Effect of team-based peer teaching on student learning in MIC 380 Food Microbiology

Xinhui Li
(xli@uwlax.edu)
Department of Microbiology
University of Wisconsin-La Crosse

Background

MIC 380 Food Microbiology is a mid-level elective course for the a few majors at the University of Wisconsin-La Crosse. It covers various topics in the area, including foodborne pathogens, food fermentation, and food preservation.

Studies have indicated that peer teaching and collaborative learning increase teaching effectiveness in microbiology courses (1-4).

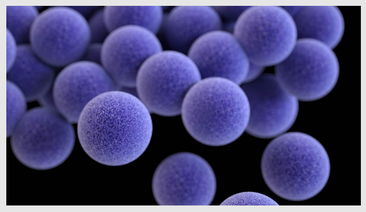
This SoTL project aims to examine whether team-based peer teaching enhances student engagement and improves teaching effectiveness in this mid-level undergraduate Food Microbiology course.

Methods

Students in the MIC 380 course will be divided into groups

Each group will be focused on one or a few foodborne pathogens

1. *Vibrio* spp.
2. *Campylobacter* spp.
3. *Staphylococcus aureus*
4. *Listeria* spp.



Develop and deliver a presentation

Develop and provide a set of questions, some of which will be used in the exam

Data Collection and Analysis

1. Pre-project survey
2. Post-project survey
3. Students' performance scores in the exam for related materials will be compared to those from previous years.

References

1. Behling, K. C., et al. 2016. Team-based learning in a pipeline course in medical microbiology for under-represented student populations in medicine improves learning of microbiology concepts. Journal of Microbiology & Biology Education 17: 370-379.
2. Ebomoyi, J. I. 2020. Metacognition and peer learning strategies as predictors in problem-solving performance in microbiology. Journal of Microbiology & Biology Education 21: 10-1128.
3. Ngamskulrungroj, P., et al. 2018. The efficacy of peer teaching for medical microbiology lectures. MedEdPublish 6: 132.
4. Rutherford, S. 2015. E pluribus unum: the potential of collaborative learning to enhance Microbiology teaching in higher education. FEMS Microbiology Letters 362: fnv191.

Acknowledgments

The project is supported by the Wisconsin Teaching Fellows & Scholars Program 2024-2025, and the University of Wisconsin-La Crosse.