



# An Experiential Learning Course for Pharmacy Students in the Purdue University Pharmacy



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## OBJECTIVE AND INTRODUCTION

Experiential learning courses take many forms across US Colleges of Pharmacy. This course is a unique, fast-track, peer-mentored experience for first year pharmacy students in an actual pharmacy. The purpose of this project is to describe and evaluate the impact of this experience on the development of the students' community-based practice skills.

## COURSE DESIGN

- First professional year pharmacy students participated in a required, semester long, experiential course three hours per week.
- This campus-based pharmacy experience integrates peer-mentoring and group instruction.
- Students learn pharmacy law, prescription processing software and skills, commonly used medications and patient counseling techniques.
- A series of structured work stations route students through each step in the technology-enhanced assessment process.
- Students present their completed prescriptions to a pharmacist for evaluation using a case-based presentation format.
- Students are assessed on the accuracy of the processed prescription, their knowledge of the patients' medication history, and patient counseling skills.
- Students receive feedback, positive reinforcement and insights on the medication dispensed from advanced student mentors and pharmacists at each stage in the process.
- Patient counseling sessions are videotaped for self-assessment as well as peer and instructor feedback.
- Students attend a small group recitation where they learn 100 commonly used medications, peer review one another's patient counseling videos, and participate in an open forum on topics relevant to pharmacy practice.

