

# Improved learning experience with modified case studies courses in a professional pharmacy program

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## PURPOSE/BACKGROUND

- In 2010, Philadelphia College of Osteopathic Medicine Georgia Campus opened the School of Pharmacy (PCOM-GA SOP). PCOM-GA SOP utilizes the institution's trimester schedule to offer a four-year curriculum to pharmacy students. Within the curriculum, years one to three are didactic and year four is advanced experiential education.
- During the second (P2) and third (P3) years of the pharmacy program, six Case Studies (CS) courses are offered to pharmacy students (one per trimester). Since the opening of the PCOM-GA SOP, the CS courses have been continuously changed in attempt to improve overall design of the courses; however, the frequent changes from one CS course to another have led to inconsistencies and poor learning experiences for the students.
- The purpose of this study is to compare student learning experiences between the newly modified CS courses in the 2017-18 academic year (CSAY17-18) and the previous CS courses in the 2016-17 academic year (CSAY16-17).

## METHODS

- Of the six CS courses, CS II through V were redesigned to have the same course structure and design. The following changes were made to the CS II through V courses during the 2017-18 academic year to include:
  - 5 meeting times, each 3 hours long.
  - 4 faculty members (1 course coordinator and 3 instructors) participating in every class.
  - 1 faculty member assigned to facilitate and grade assignments for a consistent group of 20-25 students.
  - Standardized assessment methods: 3 quizzes, group and individual SOAP notes, and short-answer questions (SAQ).
- Survey questions were developed to compare student learning experiences between CSAY16-17 and CSAY17-18. The survey was administered to the P3 students via Google Forms®, who completed both academic years of the CS courses.

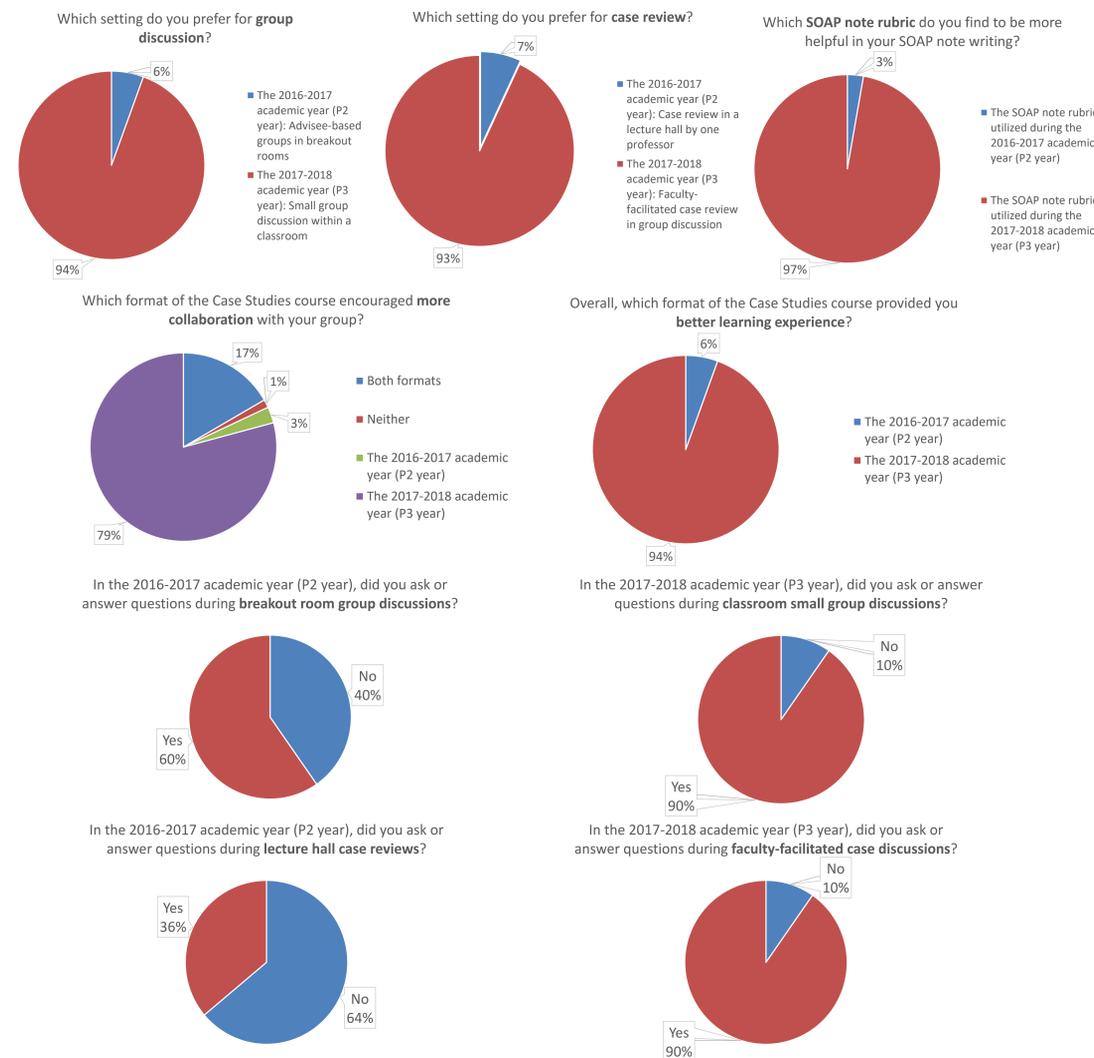
**Table 1. Major changes from CSAY16-17 to CSAY17-18**

