

# See One, Teach One, Research One: A Scholarship of Teaching and Learning Program for Students

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## Background

- The scholarship of teaching and learning (SoTL) informs evidence-based education.<sup>1,2</sup>
- Students engaged in SoTL research demonstrate greater interest and likelihood of obtaining an academic position, increasing the pipeline of scholarly educators.<sup>3</sup>
- Pharmacy students at the University of California, San Francisco complete a project that engages them in scientific inquiry.<sup>4</sup> We developed a SoTL curriculum for this program.

## Aim

- To describe the design, implementation, and initial outcomes of a SoTL program.

## Methods

- We developed a curriculum providing instruction in learning theory and SoTL-oriented study design.
- Program goals:
  1. To learn and apply SoTL research methodologies
  2. To develop, implement and evaluate educational interventions
- Students participated in 12 required workshops throughout their 2<sup>nd</sup> pharmacy year (Table 1).
- While learning research skills, students collaborated with faculty on research projects focused on teaching or learning.

**Table 1: SoTL Program Workshops**

1. Overview of program goals, objectives, and deliverables
2. Developing research goals, objectives, and applying theoretical frameworks
3. Searching and citing the educational literature
4. Approaches to research methodologies and designing instruments
5. Designing learning materials
6. Conducting quantitative data analysis
7. Conducting qualitative data analysis
8. Summarizing findings through presentations and manuscript writing
9-12. Works-in-progress presentations

**Table 2: Examples of SoTL Projects**

Relationship between pharmacy students' self-reported learning strategies and performance
Creation and validation of a short answer question writing rubric
A qualitative evaluation of the effectiveness of the Master Preceptor Program
Assessing and optimizing the user experience of a structured question submission tool
A pilot study of script concordance tests in pharmacy students and residents
Design and evaluation of certainty-based assessment questions in a pharmacy course
Impact of a well-being promotion training program on advanced pharmacy practice experience conference leaders

**Table 3: Research Project Dissemination**

Peer Reviewed Publications		Conference Posters	
<u>Journal</u>	<u>N (%)</u>	<u>Location</u>	<u>N (%)</u>
<i>American Journal of Pharmaceutical Education</i>	2 (11)	Local	4 (21)
<i>Currents in Pharmacy Teaching and Learning</i>	2 (11)	Statewide	8 (42)
<b>TOTAL</b>	4 (21)	National	2 (11)
		<b>TOTAL</b>	14 (74)

## Results

- Since 2019, thirty-two students have matriculated through the program
- Students engaged in 19 different research projects on program development and evaluation, assessment of novel educational tools and tests, and analysis of student characteristics and performance (Table 2)
- Projects have been disseminated as 4 peer-reviewed publications and 14 posters (Table 3)

## Discussion

- Though there are descriptions of student research programs in the literature, we are unaware of SoTL programs of this scale at other Schools of Pharmacy.
- We hope to identify additional opportunities to support students' research dissemination.

## Acknowledgements

We'd like to acknowledge the faculty who helped precept several projects: Mandy Brown, Tram Cat, Mackenzie Clark, Valerie Clinard, Jennifer Cocohoba, Leslie Floren, Stephanie Hsia, Jaekyu Shin, Judie Tran, Trang Trinh, Lisa Well, and Crystal Zhou.

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