**Thinking about Thinking: Metacognitive Strategies in Simulation and TBL**

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**Introduction.** Pharmacology is a foundational basic medical science and students often struggle with retaining and applying complex concepts to clinical practice over time. Simulation (SIM) and team-based learning (TBL) are active learning modalities that engage learners in real-time allowing them to apply pharmacological principles in realistic clinical scenarios, reflect on decision-making, and identify knowledge gaps. Integrating metacognition, the awareness and regulation of one’s own thinking, into SIM and TBL offers an approach that can richly enhance pharmacology knowledge retention and application.

**Aims**. This session aims to: 1) explore how applying metacognitive processes into SIM and TBL enhances retention of pharmacology knowledge, 2) identify techniques to incorporate reflection, peer interaction, and structured debriefing to foster cognitive engagement, 3) discuss strategies to improve long-term retention and 4) provide participants with tools to be able to implement these strategies in their educational institutions.

**Methods**. Participants will be organized into small groups to discuss how SIM sessions can be designed for pharmacological principles to be applied to clinical scenarios, requiring learners to critically reflect on actions and clinical outcomes. Groups will also discuss how TBL sessions can be designed metacognitively to promote collaborative problem solving, using peer interactions to articulate reasoning and identify misconceptions and knowledge gaps.

**Results.** Attendees will gain insight from their discussions into the importance of metacognitive processes of evaluation of learning through carefully designed SIM and TBL sessions. Participants will discuss how structured debriefing sessions in SIM promote metacognitive processing, allowing learners to integrate pharmacology concepts and enhance recall. Participants will learn how TBL can promote self-directed and lifelong learning.

**Discussion.** Participants will gain an understanding of the importance of implementing metacognition into SIM and TBL sessions and be able to apply these principles in their own educational institutions.

References: Schneid SD et al, 2019, Medical Science Educator 29: 1173 - 1174