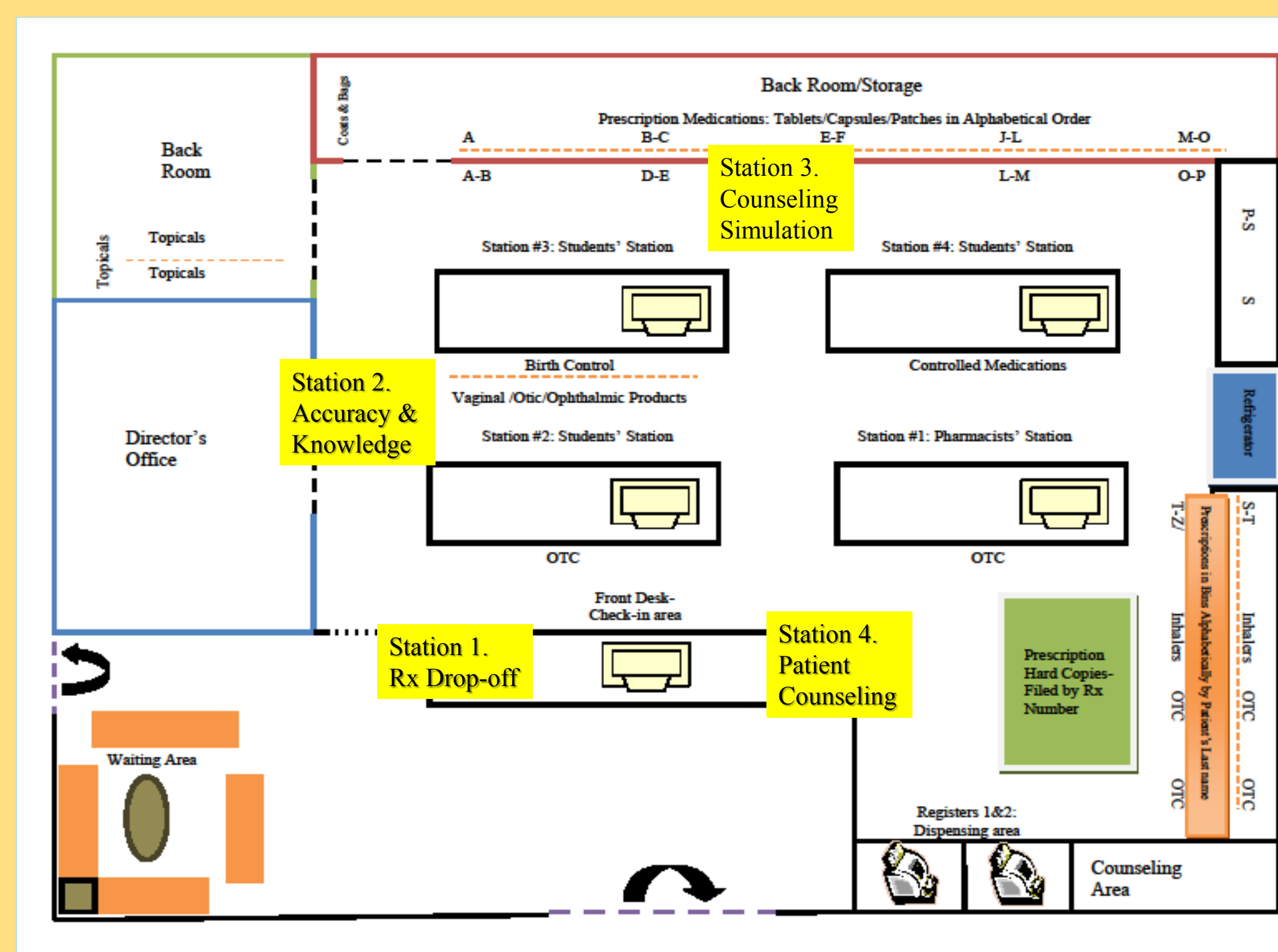


An advanced student assesses the skills of a first year student who is counseling a patient on a prescription. The assessment is recorded on an iPad and delivered in real time to a data spreadsheet.

## LEARNING OBJECTIVES

- Recall and apply brand and generic names, common uses, strengths, adult doses, side effects, and counseling points of commonly used medications.
- Recall and apply commonly used pharmacy abbreviations, conversions, and computer software functions.
- Obtain pertinent patient information during the prescription drop off process.
- Process and dispense new and refilled prescriptions according to federal and state laws.
- Confidently engage in interactive patient counseling and respond to inquiries from a diverse patient population.

## PHARMACY SCHEMATIC



### Station 1: Prescription Drop-off

Students are trained at the drop-off station to request and receive pertinent patient information, which is then entered into a computer terminal. Supervision is provided by a pharmacy technician and advanced mentors.

### Station 2: Accuracy and Knowledge Assessment

Students first fill a prescription at one of the stations in the center of the pharmacy. They gather pertinent information from the prescription and the patient's profile and present this information to the pharmacist. Students receive points per accurately filled prescription. Points are deducted for errors. The student can earn an additional points for provision of accurate information obtained from the patient profile. The pharmacist then provides feedback to the student and directs the student to correct inaccurate or missing information.

### Station 3: Counseling Simulation

At this station, a second or third professional year student mentor role-plays the patient and the first year student simulates dispensing the prescription and counseling the patient. This is a "practice" station that reinforces information and builds confidence; no grading occurs here. Mentors provide verbal feedback on counseling skills.

### Station 4: Patient Counseling Assessment

Two advanced pharmacy practice experience (APPE) mentors oversee the patient counseling area. They observe patient encounters and assess the first year students' counseling skills using a standardized evaluation form on an iPad. Mentors intercede to make corrections and answer patient questions. Counseling sessions are video recorded for class discussion.



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## COURSE EVALUATION

Final Grade Components	% of Grade
Online prescription processing and law exam	15%
10 cumulative medication quizzes	30%
Prescription processing accuracy	10%
Prescription and patient knowledge	10%
Counseling assessment	10%
Reflective survey	5%
Cumulative final exam	20%

## RESULTS

Three hundred and eighty one students completed the pharmacy course over 5 semesters between the fall of 2011 and the fall 2013. Students were assessed on changes in confidence in the areas of pharmacy law, prescription processing, patient counseling, knowledge of 100 commonly used medications and the ability to respond to patient inquiries. Following this active learning experience, students had statistically significant improved confidence scores ( $p = .000$ ) in all areas related to course objectives.

## Pre and Post Student Confidence Ratings on Course Objectives

Student Enrolled from Fall 2011 – Fall 2013	N=381 Mean (SD)		P-value
	Pre	Post	
I am confident in my...			
knowledge of medications commonly dispensed in a community pharmacy setting.	2.06 (1.10)	4.12 (.50)	.000
knowledge of the information needed during the prescription intake/drop off process.	2.26 (1.30)	4.37 (.67)	.000
ability to accurately process prescriptions.	2.24 (1.36)	4.32 (.52)	.000
ability to counsel patients.	2.05 (1.09)	4.15 (.49)	.000
ability to appropriately respond to patient inquiries.	2.13 (1.18)	4.10 (.56)	.000

## CONCLUSION

The ability of the students to view and self-assess patient counseling sessions half way through the semester provided students with an opportunity to identify and correct deficiencies, as well as enhance their techniques. This highly structured, peer-mentored pharmacy experience that incorporates continuous assessment and feedback, coupled with small group instruction, significantly enhanced student confidence in multiple areas of community-based pharmacy practice.

Disclosures: Dr. Patricia Darbishire is an employee of Purdue University and course coordinator.