Best Practices for Effective and Efficient Teaching in Clinical Environments

August 1, 2025

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Dartmouth GEISEL SCHOOL OF MEDICINE | ACADEMY OF EDUCATORS AND SCHOLARS

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Learning Objective(s)

- At the conclusion of this learning activity, participants will be able to:
  - Utilize concepts and strategies to maximize learning in clinical environments.
  - Compare and contrast selected teaching techniques used to assess and teach clinical reasoning in the clinical environment.

"Wait, I don’t even know where you were born"

Who are you?

- What is your role in medical education?
- What do you hope to take away from this session?
- What perspectives/insights do you want to contribute to this session?

Clinical Educators: Our Task

- Produce a sustained influence on the way our learners think, feel and act… ultimately, to enhance patient outcomes.
- Guide learners along the path of graded autonomy in patient care.
  - one patient,
  - one session,
  - one week,
  - one month,
  - one year at a time

Key Points

- Consider Characteristics of Master Educators (Does the hat fit?)
  - Competent and professional
  - Enthusiastic and efficient
  - Communicate clearly
  - Encourage participation
  - Challenge learners to grow
- Best Practices
  - Simplify
  - Have a Plan
  - Focus on Microfeedback
  - Become familiar with a few teaching models

Impact

- Reflect on a teacher that left a lasting impact on the way you practice.
- Describe why they were so effective.

"Always two there are, no more, no less. A master and an apprentice."

Evidence Based Education?

- Much of research on “effective teaching” is qualitative, survey based
- Very little evidence relating student performance to measurable teaching behaviors
- Almost no studies linking patient outcomes to teaching behaviors
- “Good teaching” is likely different to different students at different times.
- Lots of educational theory though!

