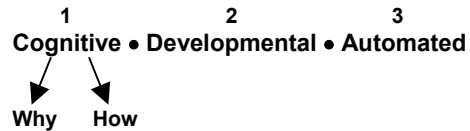


## Teaching Procedures

**Learning objective:** At the end of this session, participating residents will be able to teach a learner how to perform a procedure.

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Learners must go through **three phases of psychomotor skills development:**



### 1. Cognitive phase:

- Learners first need to understand the “**why**” components of the procedure:
  - Why learn procedure?
  - Indications
  - Contraindications
  - Risks/complications
  - Benefits
  - Alternatives
- Since learners prefer active learning, teach through questioning: Has the learner done procedure before? What does s/he recall about indications, risks, etc.?

- Then address the “**how**” components:  
Demonstrate procedure step by step.
- Ask for questions.
- Ask learner to verbalize the steps.

## **2. Developmental phase:**

- Next, learners need to practice.
- Have learner demonstrate procedure for you, explaining each step out loud.
- Provide guidance for each step, both verbally and physically.
- Evaluate learner’s proficiency:  
what did learner do right, wrong?
- Ask learner to self-evaluate, then give specific feedback, starting with the positive aspects of the performance.
- Does the learner have any questions, now that s/he has practiced the skills?

## **3. Automated phase:**

- Finally, learners begin achieving proficiency and are ready for independent performance.
- Observe performance again, this time with minimal interruption.
- You can now teach the fine points.
- Encourage self-directed learning:  
What are the learner’s future learning goals, and how does s/he want to achieve them? What have you read or done that helped you learn?
- Arrange for a follow-up session.

**References:**

Dunnington GL, DaRosa D. Instructor's Guide for Teaching Residents to Teach. Springfield, IL: Association for Surgical Education (2000).

Edwards JC, Plauche WC, Marier RL. Handbook of Conferences on Teaching Skills for Residents. New Orleans: Louisiana State University (1988).