Teaching With Limited Time & The One Minute Preceptor

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October 2019
# FAME for Radiology Faculty Series

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Overview

• What makes a good teacher of radiology?
• Strategies for teaching with limited time
• The One Minute Preceptor
Objectives

• Identify situations in your current practice that are opportunities for teaching with limited time

• Define the steps of the "one minute preceptor"

• Practice using the "one minute preceptor" and skills for teaching with limited time
What makes a good teacher?

• Think of a really great teacher in radiology

• Think of 3 qualities that make them a great teacher
Qualities of Great Teachers

Knowledgeable
Qualities of Great Teachers

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<th>Challenged the learner</th>
<th>Interactive</th>
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<td>Competent- made the difficult look easy</td>
<td>Enthusiastic</td>
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<td></td>
<td>Energetic</td>
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<td>Sense of humor</td>
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<td>Recognized the learner’s potential</td>
<td>Role model “loved learning”</td>
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<td>Not condescending</td>
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<td>Motivates</td>
<td>Patient</td>
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<td>Gave positive feedback</td>
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<td>Spent time with learners</td>
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<td>High standards, integrity</td>
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<td>Recognized different learner types and styles</td>
<td>Creative</td>
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<td>Concise</td>
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Characteristics

When asked what they found to be effective characteristics of clinical teachers, students answered that their preceptor:

- was clear of what she expected of me
- was keen to teach me new things
- was confident that I could carry out the tasks she assigned me
- was interested in talking about his teaching
- allowed me to be an active participant in planning and carrying out patient care and made sure I felt ready to take on new tasks
- asked me for feedback about how they were doing as teachers
- paid attention to my learning style
- was open to questions.
Barriers to teaching in radiology?

- Different levels of learners together
- Skill level of learners (very advanced v. very basic)
- Patient care needs
- TIME!
Teaching with Limited Time

• Identify teachable moments
• Asking good questions
• One Minute Preceptor
Identifying Teachable Moments

• A *teachable moment* is an unplanned opportunity for teaching that must be sensed and seized by the teacher.

• Examples?
Teachable Moments

- When a learner asks a question
- When a learner demonstrates knowledge
- When a learner makes a provocative statement
- When a learner expresses misinformation or lack of information
- When a learner expresses a need for change
Asking Good Questions

- Teaching often defined as the activity of telling students something or giving them info
- Adult learning: asking good questions most effective
- Questioning allows preceptor to:
  - Determine learning needs
  - Stimulate/engage thinking
  - Transfer responsibility for learning to the learner
Tips for Effective Questions

• Whenever possible, ask rather than tell
• Ask one question at a time, keep concise
• Adjust difficulty to learner ability, work towards higher level thinking
• Ask questions about process as well as outcome
• Model the kinds of questions you want students to ask
• Avoid “guess what I’m thinking”
Low-level Questions

Ask for recall of facts, concepts, principles, or definitions.

For example:
"What is the recommended timetable for polio immunization?"

While this type of question can be useful to help you assess a student's understanding of basic facts, health professions education often focuses too much on lower-level cognitive performance.

High-level Questions

Ask students to analyze, synthesize or evaluate information and to form judgments.

For example:

"What would you recommend with regard to screening mammography for this 45-year-old patient?"

Such questions enable the preceptor to see how learners use their knowledge to make decisions.
Open-ended Questions (divergent)

- Allow a range of possible answers, invite reflection and speculation, and stimulate problem solving.
- Require higher-level cognitive performance and elicit longer answers.
- Expose student's thinking processes and level of expertise.
- Allow students to display what they know and don't know.
- Should be used as often as possible, and in a sequence that helps students build their understanding.

Open questions can be used to prompt students to:
- **Diagnose:** "What is your interpretation of the data?"
- **Decide:** "What interventions do you suggest?"
- **Hypothesize:** "What would you do if this patient were 20 and not 40 years old?"
- **Challenge:** "What leads you to that conclusion?"
- **Summarize:** "What are the important issues that emerged today?"
Questions to Avoid

Leading questions:
• “You understand why this CXR can’t be consistent with pneumonia, don’t you?”

Assertions that masquerade as questions:
• “That blood is obviously in the subdural space rather than epidural space, wouldn’t you agree?”

