

Enhancing Course Content Review: Two Activities Rooted in Backward Design for an Integrated Pharmacotherapy Course

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How can course coordinators support students' study efforts for a comprehensive final examination in an integrated pharmacotherapy course?

Study Guide

- Created via Backward Design
- Aligned with course objectives and comprehensive final exam
- End-product: list of objectives for each module of the course to guide student self-study efforts

Review Activity

- Created via Backward Design
- Aligned with course objectives, comprehensive final exam, and study guide
- Team-based learning (TBL)-inspired format including modified readiness assurance tests and applied focus activity

BACKGROUND

INTEGRATED PHARMACOTHERAPY III (IP-3)

- 8 credit hour, 12-week hybrid team-taught course for third year pharmacy students
 - 6 unique modules within the course
 - 1 multiple choice exam at the end of each module
 - 1 multiple choice comprehensive final exam (CFE) at the end of the course
 - Minimum required score: 70%
- Teaching Team = 6 course coordinators, 1 educational coordinator, and over 25 instructors from a wide variety of disciplines

CFE PREPARATION

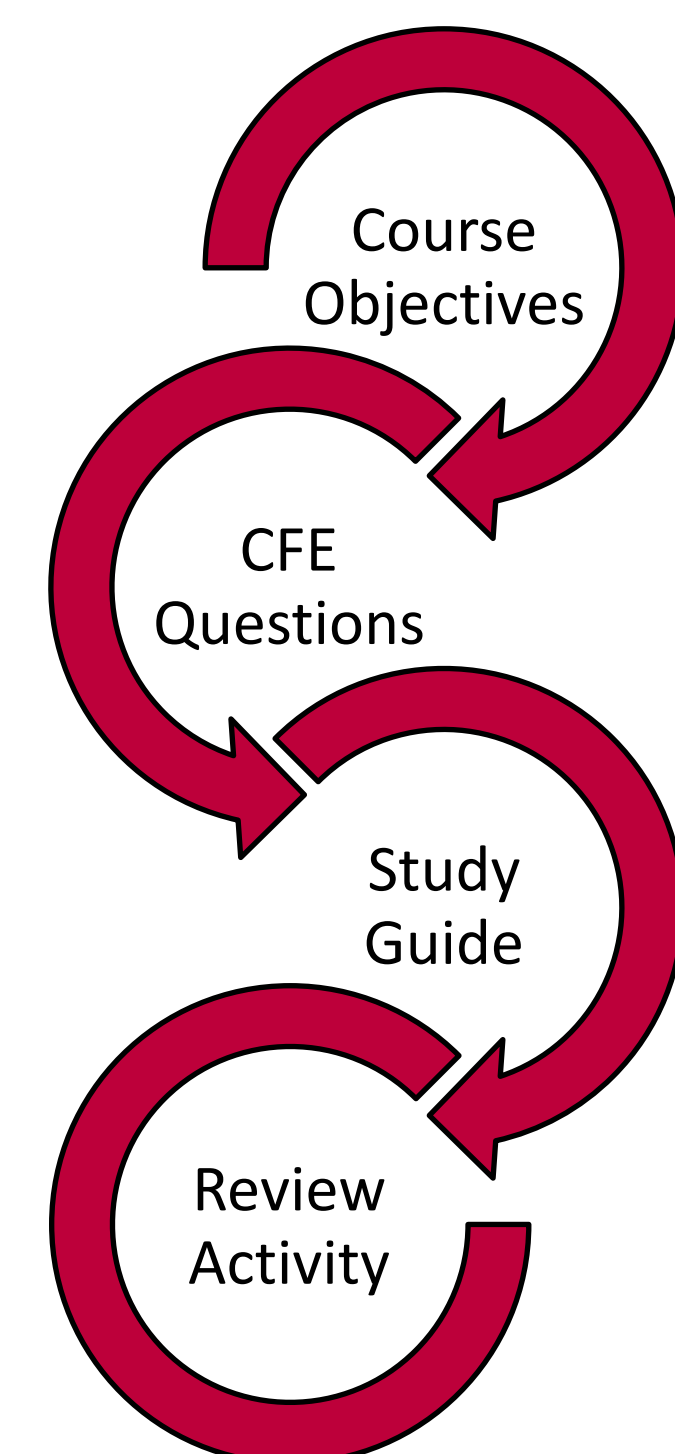
- Prior to Autumn 2023, preparation for the CFE included an in-person review session.
 - Matching game completed in small groups of 5-6 students
 - Any additional study preparation was up to the individual student.
- **Students reported feelings of anxiety and stress; endorsed "not knowing where to start" to study for the exam.**

