

# Teaching Tips/Notes



## Preparing Effective Demonstrations for the Classroom and Laboratory

When was the last time you delivered an effective demonstration to your students? What if you find you have difficulty presenting demonstrations that effectively communicate, or show the “how-to-do” to your students? Let’s take a look at the components of effective demonstrations that can provide the results you are looking for.

### State the Importance of the Skill

Your students need to know why this skill is important or useful to them. It may be for future employment, or for a job they can perform in their home. If you hear questions such as, “Why am I learning this?” or “Where am I ever going to use this skill?”, you need to ask yourself why are you teaching this skill. Be sure to let the students know as you prepare to begin your demonstration the importance of the skill.

### Obtain Interest of Students

Show an example of what the students will be creating or completing. Provide them with a visual clue. You want to “hook the student”. Ever watch a demonstration of a food item being prepared on a television news program? There usually is a finished product for the audience to see before the demonstration begins. Let students see what they are attempting to complete or attain when they complete the skill.

### All Necessary Materials Ready

Be sure all of your tools and supplies are set up at your demonstration area. There is nothing as frustrating than having to interrupt a demonstration to locate a tool or piece of material that is not at your demonstration area. Make a list of everything you need for a complete demonstration. Check to make sure you have your items in place or in easy reach before you begin.

### Use Questions to Draw Upon Informational Lesson

One method to determine if your students are ready or prepared for the demonstration is to ask questions as you begin, and during the steps of your demonstration. You are checking for understanding, and how this activity relates back to lessons you presented in the classroom. If your students are unsure as to why you are performing specific steps, you may need to pause, and take time to refresh the student’s memory.

### Knowledgeable of Subject

Providing your students with incorrect information can affect your credibility as an instructor. Be sure to do your homework before you begin your demonstration. If a student asks a question that you are uncertain of the answer, let them know that is a good question. Help them locate the answer after the demonstration.

### Stress the Key Points

Be sure to include key points during your demonstration. Reinforce proper safety practices. Make sure students remember to disconnect power tools and machinery from electrical sources prior to making adjustments. If the demonstration requires students to handle cutting tools, be sure students have had adequate safety instruction prior to use. See safety below.

### Performed Skillfully

Practice, practice, and practice. If you fail to perform the skill to the desired level or degree, how can you expect your students to perform the skill? Determine if the skill is appropriate for the experience-level of your students. Get assistance if you need help with perfecting your skill.

### **Setting/Location**

Can all students watch you perform the task? Do you need to arrange stools around a table or bench for students to sit while a row of stands behind to view? Be sure to select the best setting. Make sure your voice can be heard. If you must compete with background noise and cannot move the class to another location, consider using a cordless microphone and portable speaker.

### **3-Step Demonstration Technique**

This is the heart of effective demonstrations for student achievement of a task or skill.

- (1) Instructor does and tells. The first step is the instructor performs the skill while verbalizing the steps and key points.
- (2) Student does and tells/or Student does and Instructor tells/or Teacher does and student tells. During the second step, call a student volunteer forward to repeat the skill. Ask the student to verbalize the steps as he/she performs the skill. If the student is uncomfortable with talking, ask if they would prefer to have you talk while they perform the steps. If the student is uncomfortable with performing the task, ask them to repeat the steps while you perform the task.
- (3) All students do (practice) under teacher supervision. During the third step, allow students to work on the task while you closely monitor their progress. This provides you with opportunity to see if students can replicate the process of performing the task.

### **Emphasize Safety**

Always take into account personal safety. If the demonstration requires students to wear personal safety protection such as safety glasses, splash goggles, or lab coats, make sure you model it first. Never place you or your students in harm's way. Remind students about safety practices covered during lecture. If a student may come to harm from not following directions, make sure each student has had proper safety instruction, and that a signed and dated safety exam is kept on file before the student attempts the skill.

### **Time Required**

The attention span of a high school student (and a college student) is limited. A rule of thumb for demonstrations is to keep it to less than 15 minutes in length. Any longer, and you may be interjecting too much informational material (best presented in lecture before the demonstration). Or cut back on the number of steps and prepare two separate demonstrations. If the skill is too complicated (too many steps to follow or remember) the student may become frustrated if they are not successful.

### **Job Operation Sheets (JOS)**

Create an instruction sheet to serve as a reference for students to complete the skill. The JOS should include the objective, a list of tools and materials, steps to perform the task, key points (including safety), and illustrations or graphics. The JOS serves to refresh the student's memory and provides a step-by-step procedure to complete the task. Teachers should have a JOS at their side when performing the demonstration to serve as a reminder or reference. JOS should be distributed to students at the end of the demonstration as the class practices the task.

### **Assessment**

Develop a scoring rubric to measure student achievement or mastery of the skill. The rubric should present a breakdown of the point value for the project or task. The student is able to see where the most value is assigned to the activity (i.e. appearance, within measurable tolerances, workmanship, use of time, etc.). A column on the scoring rubric should allow the student to assess their own ability and provide their own score of their skill. A column for the instructor will allow the student to see how he/she compares to their instructor.

Taking the time to properly prepare will help you achieve effective results.

**Source:** McCormick, Floyd (1994) *The Power of Positive Teaching*. Krieger Publishing Company

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