Questions that humiliate or put students on the spot:
• “Haven’t most students mastered the description of breast calcifications by end of the second breast imaging rotation?”
One- Minute Preceptor

• Well-known teaching strategy
• Microskills-based
• Addresses some common barriers to effective teaching
• Most data
• First published by Neher, 1992
  – “A Five-Step Microskills Model of Teaching”
EVIDENCE FOR THE ONE-MINUTE PRECEPTOR (OMP)
Evidence: Learners

• Residents taught OMP have better student ratings (Furney 2001)
  – Improved including student in decision making
  – Improved feedback
• Students perceive OMP better for teaching than traditional (Teherani 2007)
• Shifts teaching points from general comments to disease-specific teaching (Irby 2004)
Evidence: Teachers

• Preceptor feedback behavior improved (Irby 2004)
• Increased teacher comfort assessing resident abilities (Salerno 2002)
• Easily taught in 1-3 hours to all teachers and use continues up to 4 years (Neher 1992)
One minute preceptor: steps

• 1. Get a commitment.  
   What do you think is going on?

• 2. Probe for supporting evidence.  
   Why do you think this?

• 3. Teach a general rule.

• 4. Reinforce what was right.  
   Tell them what they did right & the effect it had.

• 5. Correct mistakes.  
   Tell them what they did not do right & how to improve for next time.
#1 Get a commitment

- Gives learner responsibility & ownership
  - Forces them to be more than a reporter
- Encourages information processing
- Allows assessment of synthetic skills of learner
  - Demonstrates knowledge, ability to process info
  - May show reluctance to expose weakness
  - May show dependency on others
#1 Get a Commitment

• Pitfalls
  – Interrupting
  – Collecting basic data
• Do: Allow learner to formulate the problem
• Don’t: Ask for more data or provide an answer
• Example: “What do you think is going on?”
  “What would you like to do next?”
Example Preceptor questions

• “What other diagnoses would you consider in this setting?”
• “What do you think is the most likely diagnosis?
• “How do you think we should treat this patient?”
• “Do you think this patient needs to be hospitalized?”
• Examples for the radiology setting?...
#2 Probe for supporting evidence

- Explores learner’s clinical reasoning
- Demonstrates clearly thought process and clinical reasoning
- Allows for thinking out loud
- Allows for teacher assessment of synthesis skills in the learner
#2 Probe for Supporting Evidence

- **Pitfalls:**
  - Grilling or pimping
  - May pass judgment- resist the urge to negate the original diagnosis
  - Asking closed patient fact questions – “was there blood in the stool?”

- **Do:** Diagnose learner’s understanding of the case, gaps/misconceptions, poor reasoning or attitudes
- **Don’t:** ask for textbook knowledge
- **Example:** “What led you to that conclusion?” “What else might be happening here?”
Probe for Supporting Evidence-Example Questions

• “What factors in the history and physical support your diagnosis?”
• “Looking at your three diagnoses, which explains all of the findings?”
• “What facts do not support your diagnosis?”
• “What other lab tests would be helpful supporting this diagnosis?”
#3 Teach a general rule

- Fill gaps in knowledge and emphasize most important learning points
- Targeted to learner’s level of understanding
- Can be systems, processes, patient care considerations
- Consider showing or giving a resource
#3 Teach General Rules

- Pitfall --- avoid giving a “mini-lecture”
- Do: help the learner to go from specific points in case to general knowledge
- Don’t: try to teach too much!
- Example: “Let’s review the three hallmark signs of this diagnosis”
#4 Reinforce what was done Right

• Sounds like feedback to me!
• Be explicit
• Be specific
• Link the behavior to an impact
• Pitfall:
  – General praise – “That was a good presentation”
#4 Reinforce What Was Done Right

“Your diagnosis of stress fracture was well supported by your history and physical. You clearly understand the risks with your questions of increased activity.”
#5 Correct Mistakes

- Teachable moment!
- Be specific
- Mistakes not corrected may happen again
- Give alternatives
- Careful about who is also in the preceptor room

Pitfall:
- General comments
- Avoidance
“In your differential you had the most common causes of abdominal pain in children. I encourage you to always think about at least one surgical or critical diagnosis to be certain you don’t overlook it.”
One minute preceptor: steps

• 1. Get a commitment. What do you think is going on?
• 2. Probe for supporting evidence. Why do you think this?
• 3. Teach a general rule.
• 4. Reinforce what was right. Tell them what they did right & the effect it had.
• 5. Correct mistakes. Tell them what they did not do right & how to improve for next time.
Practice Case in Radiology

- 35 yo male with abdominal pain
One Minute Preceptor

**Strengths**
- Quick, focused
- Good for case-based teaching
- Elicits clinical reasoning
- Fosters ownership of learning
- Built in feedback

**Limitations**
- Rigid structure
- More limited for very weak or very strong learners
- Not designed for delivering a lot of content at once
Summary

• Precepting is a critical part of physician education

• Teaching with Limited Time is an intentional skill that has to be learned, practiced, and reflected on

• One Minute Preceptor is a well known, accepted, and proven method to work

• Consider how you might use this in your practice with different learners
References