that)
 - Present right way again
 - Let them try it again
 - Fix in their mind before moving on
- Help them develop skill
 - Observe and continue feedback

Step 4 – Let them perform without coaching

- Put them on their own
- Encourage them to ask questions when they have them

Step 5 – Follow up

- Debrief as to what they learned
- Determine if any questions remain

Repetition

Studies show that as much as 65-75% of the material learned will be "forgotten" within a week and 90% after 30 days. The world of advertising knows this, which is the reason for the barrage of commercials over and over again. There are techniques to use so that repetition can be used effectively without being boring.

- "Repetition with a difference": give the same information but you vary your approach. An example would be using a film followed by a case study. Another may be a simple question and answer session.
- "Refresher training": cover the same material, also with a difference but in less time and less intensity. Each time, the learner will forget less and retain more and get closer to your desired learning level. This has some application during the training episode but may be best applied over the following several weeks. See *Interval Reinforcement* that follows.

Interval Reinforcement

Using the two techniques above and applying them at intervals over a period of 30 days will help your employee in retaining the skills, knowledge, and abilities. When you apply the preceding four step process for instruction for mapping, for example, then send them out every day to map, you have applied a form of interval reinforcement for that skill. The more they do it, the better they perform the skill. Make sure you apply all parts of step three to ensure that they are on-track with what you taught them.

Many things we ask our employees to do do not require the level of expertise where we apply it every day at a high skill or knowledge level. However, there are some things that we want them to remember or to do when the time is right. If we apply interval reinforcement in six steps, retention of these skills and knowledge will be improved.

Step 1 - Follow the preceding five step process to present the skill or knowledge for the first time

Step 2 – During that same day, use one of the repetition techniques above to hit them with it a second time.

Step 3 – The next day, hit them again using whatever technique works best for you

Step 4 – 4-5 days later, hit them again

Step 5 – 8-10 days after step 4, hit them again

Step 6 – 14 days after step 5, hit them again

Starting with short intervals and increasing their length as you go, they will eventually retain most of what it is you are hoping they gain from your training.

Practical Tips

Something not to do

DO NOT start them off for long periods of time sitting at a computer terminal doing your NASIS data entry. We have heard many complaints about that from new employees attending training. We will lose many new employees who are not given the opportunity to explore all facets of the project soil survey. Think about it. Most of you prefer to get out into the field. Our new employees are no different. Don't bury them at the terminal because of their computer skills. Give them the training they need in all aspects of the job they were hired to do.

Tips for skill sessions

Goes along with the 5-step process previously outlined.

1. Discuss the skill – what is it they are asked to do, why are they doing
2. Show the skill – perform without commentary
3. Show and tell – perform with running commentary
4. Practice – they do it on their own
5. Feedback – provide feedback so they learn how they've performed

Tips for using and answering questions

1. Asking them
 - Plan them; know what you are going to ask your employee
 - Know the purpose of each; are you eliciting information or an opinion
 - Go from general questions to more specific
 - Confine them to one topic area at a time
 - Ask short, clear, and easy to understand questions
 - Don't interrupt a person responding
 - Make sure to get an answer. Do not provide it for them (they will discover that they can wait you out for the answer)
2. Answering them
 - Listen for both intent (what's meant) as well as content (what's being asked).
 - Acknowledge each question, paraphrase each to show you understand or to get clarification
 - Try to answer completely and accurately. Verify the questioner's satisfaction with your answer.
 - Avoid these behaviors when answering questions
 - a. Being unresponsive – don't ignore anybody
 - b. Showing that you feel the question is inappropriate or stupid
 - c. Diverting the question – if at all possible answer as they come up
 - d. Going off on a tangent – don't say "this reminds of a time..." and tell a 10 minute war story. By the time you finish, they may not remember the question.

Tips for developing and using job aids

Job aids can be a valuable tool for OJT. You probably already use many but may not have referred to them as such. A soils key is one example of one you probably already have develop and use. A decision tree for determining if a soil meets criteria for a paralithic contact is another.

For basic concepts in developing job aids, refer to the training job aid site for a file called "Creating Job Aids".

The Seven Laws of Learning

1. *The Law of the Teacher*: “do you, as the supervisor, have personal experience in applying what you are about to teach?” (Hard to teach it if you don’t know anything about it. Credibility is better if you are a bit of an expert)
2. *The Law of the Learner*: “Throughout your instruction, do you constantly emphasize the answer to “What’s in it for me? For your employee?””
3. *The Law of the Language*: “do you always speak so that your employee can understand?”
4. *The Law of the Lesson*: “Are you willing to go from the known to the unknown? Do you start from where they are, establish a base line that they can build from?”
5. *The Law of the Teaching Process*: “Do you get people involved?”
6. *The Law of the Learning Process*: “Learning does not take place until behavior is changed. It is not simply a matter of showing that you can do it but of demonstrating to them that they can do it.” (You change their behavior)
7. *The Law of Review and Application*: “Do you show your employee how to apply it in real life?” (Really comes down to point of whether you are teaching them something just for the sake of teaching it or are they being taught something that will make a difference in someone’s quality of life sometime down the road)