Teaching for Excellence: Fostering Adaptive Expertise in Diagnostic Reasoning

Sessions on Medical Education
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Session Plan: The ability to adapt is critical for the attainment of mastery in rapidly evolving fields such as health care. As educators, we must foster the development of Master Adaptive Learners (MALs), capable of innovation when faced with practice challenges as opposed to learners who simply follow routines and norms. The recently described MAL model provides a metacognitive approach to learning based on self-regulation theory. The model uses an iterative, 4-phased-process (planning, learning, assessing, and adjusting) powered by curiosity, motivation, mindset, and resilience to help foster adaptive (as opposed to routine) expertise. To date, the model has not been applied to fostering excellence for specific skill development.

In this workshop, we will explore the intersection of the MAL model and instruction in diagnostic reasoning aimed at mastery. Within the field of diagnostic reasoning, there is growing awareness that metacognition and reflection can reduce error and improve patient safety. Diagnostic reasoning occurs via two primary information processing pathways: 1) Pattern recognition is fast, intuitive, heuristically driven, and occurs largely unconsciously. 2) Analytic thinking is slow, deliberate and takes place under conscious control. As learners develop expertise, more and more of their time is spent in pattern recognition mode, i.e. their clinical reasoning is routine. Identifying metacognitive triggers to switch from routine to adaptive reasoning (i.e., analytic mode with entry into a MAL cycle) may promote clinical reasoning excellence.

Session Agenda:
The session will start with a brief overview of the Master Adaptive Learner (MAL) framework, dual processing theory, and metacognition as an error reduction strategy (20 min). Participants will then be presented with diagnostic reasoning cases from two settings the classroom OR the bedside. Participants will develop strategies to coach learners in identifying triggers that should prompt a switch from routine to adaptive expertise (e.g., case complexity, uncertainty, emotional cues). They will then discuss how applying the MAL framework might lead to better diagnostic outcomes (35 min). Tables will report out key lessons learned and one way in which they will change their teaching practice (20 min).

Learning Objectives:
1. Describe the Master Adaptive Learner Framework
2. Outline Dual Process Theory and its intersection with routine and adaptive expertise
3. Generate instructional strategies to foster excellence in diagnostic reasoning using MAL in the classroom and in clinical settings