Metacognition of Interprofessional Education: Critical Discourse Analysis of an Interprofessional Healthcare Simulation

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Background and Research Question

Interprofessional Team Immersion (IPTI) is an activity run in collaboration by the University of New England (UNE) and Rosalind Franklin University (RFU). Interprofessional (IP) teams of students worked together to assess and care for a standardized patient in a simulated environment. IP student participants were from programs in dentistry, nursing, pharmacy, social work, physical therapy, occupational therapy, osteopathic and allopathic medicine. In the simulation, a standardized patient was assessed by an IP team over two appointment sessions. Following the sessions, each student team debriefed by discussing their experiences and learning outcomes.

The purpose of this research is to use critical discourse analysis (CDA) to identify instances of metacognition displayed by the participants during the debrief sessions after IP team simulations.

Methods

Across RFU and UNE, 111 graduate healthcare students volunteered to participate in two sequential interprofessional telehealth sessions centering on a patient named Alex and their partner. Alex and their partner were both played by standardized patient actors from the Chicagoland area and Maine. Once the participants were assigned one of ten teams they were asked to attend two sessions on motivational interviewing and telehealth. Prior to the telehealth sessions, participants were encouraged to connect with their team members outside of the scheduled IPTI sessions. Participants, peer facilitators and faculty facilitators participated in debriefing sessions following the sessions to discuss the simulations and their experiences. Both telehealth sessions were recorded via Zoom and uploaded into specified team-named folders on Google Drive. Panopto is a platform that was used to transcribe the Zoom video recordings. The transcriptions were then coded by the research team.

The research team utilized critical discourse analysis (CDA) to code the debrief portions of the transcripts of IPTI teams from fall 2020, fall 2021 and spring 2022 independently and then came together to discuss their findings and common metacognitive themes.

Critical Discourse Analysis (CDA)

Critical Discourse Analysis (CDA) looks beyond the sentence of what is being said, and, instead looks at societal and ideological meanings in conversations.

➔ an appropriate analytic tool for assessing and examining IP communication
➔ examines ideologies (biases, beliefs and stereotypes) which may be important for IP conversations around social determinants and health disparities
➔ examines power differentials (central to IP team functionality)
➔ studies gender models and how this can impact communication and stereotypes
➔ assess the role that societal relationships play in communication (important for patient centered care and communication)

CDA is focused on studying and analyzing written texts and spoken words to reveal the discursive sources of power, dominance, inequality, and bias and how these sources are initiated, maintained, reproduced, and transformed within specific social, economic, political, and historical contexts (Van Dijk, 1988).

Using this approach will allow us to examine instances of metacognition in the participants. Metacognitive themes that emerged from CDA were:

1. Reflection   4. Interpretation
2. Learning   5. Team Perception
3. Pre-knowledge   6. Change

These metacognitive and IP themes suggest that participating students applied metacognitive processes to learn in an IP team format.

Metacognition

Metacognition is an important skill that encourages critical thinking and lifelong learning. Students employ metacognition to understand concepts and use problem-solving skills.

