Not Another Bedside Lecture - Active Learning Techniques for Clinical Instruction

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Although teaching and learning in emergency medicine (EM) take innumerable forms, bedside teaching in the clinical environment is essential in EM education. Trainees develop expertise over time by working side-by-side with experienced mentors to gain insight and build understanding. However, bedside teaching in the emergency department is fraught with challenges: high-volume patient numbers, frequent interruptions and competing demands, as well as changing makeup of teacher/learner teams.[1] In addition, information cannot simply be delivered passively if it is expected to be fully integrated into the learner's understanding.[2,3] A bedside lecture, even framed in the clinical context, remains a passive teaching modality. Clinical teachers in EM must incorporate efficient teaching into the clinical encounter, while assessing learners' clinical reasoning and providing for safe and expedient patient care.

Multiple frameworks, such as the One Minute Preceptor (OMP) and SNAPPS, have been developed for teaching and assessing clinical reasoning skills in time-sensitive environments, while a number of other discrete teaching tools have been proposed to augment these teaching schemas.[1,4] Here, we describe three simple but powerful techniques that may be used in the EM workplace to create active learning moments. Used alone or within a broader framework, these techniques do not require preparation or significant time and may be adapted for a variety of clinical contexts to encourage contextualization of knowledge content, clarify difficult

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32 concepts, and improve bedside teaching. Based on a constructivist perspective on
33 learning, these techniques prompt learners to actively create connections between
34 past knowledge and current experience, with an eye toward future applications.[5,6]
35 The teacher is a facilitator of this construction rather than a purveyor of facts.
36
37 Consider the following case example, presented by a trainee:
38
39 "Julie is a 16-year-old girl who presents with right lower quadrant abdominal pain.
40 It started several days ago but got worse after gymnastics practice yesterday. It is
41 currently 10/10, worse with movement. She has vomited twice but has not had
42 fevers, diarrhea, or constipation. She denies any medical issues or surgeries. Her last
43 period was 2 weeks ago. She is here with her parents and it was embarrassing to ask
44 about a sexual history, so I didn't press the issue but she does not smoke or use
45 drugs. She looks uncomfortable on exam but her only significant finding is exquisite
46 tenderness in the right lower quadrant. I'm worried about appendicitis and think we
47 should get a CT scan and consult surgery."
48 As the clinical educator, consider the following techniques when staffing this patient
49 with your trainee:

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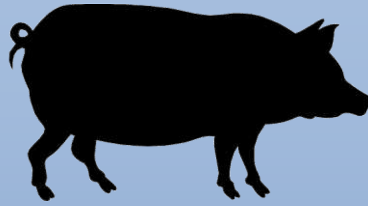

The Muddiest Point

The Muddiest Point technique acts as a pause procedure, giving time for the learner to critically assess an experience or learning, focusing on areas that did not make sense or require further explanation ("muddy points"). This technique allows the learner to identify areas of confusion, providing a teaching opportunity while also providing a chance for self-assessment.

"What was the *muddiest point* in taking that patient's history?"

"During that resuscitation, what was the *muddiest point*?"

Utilizing the Muddiest Point during and immediately after a shift allows the learner to reflect back on an encounter, forcing them to analyze their thought process or even their work flow. It may also allow the learner to identify areas of weakness and provide opportunity for feedback.

55

56 As a supervisor, you ask your trainee, "When talking with Julie, what seemed to be
57 the *muddiest point* in your history?"
58
59 Your trainee responds, "Well, I knew I needed to consider STI's in my differential
60 but it was difficult to obtain a social history from Julie with her family in the room. It
61 was awkward to have that discussion… I suppose I could have asked them to step
62 out momentarily to ask more questions."
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64 By allowing your trainee to identify the most difficult portion of a scenario, you
65 allow them to trouble shoot their process in a guided manner. This promotes self-
66 guided reflection and future improvements.

67

68

69

Thinking Hats

Encourage the learner to try on different metaphorical "hats," each representing a different perspective on a particular problem.

"How do you think the patient understood this?"

"What does this problem look like from the nurse's perspective?"

"How would you feel if this were *your* family member?"

By encouraging learners to view clinical problems from a variety of stakeholders' perspectives, new and useful approaches may be envisioned. This type of perspective-taking encourages critical thinking, helps identify factors that may impact patients' outcomes, and may help elucidate root causes for *why* others may view a problem differently.

88

89

90 You ask your trainee to consider the scenario from Julie's perspective:

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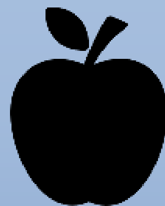
92 "If *you* were a teenage girl, would you want to talk about sexual history with family
93 in the room? Would you be worried about confidentiality? Safety? Would you be
94 honest?"

95 By considering various perspectives, including that of the learner ("Why did you not
96 ask about sexual history? Does it make you uncomfortable? Were there other
97 reasons?"), learners can reflect on their practices and identify opportunities for
98 improvement in future interactions.



Harvesting

After a patient encounter ask the learner to reflect on what they learned with two simple questions.

"So what?" – why is this important and what are the implications?

"Now what?" – how will you apply this to future patients?

This pause procedure allows learners to harvest their own meaningful learning points from an experience and think about how they will apply the knowledge to future patients. It also allows you as the instructor to assess the learner's level of understanding and provide clarification if necessary.

A

pelvic

102 exam is
103 performed and is concerning for cervical motion tenderness with discharge. An
104 ultrasound is ordered and is normal. Julie is diagnosed with pelvic inflammatory
105 disease based on these findings.
106
107 You ask the learner "So, what did you learn from this case?"
108

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Your trainee responds, “Pelvic inflammatory disease can present suprisingly like appendicitis!”

You follow-up by asking, “Now what will you do next time?”

Your trainee replies, “I will take a confidential sexual history on every adolescent patient!”

By asking the trainee to pause, reflect on what they’ve learned, and commit to a future action, they are more likely to learn from the experience.

While not every teaching technique is suitable for every learning scenario, by becoming facile with a number of discrete, specific options, clinical educators can develop a versatile bedside teaching toolbox

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Figure 1. "The Muddiest Point"

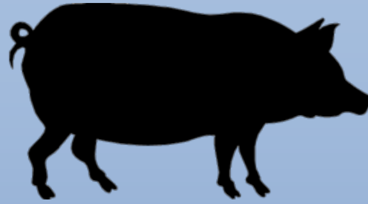

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Figure 2. “Thinking Hats”

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Figure 3. "Harvesting"

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