REFERENCES

1. Wiggins G, McTighe J. Understanding by Design. 2nd ed. Alexandria, VA: Association for Supervision and Curriculum Development; 2005.
2. Ofstad W, Brunner LJ. Team-based learning in pharmacy education. Am J Pharm Educ. 2013;77(4):70. doi:10.5688/ajpe77470
3. <https://pharmacy.osu.edu/education/doctor-pharmacy/i3-curriculum>

METHODS

Course leadership aimed to provide students with a framework to focus their CFE study efforts. In doing so, instructors were able to direct student attention to concepts that were important for entry-level PharmD competency but not assessed on the CFE due to time/number of question limitations. Course leadership decided to **create a novel course Study Guide and redesign the final small group session of the semester to be an in-person CFE Review Activity.** Backward design was used in creating both to ensure alignment with course content, across the new activities, and with the CFE.

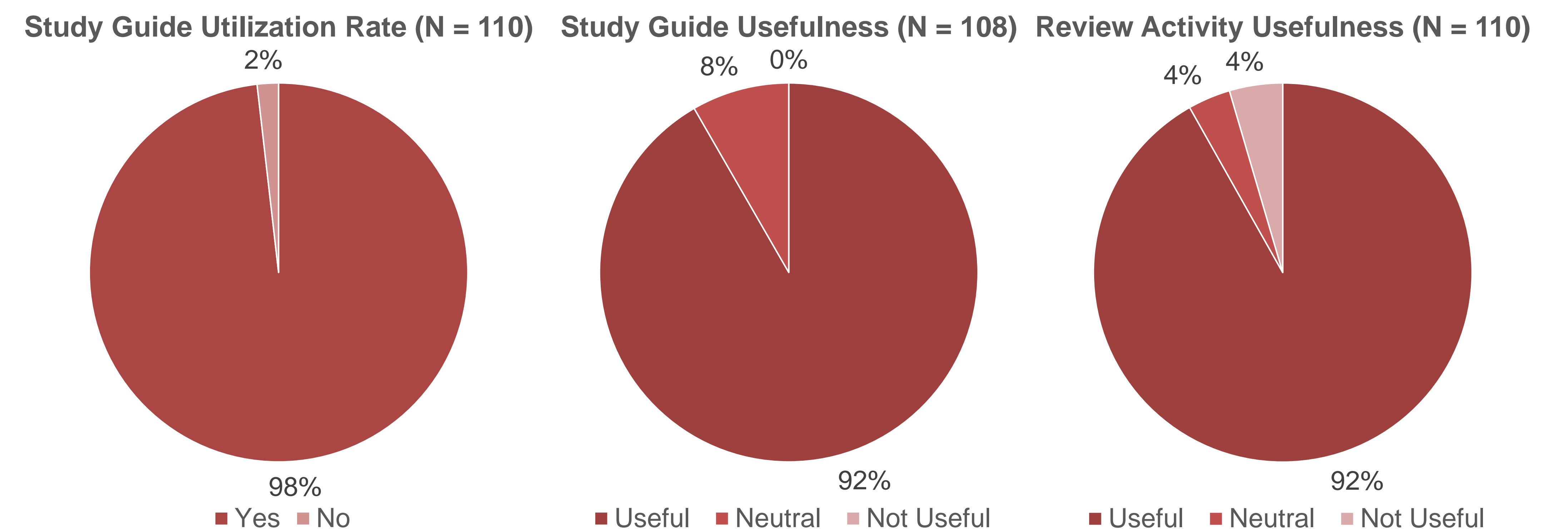


Measures:

- Course leadership perceptions
- Student perceptions of the Study Guide and Review Activity
- Student CFE performance

RESULTS

Course leadership reported spending between 1 and 5 hours preparing the CFE Study Guide. All (6; 100%) course coordinators who responded to the survey found the Study Guide to be useful to students. Student perceptions and exam performance are described below:



Semester	Mean Class CFE Score	Range of CFE Scores	Number of students below 70% (minimum competency score on CFE)
AU2021 (N=126)	88%	67-100%	3
AU2022 (N=121)	86%	66-100%	3
AU2023 (N=116)	89%	69-100%	1

CONCLUSIONS

Providing a Study Guide and Review Activity resulted in **modest improvement in reaching the minimum competency score.** There was **overwhelming consensus from students that these two activities were useful.** Course continuous quality improvement proved helpful in identifying this opportunity and will be used to revise the activity for the next offering.

NEXT STEPS

1. Convert activity from pen/paper to digital
2. Update Study Guide and Activity content/materials, as indicated based on course content changes
3. Re-assess student perceptions and CFE performance in Autumn 2024