

# Pharmacy students' understanding and attitudes towards implementing competency-based education (CBE) in pharmacy education



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## Background

- In recent years, there has been a shift towards competency-based education (CBE) as a new educational model.
- CBE puts the focus on the student and allows them to progress through their education at their own pace, based on mastery of learning objectives, as opposed to following the traditional time-dependent lecture-and-test methodology<sup>1</sup>.
- Many institutions have begun the transition away from traditional classroom settings and integrate various elements of CBE<sup>2</sup>.
- Many pharmacy schools are planning to fully transition to the CBE model in future academic years.
- Competency based frameworks promote improvement in professional performance<sup>3</sup>.
- CBE curricula are new and ever changing, enlisting the need for a more structured and regimented approach across all institutions wishing to utilize CBE<sup>4</sup>.
- Little is known about pharmacy students' awareness and perspectives about CBE.

## Objective

- Assess the attitudes and opinions of Doctor of Pharmacy students towards competency-based education.
- Determine the level of awareness of CBE among pharmacy students.
- Determine pharmacy students' perceptions on potential benefits and drawbacks of this educational model.

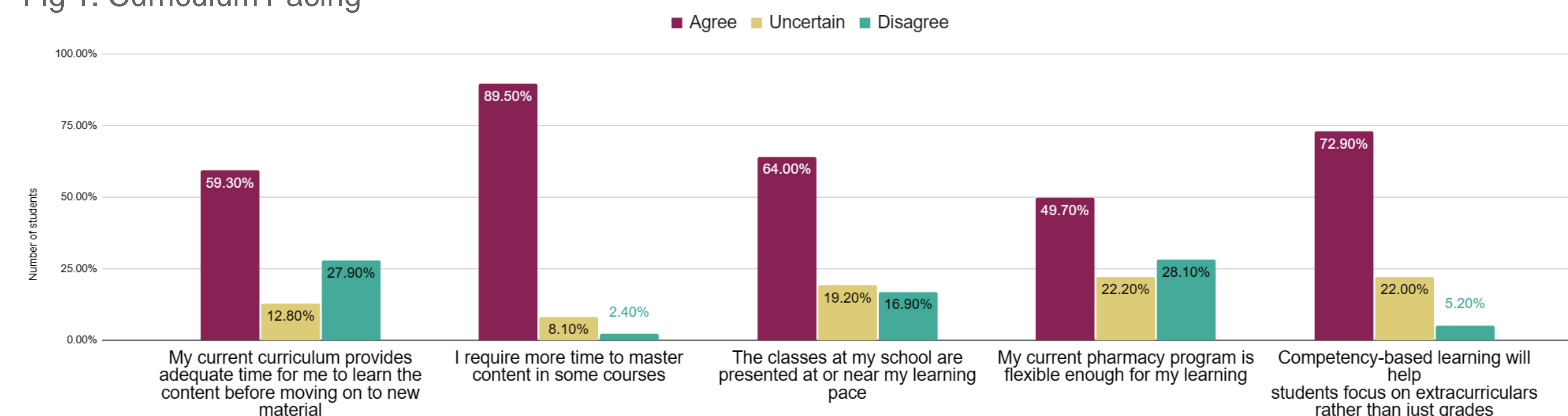
## Methods

- The Loma Linda University California Pharmacy Student Leadership (CAPSLEAD) team sent a 24-question, web-based survey to query student pharmacists regarding their knowledge and opinions about CBE.
- The survey contained questions regarding knowledge and attitudes towards CBE and demographic factors (e.g., age, ethnicity, and occupation).
- The survey was distributed electronically to 13 California pharmacy programs' faculty advisors and were then forwarded to all current students.
- Periodic email reminders were sent to faculty advisors.
- Data collected over a span of 8 weeks was downloaded to SPSS for analysis.

## Results

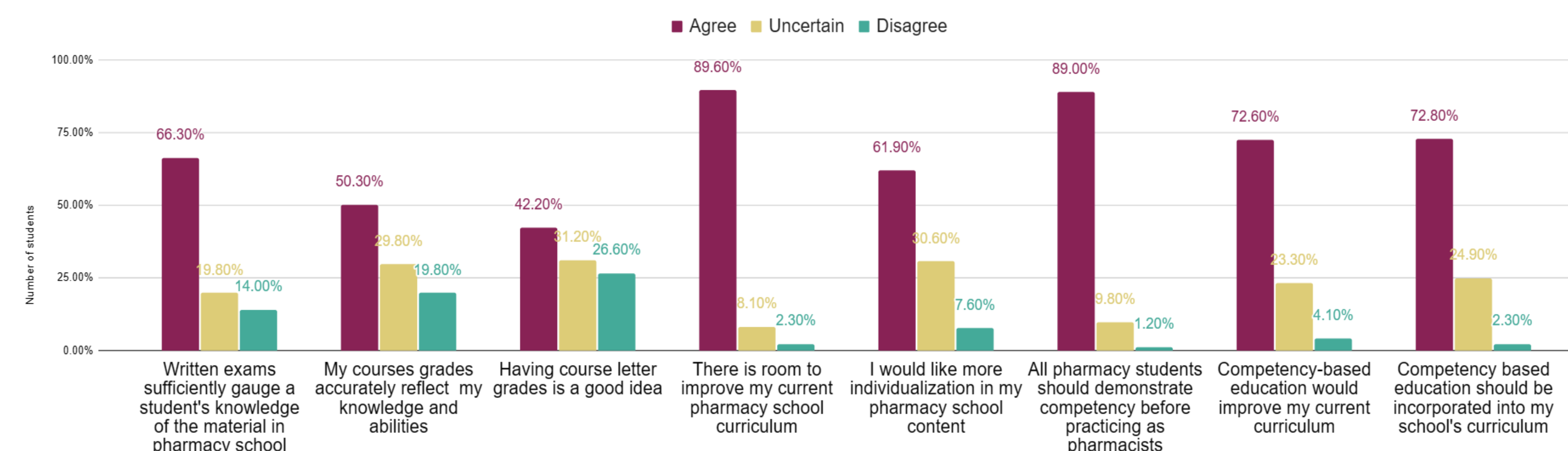
- A total of 210 students from across nine pharmacy schools completed the survey.
- Most of the students were female (64%) and had working experience (66%).
- Most students agreed with the statements: "I require more time to master content in some courses" (90%); there is room for improvement in their pharmacy school curriculum (88%). (Fig. 1)

