

ANESTHESIA RESIDENT PERCEPTIONS REGARDING LEARNING TO PERFORM NEURAXIAL PROCEDURES IN OBSTETRICS – A QUALITATIVE PHENOMENOLOGICAL APPROACH

Giselle Jaconia, MD¹, Claire Naus, MD², Allison Lee, MD, MS¹ – 1. Columbia University, 2. Baylor College of Medicine

- Performance of epidural anesthesia on L&D - one of most difficult skills for trainees to acquire
- Faculty traditionally receive little-to-no instruction on how to teach procedures

Study Objectives

- Explore what trainees perceive to be best approaches to teaching epidural anesthesia techniques
- Identify ways in which those perceptions align or differ from faculty
- Examine how these approaches fit into *cognitive apprenticeship framework* (Figure 1)

Methods

- Qualitative, phenomenological approach
- Semi-scripted interviews - n = 10 residents (4 female), sampled from CA-1 to CA-3 classes, who had completed obstetric anesthesia rotations and n = 3 faculty members (1 female) from the division of obstetric anesthesia
- Audio recorded interviews de-identified, transcribed, and broken into fragments
- Thematic analysis conducted and codes organized into the cognitive apprenticeship framework
- Investigators consciously reflected on how their own sociocultural position and personal experiences affected all stages of the study from script development, data collection, and data analysis

<u>Cognitive Apprenticeship Framework</u>
Content
Types of knowledge required for expertise. (Domain knowledge, heuristic strategies, control strategies, learning strategies)
Method
Approaches for the teacher to encourage or promote development of expertise. (Modeling, coaching, scaffolding, articulation, reflection, exploration)
Sequencing
Keys to support phases of learning based on learners needs at different stages of knowledge or skill acquisition. (Increasing complexity, increasing diversity, global before local skills)
Sociology
Motivates and grounds learning in the social and environmental context. (Situated learning, culture of expert practice, intrinsic motivation, exploiting cooperation, exploiting competition)

Figure 1: Cognitive Apprenticeship Framework – describes social and functional context of learning environment

Results

Trainees described preferences for teaching approaches and environments that aligned with dimensions of the cognitive apprenticeship framework:

- (1) **Content:** under subcategories *domain* and *control strategies*
- (2) **Method:** including all subcategories, particularly *modeling, coaching, & scaffolding* (**Figure 2**)
- (3) **Sequence:** under subcategory *increasing complexity*
- (4) **Sociology:** under *situated learning, culture of expert practice, and intrinsic motivation*

“Struggling a little bit is a way of learning because it helps to internalize what you’re going through, and you can go through the pathway for troubleshooting whatever procedure you’re doing.”

Resident representative quotes

“There's some limitations to what you really want to talk about during the procedure, since the patient is awake and scared and in labor and her husband's sitting in front of her.”

“Having an attending who is calm [...] I think it just creates an environment where you can just focus on your work and kind of reflect on it and learn from it.”

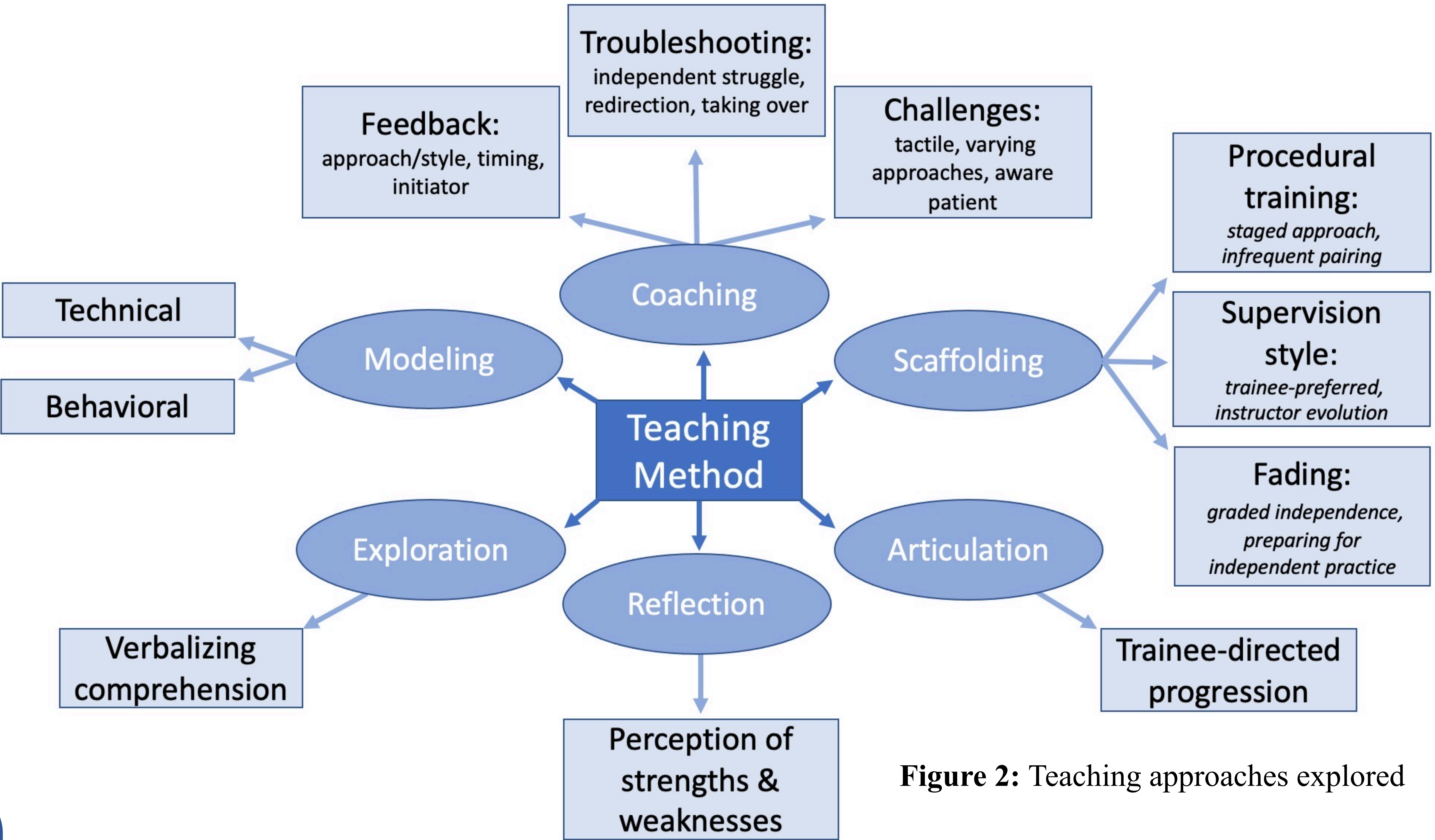


Figure 2: Teaching approaches explored



Conclusions

- Anesthesiology trainees value a **staged approach** to learning epidural anesthesia techniques, opportunities for independent troubleshooting, graded independence, focused feedback, and a patient and calm instructor
- Perceived challenges of learning and teaching epidural techniques include:
 - Tactile nature of the procedure
 - Teaching the procedure on an awake and aware patient
 - Finding time to teach
 - Creating an environment of psychological safety on a busy labor and delivery unit
- The cognitive apprenticeship framework may provide a useful model for approaching the instruction of neuraxial anesthesia techniques

References

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