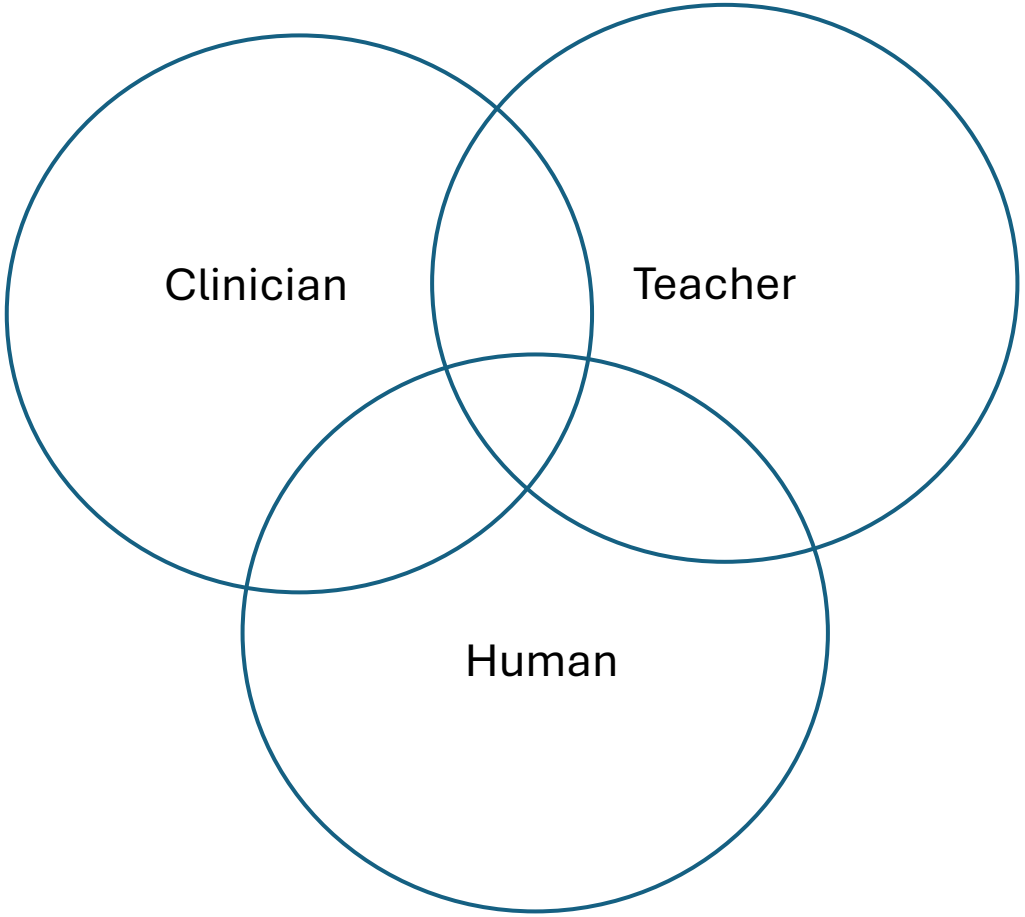
Effective Clinical Teacher Features

- Attitudes
  - Efficient, **Enthusiastic**, Professional, Stimulates learning
- Content Knowledge
  - Clinical / Technical **Competence**, Admits gaps, Clinical Reasoning
- Humanistic
  - Compassionate, Concerned
- Leadership skills
  - **Clear Communication**, Encourages active participation, Inclusive, Sets Goals
- Learner-centered strategies
  - Challenges learners to grow, Encourages life-long skill development

Natesan S, Bailitz J, King A, Krzyzaniak SM, Kennedy SK, Kim AJ, Byyny R, Gottlieb M. Clinical Teaching: An Evidence-based Guide to Best Practices from the Council of Emergency Medicine Residency Directors. West J Emerg Med. 2020 Jul 3;21(4):985-998. doi: 10.5811/westjem.2020.4.46060. PMID: 32726274; PMCID: PMC7390547.