	CSAY16-17	CSAY17-18
Student Group Discussion	Each student advisee group was placed in a breakout room separately for discussion. Faculty member walked around from breakout room to breakout room to answer any questions.	Each classroom had 9-10 groups placed in group circles with 2 faculty members. Each faculty member oversaw 4-5 groups to answer any questions.
Faculty Case Review	All students moved back to a lecture hall. One faculty member who developed the case reviewed the answers	In the same classroom, each faculty member facilitated case review discussion with the assigned 4-5 groups.
SOAP note rubric	Contained 7 categories, each category had 4 grading scales (not acceptable, needs improvement, meets expectations, and exceeds expectations).	Contained 18 categories, each category had 4 grading scales (improvement needed, developing, acceptable, and exceeds expectations).

## RESULTS

- 72 students completed the survey (80% response rate). The survey results returned student preference for the following components of CSAY17-18 over CSAY16-17:
  - Small classroom group discussion (94.4%)
  - Faculty-facilitated case review (93.1%)
  - Detailed objective SOAP note rubric (97.2%)
- Student survey results showed CSAY17-18 encouraged more collaboration within student groups than CSAY16-17 (79.2%); however, 16.7% also answered both CSAY16-17 and CSAY17-18 encouraged collaboration.
- Based on the comparison of the student survey results, CSAY17-18 format resulted in more student participation than CSAY16-17.
- Students also reported the CSAY17-18 format provided better learning experience (94.4%).

### STUDENT SURVEY RESPONSES



**Table 2. Comparison of assessment methods**

Components	CSAY16-17	CSAY17-18
# of students per group	8-10	4-5
Midterm	Yes (some)	No
Quizzes	None	3
Final	Yes	No
Number of cases	5	5
Full SOAP Notes	2	2
Mini-SOAP Notes	2	0
SAQ	1	2
# of Faculty Grading	4-6 (random set of students each time)	4 (same set of students each time)
Faculty to Student Ratio for Case Review (Facilitating)	1:90-100	1:20-25
Grading Scale	SAQ- P/NP Mini SOAP Note 1- P/NP Mini SOAP Note 2- 20% Full SOAP Note 1- P/NP Full SOAP Note 2- 35% Final Exam- 45% Total- 100%	3 Quizzes- 30% (10% each) Review Case: P/NP SOAP Note 1- P/NP SOAP Note 2- 30% SAQ 1- P/NP SAQ 2- 40% Total- 100%

## DISCUSSION

- CSAY17-18 was difficult to structure and find a balance between student learning experiences and faculty workload.
- Students preferred CSAY17-18 format to CSAY16-17 format. Many student comments indicated CSAY17-18 format was more organized, interactive, engaging, as well as provided quicker and better faculty feedback in a better learning environment compared to the CSAY16-17.
- Faculty workload with the CSAY17-18 format was still an issue because faculty were required to grade an assessment after every class meeting.
- In contrast, CSAY17-18 format was an improvement because the total number of developed and graded SOAP notes by faculty were less than the CSAY16-17 format.
- The challenges to implementing CSAY17-18 format include:
  - Timeline to change a course is tedious and difficult to manage.
  - 4 faculty members present for all pre-class meetings and class meeting times per each CS course
  - Creating new cases to match topics mapped to concurrent therapeutic courses with detailed answer keys for facilitators.
- In conclusion, as the field of pharmacy changes to provide more patient-centered care, so too must the CS courses within pharmacy schools around the nation. Achieving effective active learning always poses a challenge in academia. Based on positive feedback obtained from student survey results, changes made in the CSAY17-18 improved student learning experiences overall.

## REFERENCES

<sup>1</sup>Cipolle RJ, Strand LM, Morley PC. Pharmaceutical Care Practice: The Patient Centered Approach to Medication Management, 3rd ed. New York: McGraw-Hill; 2012.