



Tips and Tricks for the Teacher's Toolbox

Effective Questioning

12 Tips for Effective Questioning

Ask questions to scaffold learning

01

Understand question categories and use appropriately

02

Use all levels of questioning

03

Ask questions as a model of clinical reasoning

04

Maintain psychological safety; probe don't prod

05

Break away from the Initiate-Respond-Evaluate (I-R-E) pattern

06

07

When possible, allow learners to discuss in pairs or groups before answering questions

08

Allow wait time (processing time) after asking question

09

Know when to stop questioning

10

Pay attention to learner responses

11

Ask questions for a brief written response when possible

12

Use recording to analyze the sequence, category, and level of questions you asked

01: Ask questions to scaffold learning

- What do my learners already know about this topic?
- What do I want my learners to know about this topic when they leave today?
- What questions can I ask that will help learners think and fill in knowledge gaps?



The trick is to ask questions that help learners access what they do know and build from there with further questions as guides.

02: Understand question categories; use appropriately

03: Use various levels



- Convergent (close-ended) vs. divergent (open-ended)
- Based on knowledge dimensions
Factual, conceptual, procedural, metacognitive
- Based on intention of question and nature of answer
Factual, clarification, broadening or extension, justifying, hypothetical, questions about questions, and redirected questions
- Various cognitive levels
Remembering (knowledge), understanding (comprehension), applying (application), analyzing (analysis), evaluating (evaluation), creating (synthesis)

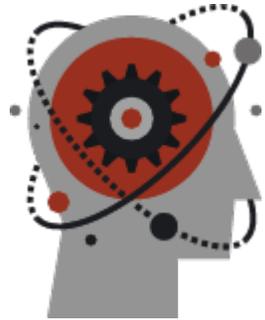


Sequencing and balance

Sequencing- asking questions in planned patterned order to elicit meaningful responses

Balance - asking a mix of questions both convergent and divergent, from multiple knowledge domains, at varying cognitive levels.

04: Ask questions as model of clinical reasoning



- Clinicians engage in unique patterns of thinking, especially when diagnosing and treating a patient - 'clinical reasoning'.
- These patterns of thinking must be explicitly taught to and practiced by learners until they are able to internalize and practice it independently.
- Medical educator can model clinical reasoning for medical learners.

[More information...](#)

05: Maintain psychological safety; probe not prod

- Prodding \equiv When intent is to humiliate, cause discomfort, or maliciously expose knowledge gaps.
- Prodding \neq genuine [Socratic method](#)

For psychological safety:

- Create atmosphere of respect.
- Allow sufficient 'wait time' after posing questions.
- Let learners know they can say 'I don't know' or ask for help from others.
- Prompt when learners 'don't know' to help them voice what they know and build connections.
- Use verbal and non-verbal communication to show support while learners are challenged.
- Do not ignore inadequate performance. Correct in a compassionate manner.



[More information...](#)

06: Break away from *Initiate-Respond-Evaluate* pattern



Initiate (educator), Respond (learner), Evaluate (educator).

Medical educator: *Thomas, how do we treat hypertension in this patient?*

Learner: *I would start by talking to the patient about some lifestyle changes.*

Medical educator: *Good, that is right.*

Use **'third-turn response'** to probe further and invite other responses to further learning.

- Asking learners to co-construct the evaluation.
'Can someone explain why that is a good option at the moment?'
- Asking for a further explanation.
'Can someone explain under what circumstances we might turn to a pharmaceutical intervention?'
- Asking learners to agree or disagree.
Would someone like to challenge that? Are there other things we should consider?'
- Building on the learner's response by making clinical reasoning explicit.
'You are correct that based on the usual guidelines we should start with a conversation about lifestyle changes. However, in this case, I know that this person has an eating disorder in their background, and I would worry about exacerbating that. So, instead I might start with...'

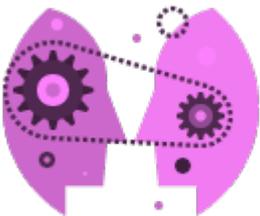
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07: Allow learners to discuss in pairs before answering questions, *when feasible*

Working in pairs is feasible in small group settings

Good questions for paired discussions:

- On difficult concepts about which learners have misconceptions.
- Related to main learning objectives that learners need to master.



Working in pairs:

- Ensures that everyone participates.
- Makes each person accountable for thinking, learning, and adding to collective learning.
- Gives learners opportunity to teach information to another person.

[More information...](#)

08: Allow wait time (processing time) after asking question

- Wait for at least 3-5 seconds after posing question.
- Wait time is critical to good questioning technique
- 'Wait-time 1' = time educator allows to elapse after he/she has posed question and before learner begins to speak.
'Wait-time 2' = time educator waits after learner has stopped speaking before saying anything.

[More information...](#)



09: Know when to stop asking questions

When questions become unanswerable for learners, medical educators may:

- Ask another learner to help answer
- Ask learners to research it and report back in the next class session
- Step in and explain part of the answer
- Step in and explain the entire answer



[More information...](#)

10: Listen to learner responses



Effective educators pay attention to learner responses noting:

- Did the learner understand the concept? How do I know?
- What level of understanding did the learner response reveal?
- Did the learner just know the basics, display surface level understanding, or provide full understanding of the concept?
- Should I call on another learner to add?
- Was there a misconception? Should I call on learners to question the response?
- Was this question too difficult for the learner? How can I break it down to better scaffold?
- Based on learner responses, should I go back (reteach) or forward in my teaching?
- Was the learner able to justify their response (explain why)?

[More information...](#)

11: Ask questions for a written response

The medical educator can use quick writes, exit slips, or digital conversations



- **Quick writes:** Educator poses a question and asks learners to take 1-2 minutes writing their own thoughtful responses.
- **Exit slips:** At the end of session educator asks 1-2 questions such as *“What was clarified for you today?”* *“What still confuses you?”* *‘What is something you learned from another person in your group today?’* Learners write their own answers and hand them in as they leave class.
- **Digital conversations:** The medical educator creates a shared online document where educator and/or learners pose questions and write responses to each other. This document can be added to before, during, and after class sessions.

[More information...](#)

12: Analyze questions asked by educator

Use video or audio recording to analyze questioning.

Listen to recording, write down questions medical educator asked.

Analyze for:



- Bloom's taxonomy - levels of questioning
- Categories of questions
- Wait time
- Sequence and balance of questions
- IRE patterns
- Probing or prodding
- Quality of learner responses
- Wait time

Questioning will always be a common teaching strategy in medical education. When used incorrectly questioning can leave learners feeling singled out and not in a position to learn, or worse - threatened or humiliated. When used effectively, questioning is a powerful learning tool. Therefore, medical educators deserve further development around questioning techniques. Effective questioning using the tips provided here will help medical educators support struggling learners, challenge advanced learners, assess learner understanding, and balance learner participation and engagement. The more targeted medical educators can be in asking effective questions, the more likely medical education can develop thoughtful clinicians ready to take on the challenges of today's medical field. p.1335

Pylman S, Ward A. Medical Teacher. 2020, 42:12.

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