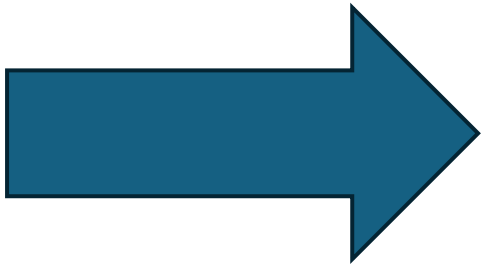
Theory: Clinical Educator

- Clinician as Clinician
  - Relationship with patients and team, expertise, professionalism, role model
- Clinician as Teacher
  - Questions, stimulate discussion, involves students, provides feedback, passion for teaching, motivating, finding time
- Clinician as Human
  - Kind, caring, approachable, relaxed, respectful, honest, charismatic



Excellent Teachers... have "non-cognitive" skills, in addition to cognitive skills

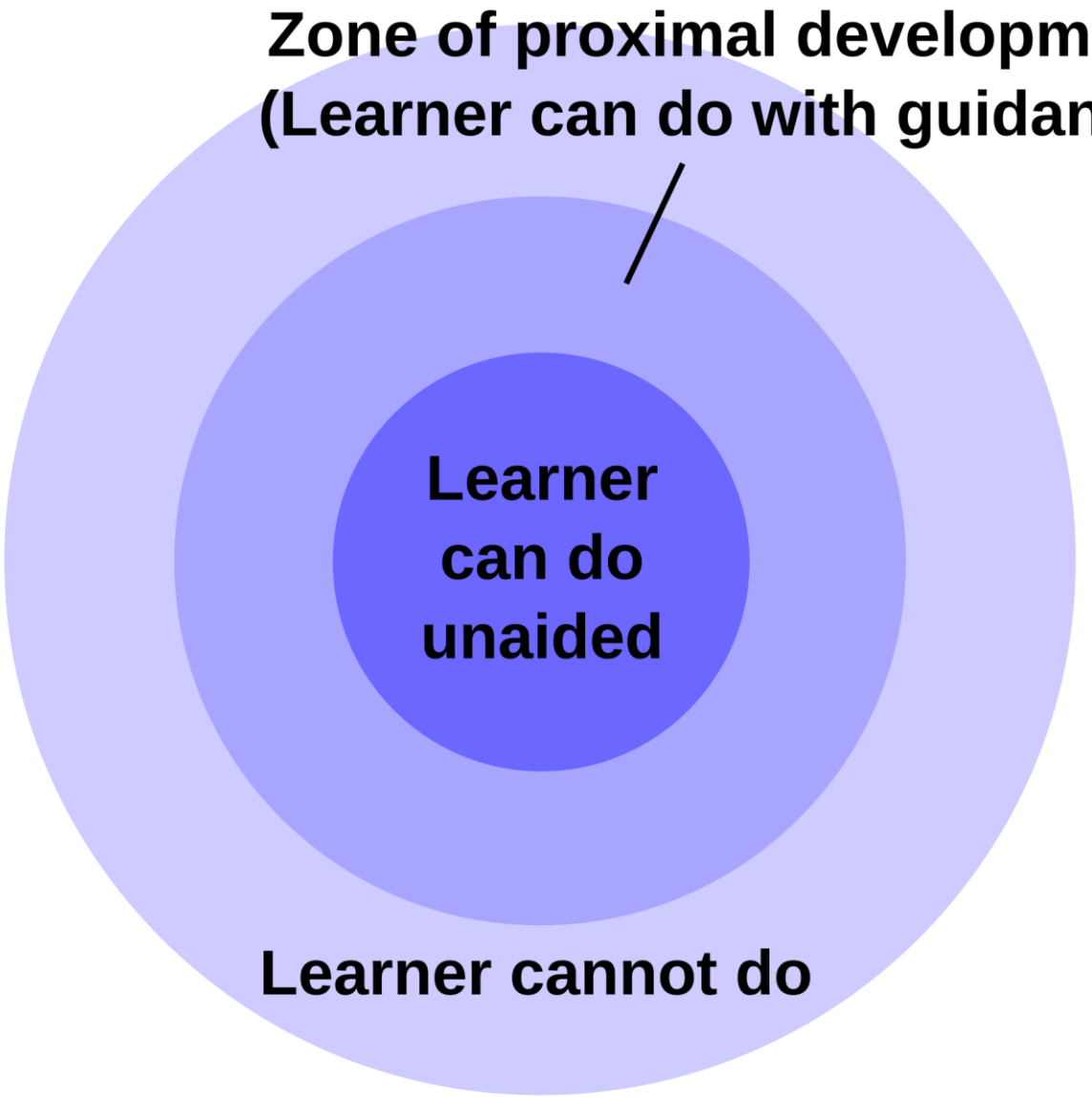
- Inspire
- Support
- Actively involve
- Communicate effectively



