

TEACHING TIPS FOR RESIDENTS (or anyone else)



A Primer with Four Teaching Tools:

- Principles of Adult Learning
- Questioning as a Teaching Tool
- Tips for Teaching with Limited Time
- Giving Feedback

PRINCIPLES OF ADULT LEARNING

Adults learn best when . . .

- **INSTRUCTION IS RELEVANT**

Adults must see a reason for learning something. The learning must be applicable to their work, other responsibilities, or their interests.

1. Identify clear goals and objectives for your learners
2. Point out the practical applications of theories and concepts
3. Allow learners to be self-directed (choose topics of interest, identify their own knowledge gaps, etc.)

- **INSTRUCTION IS PROBLEM-CENTERED**

The road to the diagnosis is more important than the “right” diagnosis itself. Learners can acquire new skills & information as they problem solve.

1. Use engaging clinical cases
2. Think aloud as you reason through diagnostic or management possibilities
3. Ask questions that require reasoning
4. Ask questions about hypothetical cases
5. Give learners time to think and respond to questions

- **INSTRUCTION IS CONDUCTED IN A SAFE LEARNING ENVIRONMENT**

The learning environment should be respectful and encourage processing and verbalization of thought.

1. Introduce yourself and use learners’ names
2. Invite learners’ opinions
3. Acknowledge your own limitations
4. Encourage questions and independent thinking
5. Clarify your expectations
6. Safe ≠ Easy

- **INSTRUCTION IS EXPERIENCE ORIENTED**

Adults need to connect new learning to their lifetime of knowledge and experiences. Past experiences are relevant to the understanding of future problems.

1. Draw on learner’s experiences to reinforce key teaching points (e.g. When was the last time you saw a case like this?)
2. Relate concepts to learners’ experiences
3. Provide time for learners to practice skills while you supervise
4. Increase responsibility when appropriate
5. Use teachable moments

- **FEEDBACK IS PROVIDED**

Learner needs to know whether they are learning correctly so that they can succeed.

1. Refer to goals to guide discussion
2. Make it timely
3. Be specific
4. Use objective language
5. Ask learners to self-assess first
6. Make plans for improvement

- **LEARNING IS ACTIVE**

The most permanent type of learning occurs when learners are involved in their own learning process. You can see that active learning is integral to all of the principles of adult learning mentioned above.

1. Avoid long lectures
2. Encourage note taking
3. Use modeling instead of shadowing
4. Use brainstorming
5. Have learners reformulate material
6. Assign and discuss readings
7. Encourage learner to learner interaction

QUESTIONING AS A TEACHING TOOL

1. RECALL QUESTIONS

Recall questions are used when you want the learner to recall facts (scientific, medical, patient information, skills). Students or interns who are just beginning to develop clinical reasoning skills (in a particular field) may initially only be able to answer recall questions. Although knowing the answers to these types of questions is often critical, we should challenge them to analyze, synthesize and apply as well.

Example: What are the 3 most common causes of cholecystitis?
Explain the correct way to examine the abdomen?
What is this patient's bilirubin level?

2. ANALYSIS/SYNTHESIS QUESTIONS

Analysis and synthesis questions require the learner to demonstrate understanding of a topic versus being able to simply present a list of facts. The learner is able create a context into which the individual pieces of data fit. They must apply deductive reasoning and logic to answer these questions.

Example: How can we discriminate between the diagnostic possibilities we just listed?
What factors are influencing your choice of diagnoses?
How do the patient's various symptoms relate to each other?

3. APPLICATION

You are asking the learner to apply what they know (information or understanding) to a specific patient. You can ask them to apply their knowledge, skills, or attitudes to the management plan, diagnosis, procedure, etc. of a particular patient. ***Application questions can be recall-application or analysis/synthesis-application questions.***

Example: How will you treat this patient's pain?
How will you know when you have confirmed your diagnosis?
Can you show me the techniques you would use to examine this patient for ascites?

4. SELF ASSESSMENT

Self assessment questions require learners to assess themselves at every level: Their basic knowledge, their ability to synthesize data (for diagnosis or plan), their ability to apply knowledge, their technical skills and their attitudes.

Example: Do you think you have enough experience to deal with this patient?
Do you think you understand the pathophysiologic mechanisms of DKA?
How would you handle this same scenario if presented with it again?

Key point about all types of questions:

1. Remember to wait for the answers to your questions. Try 5 seconds.
2. Try not to ask a question that requires a *yes* or *no* answer. If you do, you may need to ask some probing questions – How did you come to that conclusion?
3. Encourage student-to-student interaction. What do you think about Dan's idea?
4. Don't overuse any one technique, including questioning.