Fig 1. Curriculum Pacing



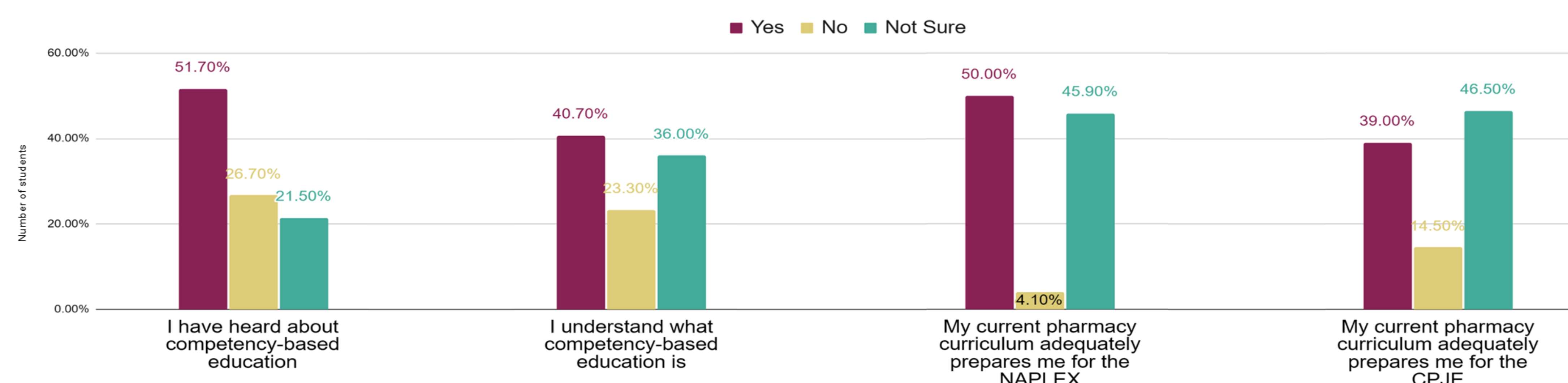
- Of the students, 89% agreed that pharmacy students should demonstrate competency. (Fig. 2)

Fig 2. Legacy vs CBE Opinions



- Half the students (50%) felt that their current curriculum prepared them for the NAPLEX. (Fig. 3)

Fig 3. Understanding of CBE and Thoughts of Pharmacy Assessments



## Discussion

- Most students had a favorable opinion about CBE in pharmacy education. Most students agreed that they liked more individualization in pharmacy school content and that students should demonstrate competency before practicing as pharmacists. Individualization and demonstrating competency are key hallmarks of CBE.
- Most students agreed that CBE would enhance their learning experience and better prepare them for successfully passing the NAPLEX. Similar findings were reported in studies involving medical students.
- Many students did not have adequate knowledge or were unsure about CBE. 47% were uncertain if they have ever experienced CBE in their education. More awareness about what CBE is and involves is important.
- Most of the students agreed that their pharmacy education had room for improvement and that CBE would improve their current curriculum.

### Limitation of the Study

- The response rates were low. Few students from UCSF (the only school with a fully CBE-based pharmacy curriculum in California) responded to the survey. Nine out of the 13 pharmacy schools responded.
- There is limited historical data given that CBE has only been implemented by a few pharmacy schools across the country.

## Conclusions

- Many students had limited knowledge of CBE in pharmacy education.
- Most pharmacy students agreed there was room for improvement in current curriculum.
- Most students had favorable opinions about CBE and agreed that CBE should be incorporated in their school's curriculum.

## References

- Rhoney, DH., et al. "Forces Driving Change in Pharmacy Education: Opportunities to Take Academic, Social, Technological, Economic, and Political into the Future." J Am Coll Clin Pharm 2021, 4(5): 639–651.
- Laird-Fick, Heather S., et al. "An Exemplar Milestone Framework for Scaffolding a Competency-Based Medical School Curriculum." Med Sci Educ 2022; 32(3): 611–614. <https://doi.org/10.1007/s40670-022-01558-1>.
- Udoh, A, et al. "The Effectiveness and Impact on Performance of Pharmacy-Related Competency Development Frameworks: A Systematic Review and Meta-Analysis." Res Soc Admin Pharm, 2021; 17 (10) 1685–1696., <https://doi.org/10.1016/j.sapharm.2021.02.008>.
- Van Melle, E. "A Core Components Framework for Evaluating Implementation of competency-based medical education programs" Academic Med 2019; 94(7): 1002-1009.