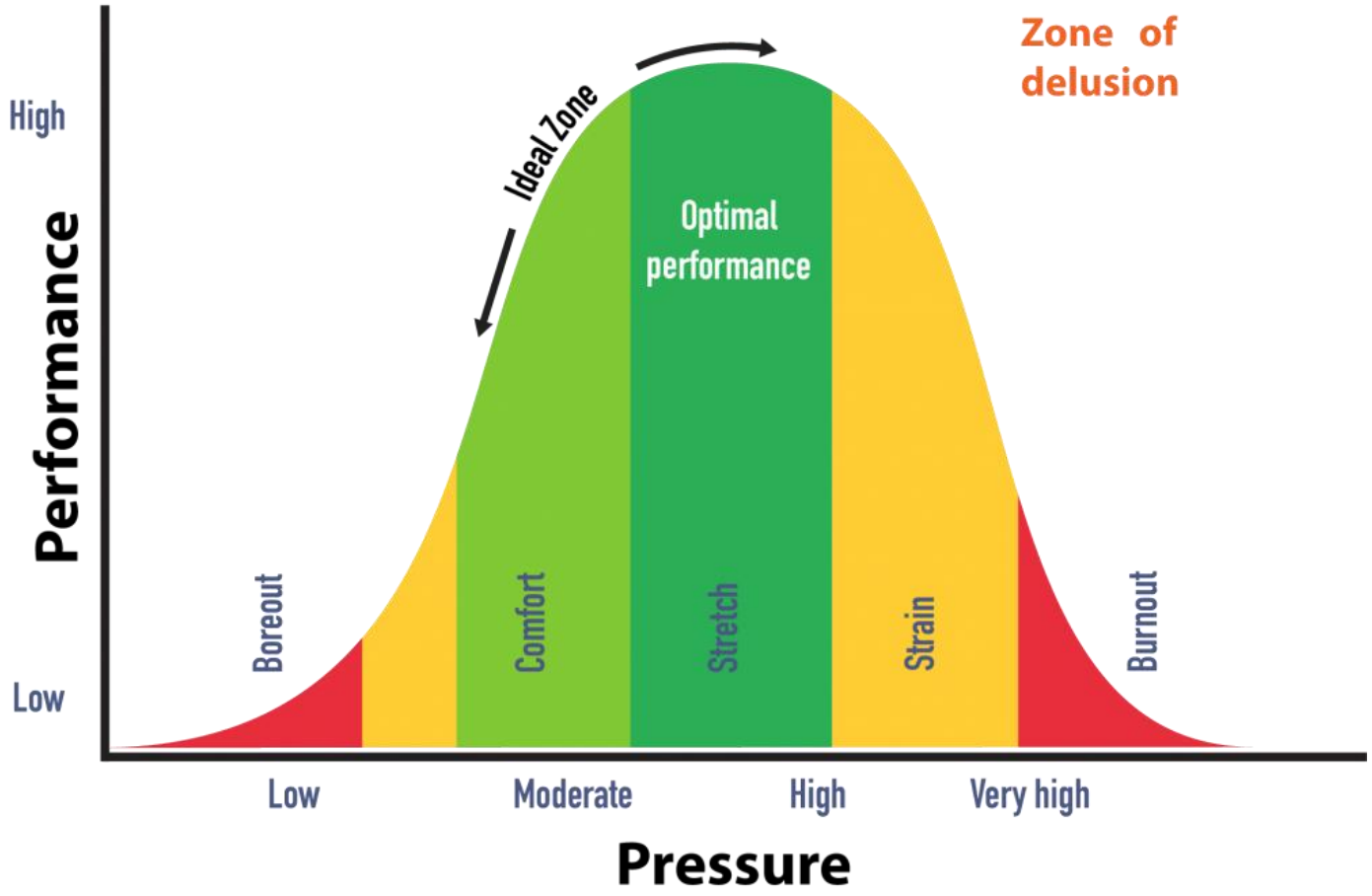
Elicit an emotional arousal in their students

