

Does it "count"? Impact of pre-pharmacy work experience on drug knowledge assessments

INTRODUCTION

- Drug knowledge is a requirement for Doctor of Pharmacy students¹
- Research yielded factors leading to higher Fall course grades in Top 200 drug course:²
 - High pre-pharmacy GPA
 - Timing of students' Community Introductory Pharmacy Practice Experiences
 - Campus attendance
- Research also indicated pharmacy-related work experience did not impact pharmacy school performance (GPA, high-stakes exams, and Advanced Pharmacy Practice Experience grades)³

OBJECTIVE

- To examine impact of pre-pharmacy work experience on student performance on drug knowledge assessment and overall course grade in a skills-based laboratory course

METHODS

- Pre-pharmacy work experience collected from PharmCAS applications for P1 and P2 student pharmacists (Classes of 2024, 2025, 2026)
- Work experiences categorized into 3 areas:
 - Any pharmacy-related (in any field)
 - Community pharmacy
 - Hospital or health-system pharmacy (P2 only)
- Statistical tests to compare those with pre-pharmacy work experience to those without experience:
 - T-tests for drug knowledge assessment scores
 - Wilcoxon rank sum tests for final course letter grades

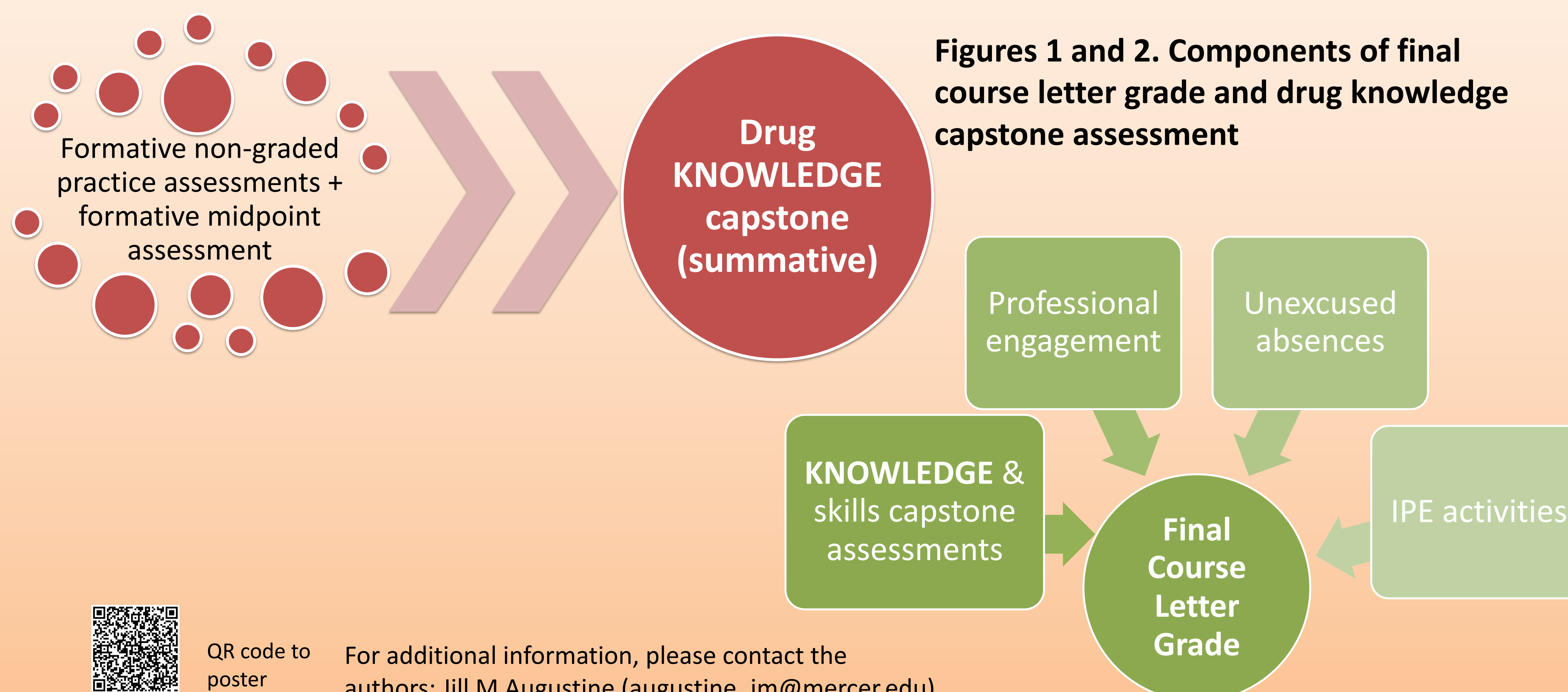
RESULTS

Table 1. Comparison of average drug knowledge capstone scores based upon pre-pharmacy work experience

	Work Experience	No Work Experience	P-value
Any Pharmacy Experience			
First Year (P1)			
First semester	88.48 (9.29)	85.23 (9.96)	0.009
Second semester	84.64 (8.23)	85.89 (8.08)	0.25
Second Year (P2)			
First semester	87.98 (7.74)	87.26 (12.25)	0.59
Second semester	84.86 (7.36)	83.03 (8.70)	0.24
Community Pharmacy Experience			
First Year (P1)			
First semester	88.45 (8.93)	86.07 (10.14)	0.05
Second semester	84.67 (8.34)	85.55 (8.06)	0.41
Second Year (P2)			
First semester	88.11 (7.51)	87.36 (11.34)	0.58
Second semester	85.97 (7.54)	82.93 (7.95)	0.045
Hospital/Health-System Pharmacy Experience			
Second Year (P2)			
First semester	89.21 (6.26)	87.45 (10.32)	0.38
Second semester	84.93 (7.74)	84.07 (7.95)	0.70

Final Course Letter Grade

- Students with any pharmacy work experience had a higher grade (median grade = B) compared to those without any prior work experience (median grade = B) during the P1, first-semester course (p-value=0.045)
- No significant differences in median grades for all other semesters between those with prior work experience compared to those without prior experience (p-values ranged from 0.15 to 0.96)



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For additional information, please contact the authors: Jill M Augustine (augustine_jm@mercer.edu)

DISCUSSION

- Students with any pharmacy experiences had higher summative drug knowledge assessment score during P1, first semester
 - Specifically, students with community pharmacy experience
 - Potentially related to familiarity with medication names (brand/generic) and drug class
- After P1, first-semester, work experience does not impact performance on drug knowledge assessments
- Limitations:
 - Work experience based upon self-report and when students submitted PharmCAS application
 - Final course letter grade based upon several summative assessments unrelated to drug knowledge (calculations, skills)

CONCLUSIONS

- Pre-pharmacy work experience impacts student knowledge of drugs early in their academic career, but this effect does not last.
- Future research should examine the impact of work experience during school on academic performance in specific areas (e.g., drug knowledge, calculations, soft skills).

REFERENCES

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