

# A Longitudinal Collaboration to Practice Critical Thinking in Experiential Education & Patient Care Laboratories

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## INTRODUCTION

The MCW School of Pharmacy is a three-year accelerated curriculum in Milwaukee, WI. Students are enrolled in longitudinal Patient Care Laboratory (PCL) courses and Introduction to Pharmacy Practice Experience (IPPE) seminar courses.

Critical Thinking skills have been identified as an area of struggle amongst PharmD students. Making recommendations for complex patients who may not have a clear-cut therapy recommendation is difficult. Additionally, students struggle with looking at the patient as a whole before making a recommendation.

Due to the accelerated nature of the program, providing opportunities for students to complete activities that combine skills is important. Since students struggled with both providing wholistic recommendations and identifying therapies that were not as direct per the guidelines, cases were created to provide opportunities for students to practice both skills.

By practicing critical thinking in the classroom, students would be better prepared to apply these skills into a practical setting like Advanced Pharmacy Practice Experiences (APPEs) and beyond.

In order to reinforce these skills and enhance practice opportunities, a collaboration between the Office of Experiential Education (OEE) and PCL was established.

## METHODS

During year two, students are given a patient scenario used for case presentations in PCL. In IPPE seminar, students present this case to a preceptor in 5-minutes to mimic patient work-up and presentation to preceptors on APPE rotations.

Students are asked questions related to the patient and disease states in an on-the-spot fashion. If students do not know the answer to the question, they should state where to look up the information. See Figure 1 for a timeline.

Students are assessed using a Critical Thinking Rubric (Scan QR Code).

## RESULTS

A post-graduation survey sent to the Class of 2022 indicated patient case presentations were one of the most common activities completed on APPEs, with 87.8% reporting this activity as Extremely Helpful, or Somewhat Helpful, when preparing for rotations (See Figure 2). A total of 264 activities were completed between 2020 and 2022, with 9 (3.5%) students requiring remediation. Two students remediated in both quarters this activity was delivered. Three students received subsequent unsatisfactory grades in IPPE Seminar or clinical rotations.

## OBJECTIVES

The goals for this study include:

1. Simulate complex patient case presentations with on-the-spot questions to improve student critical thinking skills and prepare them for APPEs.
2. Evaluate the effectiveness of the 5-minute case presentation activity on critical thinking skills

**Figure 1: Critical Thinking Curricular Progression**

### Session 3

Introduction to Critical Thinking in IPPE Seminar

### Session 4 & 5

Case Presentations in PCL

### Session 6 & 7

Case Presentation in PCL      5 Minute Case Presentation in IPPE Seminar

### Session 8

Additional practice with various case presentation formats

APPE Rotations

Scan Here for  
Critical Thinking Rubric



## CONCLUSION

- Students feel simulated case presentations in IPPE seminar prepare them for similar experiences in APPEs.
- Remediation of this activity may identify students who are at risk of not passing skills-based courses or rotations.

## NEXT STEPS

- Implement additional critical thinking activities across the curriculum.
- Assess critical thinking skills while on APPE rotations.

## ADDITIONAL RESOURCES

- Wright DFB, Anakin MG, Duffull SB. Clinical decision-making: an essential skill for 21<sup>st</sup> century pharmacy practice. *Res Social Adm Pharm.* 2019;15(5):600-606.
- Perskey AM, Medina MS, Castleberry AN. Developing critical thinking skills in pharmacy students. *Am J Pharm Educ.* 2019;83(2):161-170. doi:10.5688/ajpe7003
- Cone CJ, Bone R, Pierson J. Teaching critical thinking and problem solving in a pharmacy self-care lab: a skills-based approach. *Curr Pharm Teach Learn.* 2013;5(5):342-350. https://doi.org/10.1016/j.cptl.2013.03.002
- Cone J, Godwin D, Salazar K, et. Al. Incorporation of an explicit critical-thinking curriculum to improve pharmacy students' critical thinking skills. *Am J Pharm Educ.* 2016;80(3):41. doi:10.5688/ajpe80341

**Figure 2: Class of 2022 Pre-Graduation Survey**  
"Please rate the helpfulness of the following IPPE Seminar Topics when preparing for APPEs:"  
5-Minute Patient Cases (Presenting a Case to a Preceptor)

