Leveraging the Pharmacists' Patient Care Process to Enhance Critical Thinking Among First-Year Student Pharmacists

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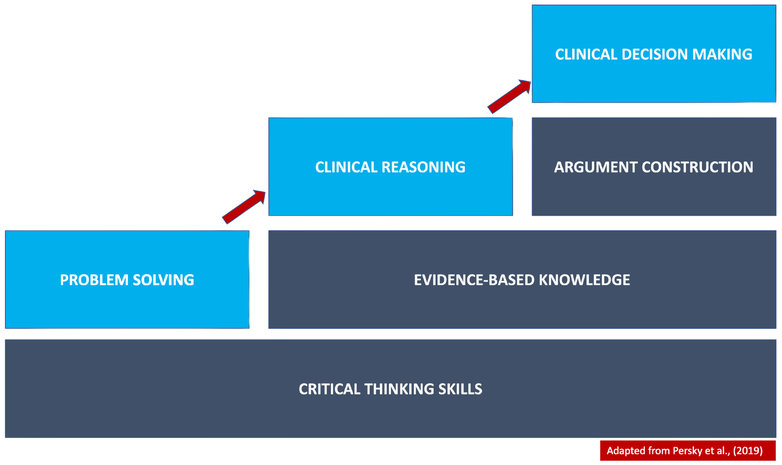
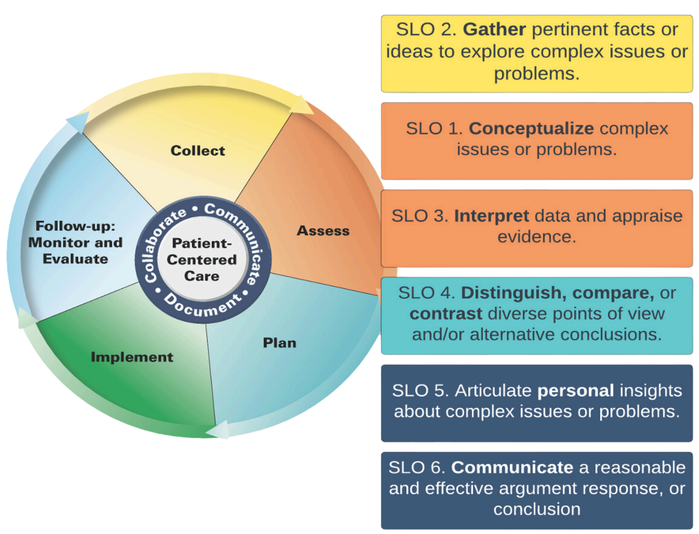
BACKGROUND



Critical thinking is foundational to clinical reasoning and clinical decision-making.[1]

Critical thinking requires more than just clinical knowledge and expertise. Attitude and thinking skills must be developed.[2]

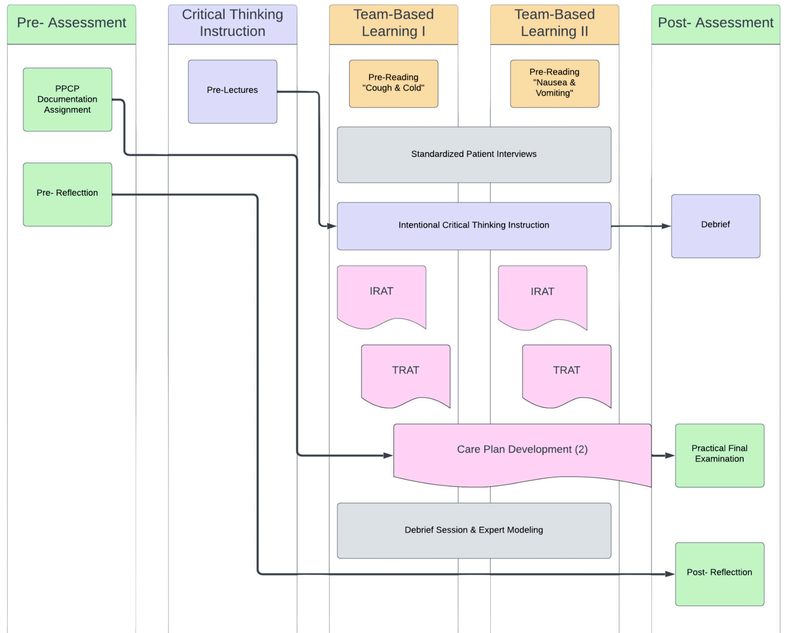


The PPCP may provide a common model that can be used to enhance critical thinking opportunities.[3,4]

