A dilemma with teaching and learning in pharmacy education is that activities often promote rote learning, which students may prefer because it requires less mental fortitude than would a strategy incorporating deeper learning, such as critical thinking or clinical reasoning.\textsuperscript{1,3} Debates are an effective way to introduce clinical reasoning of complex and controversial issues into teaching and enable students to take responsibility for their own learning.\textsuperscript{4,4}

In pharmacy, debates have been used to teach ethics, ambulatory care, and perinatal pharmacotherapy.\textsuperscript{5,7} Use of debates within courses has been associated with:\textsuperscript{5,6}

- Teamwork
- Enhanced communication
- Critical thinking
- Literature searching
- Application of evidence

This course was developed to impart professional competencies while ensuring the acquisition of knowledge and understanding of relevant topics.

The course was mapped to the American College of Pharmacy Education (ACPE) Standards to identify its place in the curriculum.

### METHODS

- This is an IRB-approved, observational study.
- Inclusion criteria: students enrolled in PHRM 5210 Debating the Evidence: Focus on Critical Care Controversies
- Written informed consent was obtained.
- An outside investigator conducted an off-campus 1-hour focus group at course completion, which was audio recorded.
- Questions and discussion were created to assess student perceptions on using debates in the course and the impact on development of necessary skills.
- A third party transcribed the audio recorded focus group, which was used for further analysis.

### RESULTS

Students' Perspective of Debates as a Pedagogy in a Critical Care Elective

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**BACKGROUND**

- A dilemma with teaching and learning in pharmacy education is that activities often promote rote learning, which students may prefer because it requires less mental fortitude than would a strategy incorporating deeper learning, such as critical thinking or clinical reasoning.\textsuperscript{1,3}

**ADDITIONAL METHODS AND COURSE DESIGN**

| Format | 15 week semester (satellite campus only) | Weekly – 2 hour class meeting | Various debate team structure
|---|---|---|---|

**ASSESSMENT**

- Pass/Fail
- Debate participation
- Position paper

**Select debate topic titles**

- Statins as a treatment option in sepsis
- Choice of fluid for volume resuscitation
- Use of dopamine in acute decompensated heart failure
- Targeted temperature management: 33°C vs 36°C
- Aggressive caloric intake or permissive underfeeding
- Alcohol withdrawal: Symptom triggered or fixed scheduled
- Pepcid or Protonix for stress ulcer prophylaxis
- Use of stress dose steroids in septic shock
- Sedative agent in mechanically ventilated patients
- Choice of seizure prophylaxis in traumatic brain injury
- Pharmacology dedicated to the intensive care unit
- Thrombolyis in submassive pulmonary embolism
- Benzos or brake for alcohol withdrawal syndrome
- Olseltamivir dose in the treatment of influenza
- Acetaminophen to treat fever

**P3s vs. P3s**

**P3s vs. P4s**

**P3s vs. Facilitator**

**Focus group questions**

- What was appealing to you about this course, if anything?
- Because you were debating, were you more engaged because you wanted to be to or because you felt like you had to?
- Has this class offered you any connections that you could see making sense outside of critical care? Can you see what you got out of this class and working in community pharmacy?
- When you think about foundational knowledge, how much preparation time do you think you put into that area of learning?
- How much did patient centered care, quality of life, or cultural or socioeconomic classifications come into play?
- Did you find yourself debating against the standard of care?
- Which impact do you think this class had and the format of debating had on your ability to problem solve?
- How do you feel this class prepared you for answering clinical question? Discuss your confidence in this area.

**ACPE standards**

- Standard 1: Foundational Knowledge
- Standard 2: Essentials for Practice and Care
- Standard 3: Approach to Practice and Care
- Standard 4: Personal and Professional Development
- Standard 10: Curriculum Design, Delivery, and Oversight
- Standard 11: Interprofessional Education

**IMPLICATIONS**

Students found that debate style learning helped hone literature search and evaluation skills and critical thinking, but due to the controversial nature, did not aid in content mastery. Instead, many answers are patient specific. They found this pedagogy required extensive pre-class preparation compared to other courses.

**DISCLOSURES**

Students found that debate style learning helped hone literature search and evaluation skills and critical thinking, but due to the controversial nature, did not aid in content mastery. Instead, many answers are patient specific. They found this pedagogy required extensive pre-class preparation compared to other courses.

**DISCLOSURES**

The word cloud offers insight into themes that emerged. Further review of comments shows students felt the course helped them learn how to review “articles” and identify “different” points of view. Students continued to say they “probably” spent more time on this class than others because they had to be prepared.

**SELECT QUOTES FROM FOCUS GROUP TRANSCRIPTION**

"…quality of life was definitely debated quite a lot in most of our debates..."

"…one side that was like the physician and the other side that is essentially what will be the pharmacists so that helped with problem solving and understanding the process that it takes to kind of get the other side or physician to take your advice..."

"I can't say, 'well this is what we found and this is the exact right answer' because there are so many things or factors that would change my answer depending on the patient."

"...if you didn't understand what the disease state was going on, or things about it, then there really wasn't a way you could argue for your side."