Sutkin, Academic Med 2008

Zone of Proximal Development



Optimal Stress



https://delphis.uk/peak-performance/stress-and-the-pressure-performance-curve/

Progression of Clinical Educators

Less Experienced

- Cheerleader
- Passive
- Create safe environment
- Limited strategies
- Focus on current needs
- Minimal use of team for feedback

More Experienced

- Coach
- Calibrated
- Safe but Challenging
- Strategic, goal oriented
- Focus on trajectory
- Team Feedback

Wenrich, Academic Medicine
Nov 2015 Supplement

Educator's Changing Role: Theory

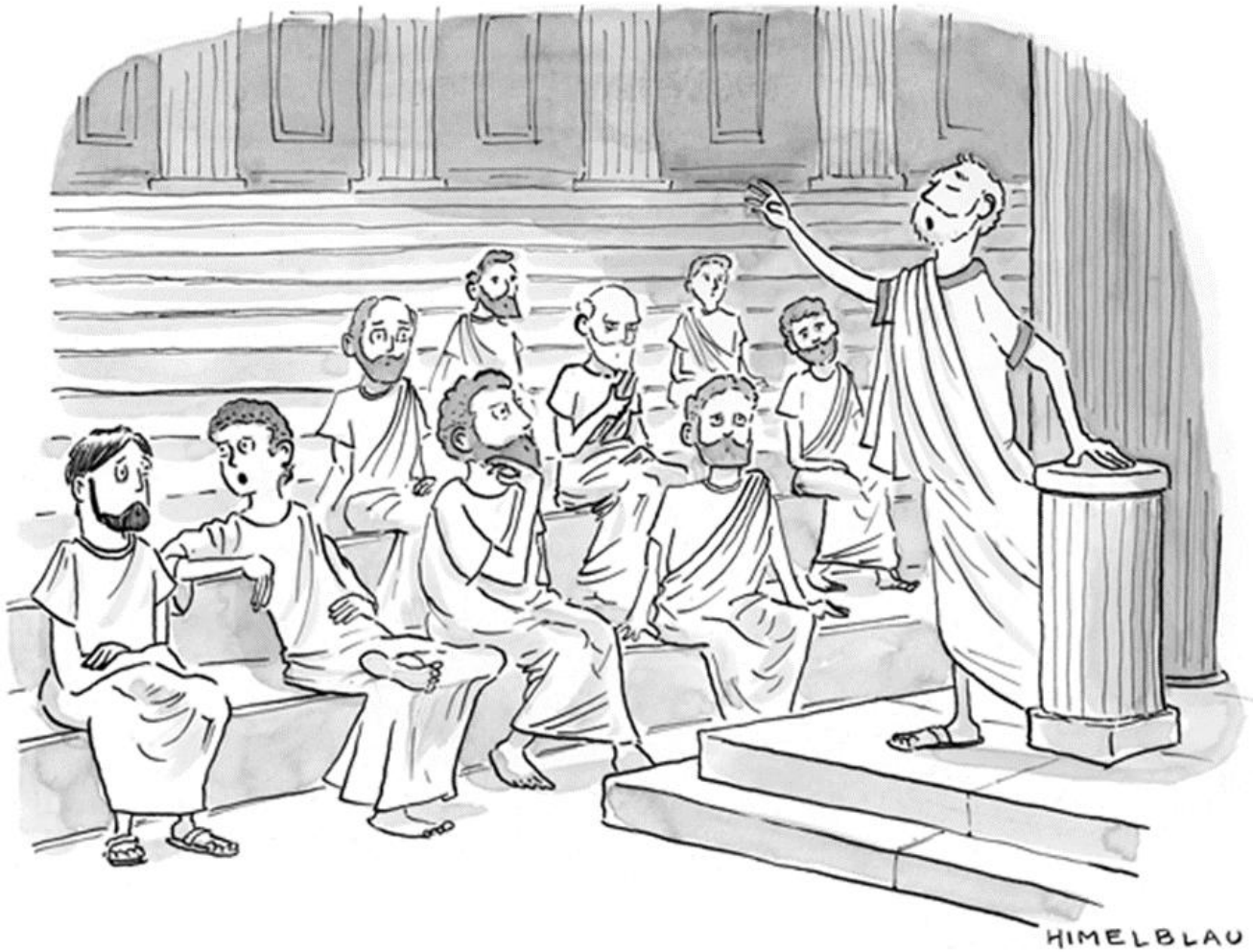
Old School – Teacher Focus

- What do I want to teach them?
- "Sage on Stage"
- Filling a vessel
- Create lectures/talks
- Focus on Knowledge

New School – Learner Focused

- What do I want them to learn?
- "Guide on the side"
- Lighting a fire
- Create learning environments
- Focus on Application of Skills

Adapted from: Dartmouth Active Learning Institute (DCAL)



"I don't know... It just feels very sage-on-the-stage-y."

Challenges to Effective / Efficient Teaching?

- Time - Pace of patient care
- Documentation
- Communications
- Academic productivity
- Self-care
- Family obligations
- Lack of preparation
- Learner duty hours
- Lack of continuity with learners
- Etc

Best Practice # 1 - Simplify

- "The problem with medical students is that they try to learn too much; the problem with medical educators is that they try to teach too much. Teach them methods and the art of observation, and then give them patients to practice their skills."

  - Sir William Osler

Keep it Simple

- Clinical environment often overwhelming
  - Many complex patients, many conditions, many learners, curve balls, disruptions, fast pace, etc, etc.
- High number of rotation learning objectives that span multiple competency domains
- Tip: Limit to 1-2 learning goals for the session
  - Example abdominal exam, and visit closure

Deliberate Practice

- Activities intentionally designed and carried out together, repeatedly.

Practice (You)

- Consider a learning objective that is important to you and your learners.
- Think of an associated component of a clinical activity that you can assign and repeatedly observe in the context of a ward rounding, procedure or clinic session.

Best Practice # 2 – Have a Plan

- **<u>Have a (shared) plan</u>**
  - Know stated learning objectives… in advance
  - Review learning goals with learner… in advance
  - Think about types of patients you will be seeing on which situations you plan to use for learning
- Planned Learning > Opportunistic Learning
  - Some of the latter is fine but all of the latter comes across as disorganized and random

What's the goal?

- Know course learning objectives ahead of time
  - Learners appreciate knowing where this all fits
  - Speak the language they understand
    - Medical Knowledge, Patient care skills, Communication
  - Make it a shared goal
- Talk to course directors, ask for course objectives
- Review Assessment tools at start of rotation

Setting Goals

SMART

- Specific
- Measurable
- Attainable
- Realistic
- Time-based

Example

- S: Expand DDx for each major presenting symptom
- M: 3 diagnoses for each
- A: Most likely, Most common, Worst Case – resources
- R: Helps drive testing
- T: In the next few cases