TIPS FOR TEACHING WITH LIMITED TIME

(Five Microskills for Clinical Teaching)

This practical teaching technique, composed of 5 consecutive “microskills” or steps, is based on many of the principles of adult learning. It is a great technique to use when you’re teaching 1-on-1, and when time is limited (it is also called the one minute preceptor).

1. Get a commitment – *What do you think is going on?*
2. Probe for supporting evidence – *What led you to that conclusion?*
3. Teach general rules – *When this happens, do this...*
4. Reinforce what was right – *Specifically, you did an excellent job of...*
5. Correct Mistakes – *Next time this happens, try this...*

Microskill 1: Get A Commitment

This step is necessary when your learner either waits for your response or asks for your guidance. You want learn what they are thinking about the case.

Examples of questions likely to get a commitment:

- What do you think is going on with this patient?*
- Why do you think the patient has been non-compliant?*
- What do you want to do next in the work-up?*
- What do you want to accomplish during this hospitalization?*

Examples of questions not likely to get a commitment:

- Sounds like pneumonia, don't you think?*
- Anything else?*
- Did you find out which symptoms came first?*

Microskill 2: Probe for Supporting Evidence

Once the learner has stated his/her opinion, you want to avoid your instinct to tell them whether you agree or not. Instead, ask questions to find out their reasoning behind their opinion. Their knowledge may not be evident before this step. You are taking the opportunity to evaluate them while allowing them to think through the case.

Helpful Approaches

- What are the major findings that led to your conclusions?*
- What else did you consider?*
- Why did you rule out that choice?*

Non-helpful Approaches

- I disagree. Do you have any other ideas?*
- This seems like a classic case of....*
- What were her vital signs?*

Microskill 3: Teach General Rules

You have evaluated what this learner knows and what he/she needs to learn about. Use this opportunity to provide the learner with some general concepts or principles related to the case. The learner can then apply these concepts to other patients in the future.

Helpful Approaches

If the patient only has cellulites, incision and drainage are not possible. You have to wait until the area becomes fluctuant to drain it.

Patients with UTI usually experience pain with urination, increased frequency and urgency, and they may have hematuria. The urinalysis should show bacteria and wbc's and may also have some rbc's.

Non-helpful Approaches

This patient has heart failure and needs diuresis. Don't start the beta blocker now.

I'm convinced that to diagnose cellulites you need an aspiration for culture.

Microskill 4: Reinforce What They Did Right

Your learner may or may not know what aspect of his/her reasoning/management plan/diagnostic strategy/presentation style was effective. Make sure to let the learner know, specifically, what was correct and effective.

Helpful Approaches

You did a very thorough job evaluating the patient's abdominal complaints. Identifying the combination of anemia and blood in the stool was critical in making the diagnosis of colon cancer.

You considered the patient's finances in your selection of drugs. Your sensitivity to cost will likely contribute to his compliance.

Non-helpful Approaches

You are right. That was a good decision.

Nice presentation.

Microskill 5: Correct Mistakes

If the learner has made a mistake or needs improvement, it is crucial to his/her learning that you address it. You might want to let the learner critique him/herself first then offer your specific observations and ideas for improvement.

Helpful Approaches

I agree that the patient is probably drug seeking, but we still need to do a careful history and physical exam before we make any recommendations.

Non-helpful Approaches

You did what? What were you thinking?

GIVING FEEDBACK

- Feedback should be undertaken with the teacher and trainee working as allies, with common goals.
- Feedback should be well timed and expected.
- Feedback should be based on first-hand data.
- Feedback should be regulated in quantity and limited to behaviors that are remediable.
- Feedback should be phrased in descriptive, non-evaluative language.
- Feedback should deal with specific performance, not generalizations.
- Feedback should offer subjective data, labeled as such.
- Feedback should deal with decision and actions, rather than assumed intentions or interpretations.

STRUCTURING A CONSTRUCTIVE FEEDBACK SESSION

- ✓ Conduct feedback sessions in a private, relaxed, and supportive atmosphere.
- ✓ Outline an agenda for the session.
- ✓ Check for degree of agreement with other teachers and staff.
- ✓ Allow the learner to discuss his/her experience or performance first. Be a good listener.
- ✓ Share your information. Link to the learner's goals.
- ✓ Compare your assessment with the learner's and discuss.
- ✓ Establish follow-up plans.
- ✓ Summarize.

Some of the material was adapted from: Instructor's Guide for Teaching Residents to Teach. Gary Dunnington, MD and Debra DaRosa, PhD. Association for Surgical Education, the Stanford Faculty Development Clinical Teaching Skills Program, and Knowles, Malcolm S., Elwood F Holton III and Richard A. Swanson. 1998. The Adult Learner. Houston: Gulf Publishing.