OBJECTIVE

To assess the impact of infusion-based critical thinking instruction on critical thinking attitudes and skills in first-year student pharmacists enrolled in a Pharmacists' Patient Care Process (PPCP) course.

METHODS



- A cross-sectional, pre-post design was piloted to assess critical thinking attitudes, decision-making preferences, and academic performance on key critical thinking outcomes.
- Educational intervention, as described in the figure above, evaluated students' ability to collect, assess, and communicate self-care therapeutics.
- A structured questionnaire (including the Critical Thinking Disposition Assessment, Rational-Experiential Inventory Scale, and key demographic questions), reflective exercises, and critical-thinking-focused rubric-based performance metrics were used to assess key outcomes.[5,6]
- Because of sample size concerns and paired outcomes for each participant, Wilcoxon sign rank tests were generated to assess intervention effectiveness in addition to descriptives.

RESULTS

- Fifteen (44.1%) of 34 first-year professional students were retained for the duration of the study.
- Students were predominately female (73%), interested in pursuing residency training (33%), and believed pharmacists needed to engage critical thinking skills to be successful professionally (>73%).
- A non-significant (Z=1.193; p = 0.233) increase in overall academic performance was observed after intervention [pre (93.14%) and post (96.04%)].
- Students retained their original decision-making preference post-intervention, trending toward an overall preference toward rational over experiential thinking, confirming previous work in student pharmacists.[7]
- Student pharmacist attitudes toward systematicity/analyticity (Z = -2.210, p = 0.027) and inquisitiveness/conversance (Z = -2.806, p = 0.005) were positive post-intervention.

CONCLUSIONS

- Implementation of critical thinking infusion-based instruction within the framework of the PPCP may provide an opportunity for critical thinking skills and attitude development among student pharmacists.
- Intentional critical thinking instruction and practice opportunities early in the didactic curriculum may foster enhanced clinical decision-making as students progress in their didactic and experiential coursework.

REFERENCES

1. Developing Critical Thinking Skills in Pharmacy Students. Persky, Adam M. et al. American Journal of Pharmaceutical Education, Volume 83, Issue 2, 7033.
2. Halpern DF. Thought and Knowledge: An Introduction to Critical Thinking. 5th ed. New York, NY: Psychology Press; 2014.
3. The University of Mississippi. Think Forward: Quality Enhancement Plan. January 2019. Available at: Implementation of critical thinking infusion-based instruction within the framework of the PPCP may provide an opportunity for critical thinking skills and attitude development among student pharmacists.
4. Joint Commission of Pharmacy Practitioners. Pharmacists' Patient Care Process. May 29, 2014. Available at: Implementation of critical thinking infusion-based instruction within the framework of the PPCP may provide an opportunity for critical thinking skills and attitude development among student pharmacists
5. Yuan S, Liao H, Wang Y, Chou M. Development of a scale to measure the critical thinking disposition of medical care professionals. Soc Behav Personal. 2014;42(2):303–312. doi: 10.2224/sbp.2014.42.2.303.
6. Pacini, R., & Epstein, S. (1999). The relation of rational and experiential information processing styles to personality, basic beliefs, and the ratio-bias phenomenon. Journal of Personality and Social Psychology, 76(6), 972–987.
7. McLaughlin, Jacqueline E., et al. "Rational and experiential decision-making preferences of third-year student pharmacists." American Journal of Pharmaceutical Education 78.6 (2014): 120.