Best Practice # 3 – Microfeedback

- **Focus on Microfeedback**
  - Specific, target, in-the-moment, observation-based feedback
  - Observation vs Personality based***
  - Formative > Summative
  - Easy
  - Very quick turn around
  - More valuable than summative feedback
    - Focuses on continuous improvement, “next time”
    - Pair with deliberate practice

Microfeedback

- Example
  - Learner gives plan without assessment
  - Learner stands while talking with recumbent patient rather than sits
- Caveat: Instructor often needs to “name” the feedback for it to register with the learner
- Tip: Take a moment to reflect at end of session/day to reinforce the microfeedback

Microfeedback

- Ask – Tell – Ask -> the "new" feedback sandwich
  - What main message do you think the patient took from that conversation?
  - I find it most effective to conclude my encounter with the teach back method to assure that my patient understands the plan.
  - What will you do next time to conclude your visit?
- Felt to be more learner-activating than Praise – Criticize – Praise
  - You covered the main plan very clearly (Praise)
  - You didn't clarify if the patient understood however (Criticize)
  - I like how you wrote the plan on the board (Praise)
- Nice doesn't necessarily = Kind

Top 3

- Simplify
- Have a Plan
- Give Microfeedback

Teaching Models: Clinical Acumen

- Socratic Method
- One Minute Preceptor/ SNAPPS
  - Emphasis on learning rather than correct answers
- Teaching Scripts

Socratic Method

- Most common
- Series of questions to draw out knowledge, make new connections and improve learning
- Targeted to learner's individual needs
  - "Why?" "How would you approach?"
  - Push from knowledge to critical thinking
- Best done one on one
- Better to "probe" rather than simply assess facts (pimping)

One Minute Preceptor

- 5 sequential questions for learner
- Immediate feedback - targeted
- No special preparation required of learner
- Inpatient and Outpt applicability
- Focuses on clinical reasoning
- Diagnose your learner
- Validated

Neher JO, Gordon KC, Meyer B, Stevens N. A five-step "microskills" model of clinical teaching. J Am Board Fam Pract. 1992 Jul-Aug;5(4):419-24. PMID: 1496899.

One Minute Clinical Preceptor

5 Microskills

1. Get a commitment (what is going on here?)
2. Probe for supporting evidence (what factors made you consider that?)
3. Teach general rule(s) (Guiding principles)
4. Reinforce what was done right
5. Correct mistakes (omissions, misunderstandings)