- **Metacognitive knowledge** refers to what a student knows about their own thinking and what they know about strategies for learning.
- **Declarative knowledge** is what a student knows about themself as a learner, what the task requires in order to be completed and what learning strategies are applicable.
- **Procedural knowledge** is knowing how to use those aforementioned learning strategies.
- **Conditional knowledge** is knowing when and why to use a particular learning strategy.
- **Metacognitive regulation** is the action or actions the student takes in order to learn.
- **Planning** is the decision made regarding what strategies to use for a future learning task and when the student will use them.
- **Monitoring** is when the student assesses their understanding of concepts and the effectiveness of their strategies while in the process of learning.
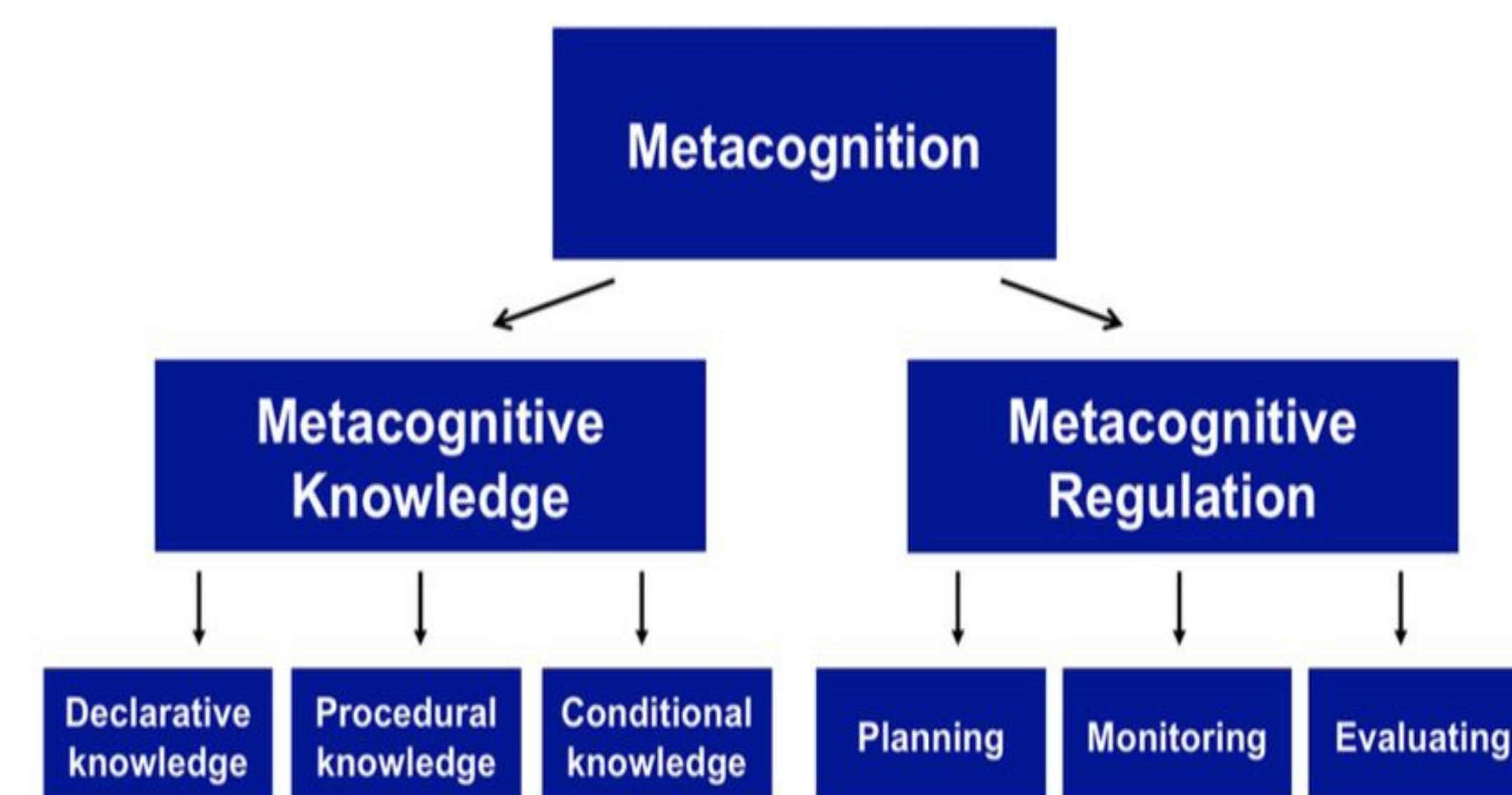- **Evaluating** is when the student assess prior plan(s) and adapts for future learning.

FIGURE 1. Metacognition framework commonly used in biology education research (modified from Schraw and Moshman, 1995).

