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## INTRODUCTION

- ACPE Accreditation Standards 2016 includes mastery of pharmaceutical calculations as a required element of didactic PharmD curriculum<sup>1</sup>
- Various instructional methods for teaching pharmaceutical calculations are employed by pharmacy schools:<sup>2-4</sup>
  - Live lectures
  - Video instruction/podcasts
  - Active learning
  - Self-study
- Proficiency of pharmaceutical calculations through frequent, repeated quizzing can improve knowledge retention, particularly benefitting at-risk students<sup>4</sup>

## OBJECTIVE

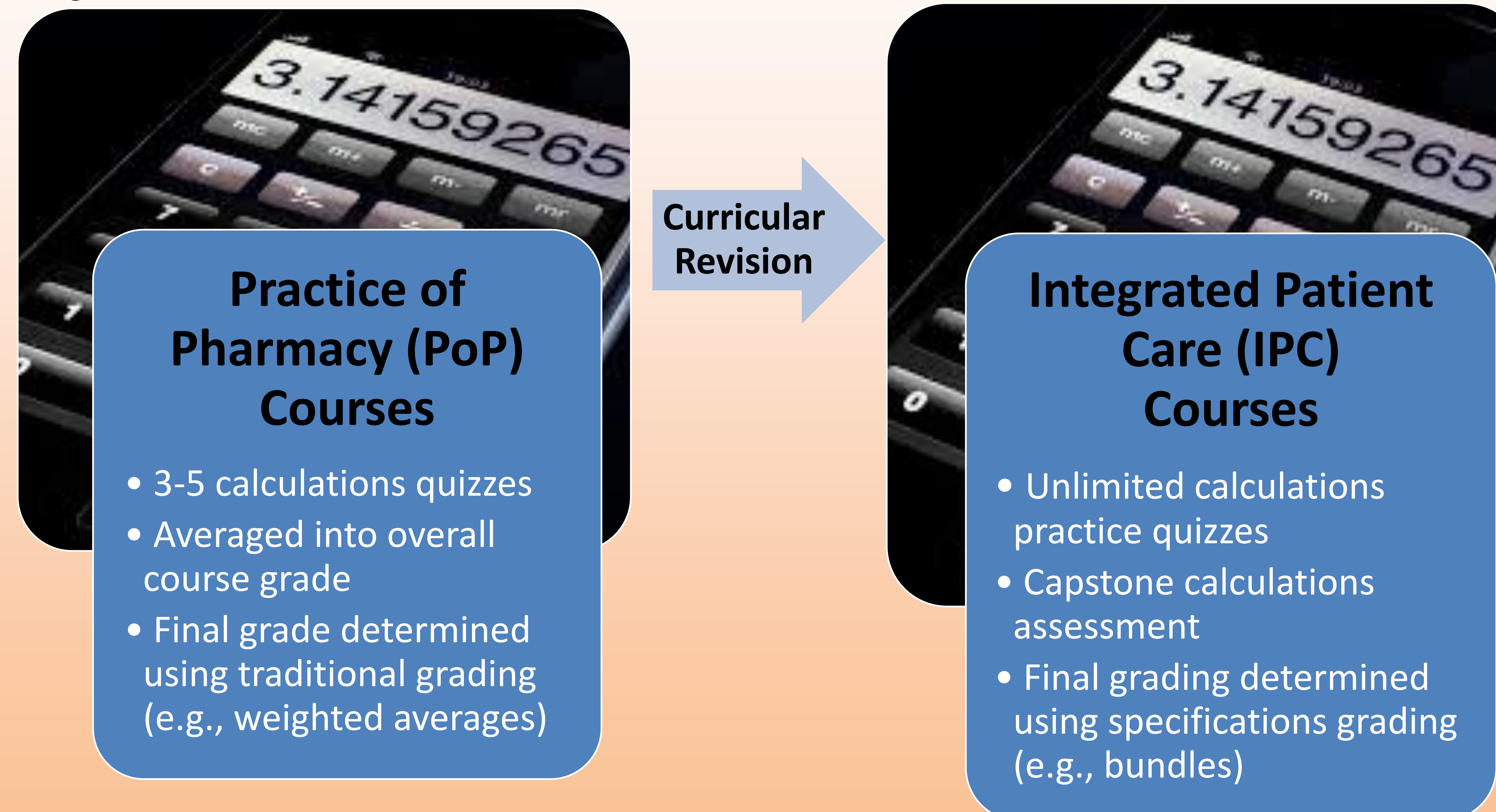
- Determine if the average grade of repetitive calculations quizzes compared to a one-time calculations capstone resulted in higher student performance

## METHODS

- P1 and P2 students across 2 years
- For Practice of Pharmacy courses, total score for each student was averaged
- For Integrated Patient Care courses, final summative calculations capstone was included
- T-tests were used to compare calculations quiz scores for each cohort and overall

**Unlimited calculation practice quizzes in preparation for a calculations capstone assessment resulted in an overall higher performance to achieve proficiency in pharmaceutical calculations for P1 and P2 students.**

Figure 1. Assessment Methods of Pharmaceutical Calculations



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## RESULTS

Table 1: Average calculations grades by course

	PoP Course Mean (SD)	IPC Course Mean (SD)	P-value
Overall	89.75 (7.66)	92.08 (8.03)	<0.001
P1 year	90.10 (7.27)	90.61 (8.41)	0.30
P2 year	89.48 (7.96)	94.24 (6.89)	<0.001

## CONCLUSIONS

- Overall, student performance on a one-time calculations capstone was higher when compared to averaging scores for repeated calculations quizzes.
- Lessons learned include promoting student motivation, scheduling coaching sessions, and providing various instructional methodology and practice opportunities.
- Future research will need to compare long-term retention of material and student motivation under both modalities.

## REFERENCES

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