Purpose

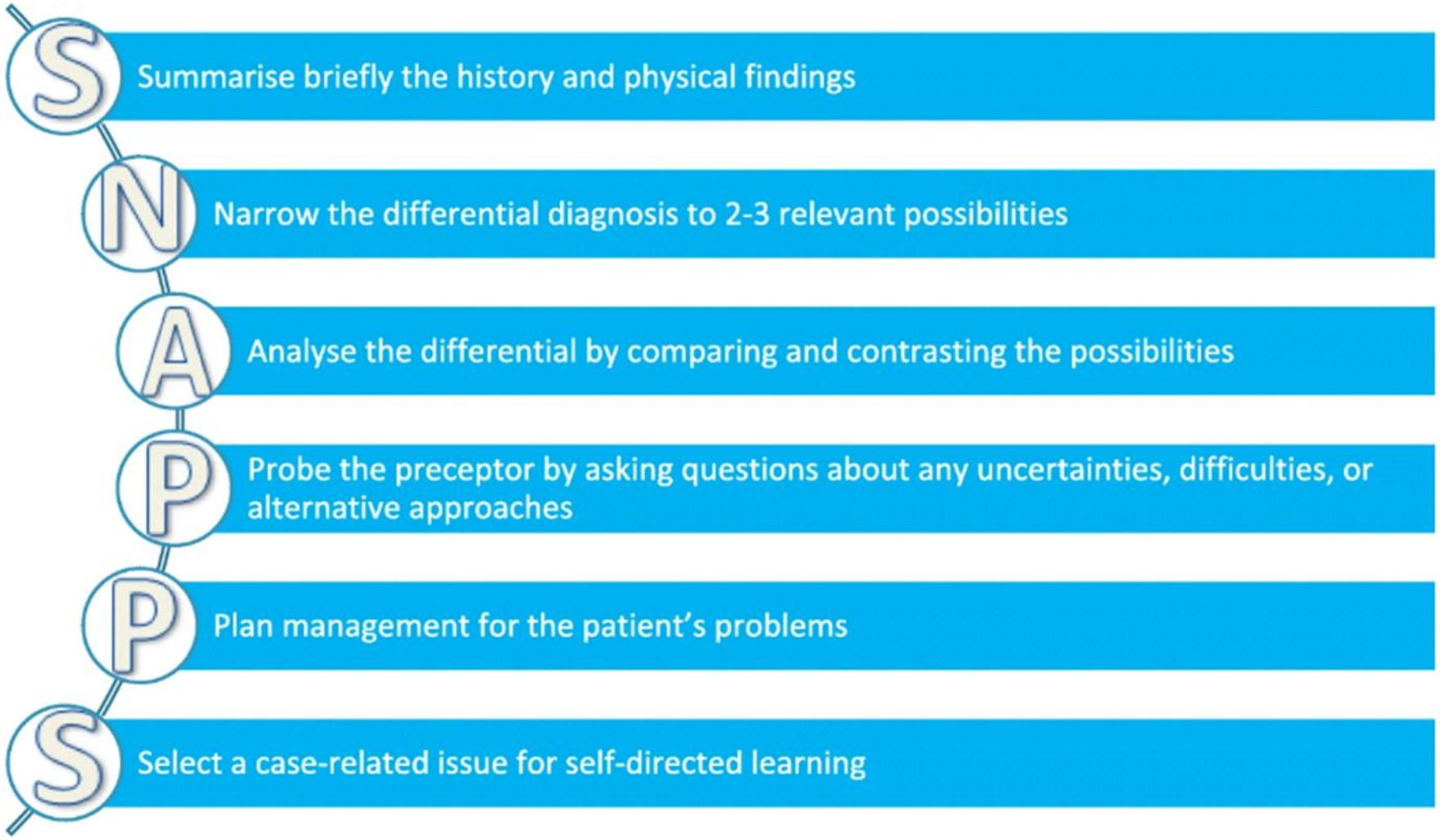
- Diagnosing the learning (hard to teach without knowing your audience)
- Allows you to connect case to larger teaching concept which student is more likely to remember
- Providing specific, actionable feedback – focus on actions - “I observed that you forgot to recognize X” rather than global personality – “you weren’t very good at that”

SNAPPS

- Learner driven > Faculty driven
- Pushes Learner to identify limits of knowledge and pursue self-directed learning
- Better for more advanced or motivated learners

Pascoe JM, Nixon J, Lang VJ. Maximizing teaching on the wards: review and application of the One-Minute Preceptor and SNAPPS models. J Hosp Med. 2015 Feb;10(2):125-30. doi: 10.1002/jhm.2302. PMID: 25627348.

SNAPPS



https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-020-02283-2/figures/2

Teaching Scripts

- Routinely evoked patterns of teaching
- Discussion or demonstration
- Extrapolate lessons in one patient to the care of others
- Keep short
- Requires preparation

Example: Diagnosing Parkinsons

- 1. The diagnosis of Parkinson disease is based on bedside findings.
- 2. The 3 cardinal findings of “parkinsonism” are resting tremor, bradykinesia, and rigidity.
  - a. Resting tremor: “pill rolling,” 5 cycles/sec (5 cycles/sec = 300 cycles/min, explaining why it may cause “pseudo–atrial flutter” on electrocardiograms)
  - b. Bradykinesia: one method of assessment is blink rate (~12/min in Parkinson disease; ~24/min normally)
  - c. Rigidity: may have a “ratchet-like” or “cogwheeling” quality
- 3. Some patients with parkinsonism have Parkinson disease; others have mimicking neurologic disorders (collectively called “Parkinson-plus” syndromes).
- 4. The probability of Parkinson disease is increased if
  - a. The cardinal findings are asymmetric
  - b. There are no atypical features
  - c. The patient responds positively to a trial of levodopa

- Atypical features: marked autonomic dysfunction, early severe dementia, pyramidal tract or cerebellar findings, difficulty looking down, and use of neuroleptic medications

From McGee SR. Bedside teaching rounds reconsidered

Conclusions

- Focus on creating effective learning environments
- Characteristics of "excellent" educators have been described and focus on 3 domains (Clinician, Educator, Human)
- 4 Best Practices to Consider:
  - Simplify
  - Prepare
  - Deliver Microfeedback
  - Use validated techniques
- Practice, reflect, get feedback, adapt, practice again

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