Results

Metacognition allows for higher level thinking and more creative problem solving. We identified four themes: collaboration, peer-to-peer learning, problem-solving and self-reflection. The sub-themes that were further identified included reflection/reflecting, change, interpretation, team perception, learning and pre-knowledge.
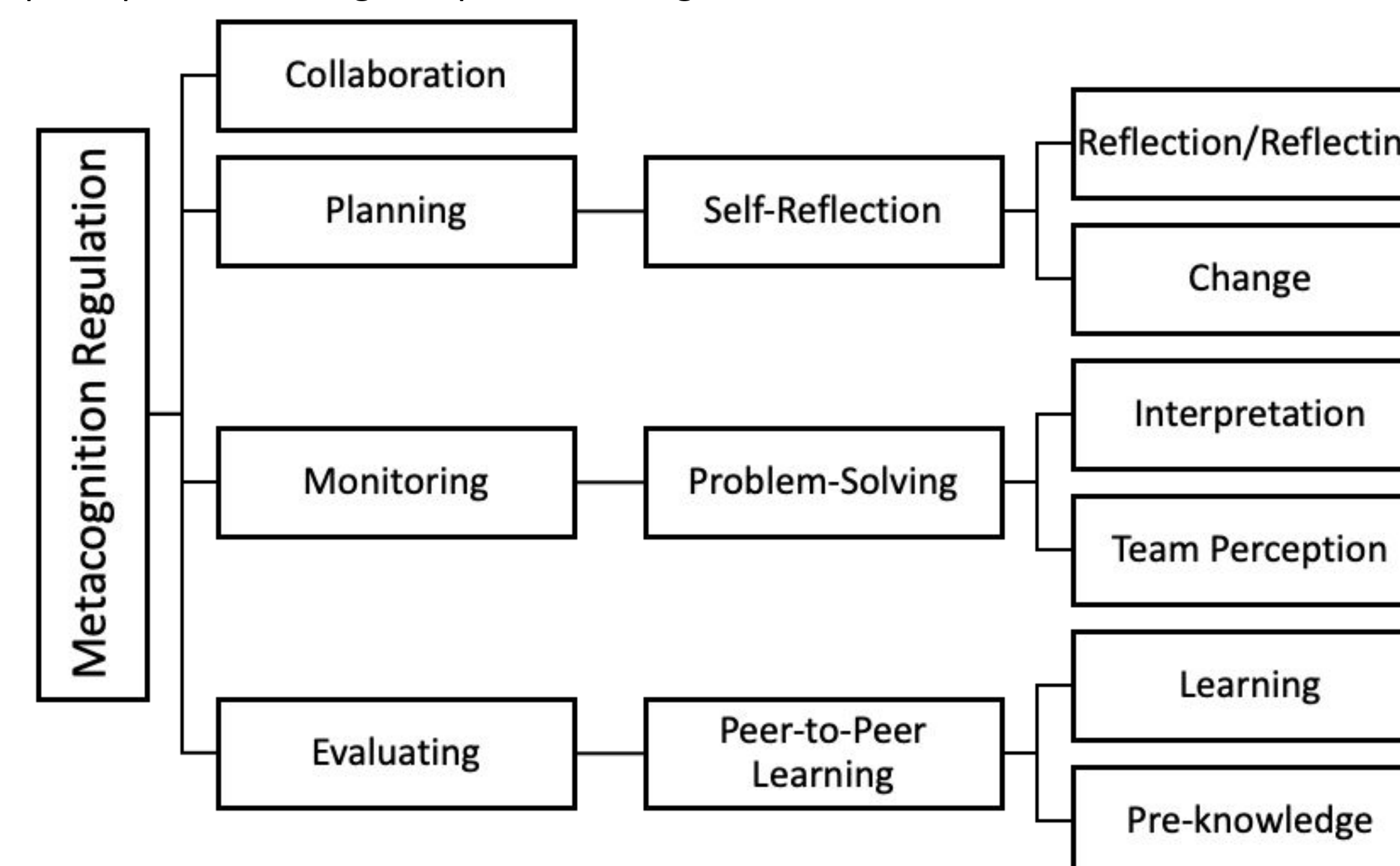

FIGURE 2. A proposed metacognitive framework for interprofessional team learning (modified from Schraw and Moshman, 1995).

Next Steps

These components of metacognition are important for graduate healthcare students to master throughout their education. Graduate healthcare students can use metacognition skills to recognize how they learn and process clinical information throughout their didactic and clinical studies. It is especially important for them to utilize these skills whenever they are in a team environment to better understand their role and the roles of those on the team in order to aid in patient-centered care.

Future research on metacognitive learning during simulations should be done using more controlled methods. For future research studies a Quasi experimental study design will be helpful in determining the effect of timing on the debriefing sessions. This study design will have one group debrief right after the simulation and another group debrief weeks later. This should provide more insight into whether timing in between simulations and debriefing sessions affects the quality of discussions. Another thing to account for in future research would be creating ways for quieter participants to voice their opinions or agreements during the debriefing sessions. This can be done by utilizing the reaction features on Zoom or it may be fruitful to create an open-ended survey for participants to take following the conclusion of the debrief session. Lastly, facilitators should be strongly encouraged to allow for conversational ambivalence and to not intercede in order to get participants to speak their thoughts.

Take Away Messages

This research is relevant to practice at the organizational and research level. Graduate healthcare students can use metacognition skills to better understand how they learn and process information. It is especially important for them to use these skills whenever they are in a team environment. Faculty and graduate health programs can initiate opportunities within their own institutions to encourage interprofessional collaboration and to emphasize the importance of metacognition. By incorporating opportunities like IPTI, professional healthcare graduate programs can help students develop lifelong skills that will assist them well into their careers.

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