

## **Abstract**

### *Background*

All students find it difficult to learn new material and be able to retrieve and use that information after exams. Often students will cram for exams instead of learning the information and will rely on that study method to pass the class. A new method has been theorized and studied that will help students learn the material well enough that will last beyond the exam. Metacognition is the ability to think about one's own thought process to improve the way students study and learn new material. One key aspect of the metacognition process is self-reflection which is the ability of students to assess mistakes, and reflect on what they know and do not know and how to improve.

### *Methods*

This observational and descriptive study was conducted to help students utilize metacognitive strategies to find and interpret clinical practice guidelines. All Southern Illinois University of Edwardsville pharmacy students were included in the study and participants were recruited via email to participate in an eight-day consecutive, daily challenge. Students were asked to utilize clinical practice guidelines to answer a series of questions each day and then reflect on their performance and their knowledge both before and after the activity. Each activity was completed using an individual Qualtrics survey which was delivered via WhatsApp. After the eight-day challenge interviews were conducted via telephone to gain feedback on benefits and opinions about the activities and reflections as a whole.

### *Results*

There was a total of four participants who signed up and completed at least one day of activity and reflection. Participants who completed the activities answered all questions correctly and found the appropriate clinical practice guidelines for each activity. Common reflections included difficulty citing and finding the correct clinical practice guideline and reflected the need to bookmark guidelines for easier access. All participants reflected on the need to become more familiar with clinical guidelines and that as the activities progressed, information was easier to find and activities became easier. Two out of four participants were interviewed and both students noted improvement in utilization of clinical practice guidelines and noted their confidence increased as activities progressed.

### *Conclusions*

Metacognitive strategies are important learning tools that should be utilized in assisting all students but most importantly healthcare students increase understanding and improve study habits. The easiest and most effective metacognitive tool is self-reflection, which allows students to address unclear topics in their understanding and become more aware of what they know and still need to learn. These strategies would be beneficial to incorporate into the pharmacy education curriculum whenever possible.