Cellular Physiology Presented within Anatomy & Physiology Courses

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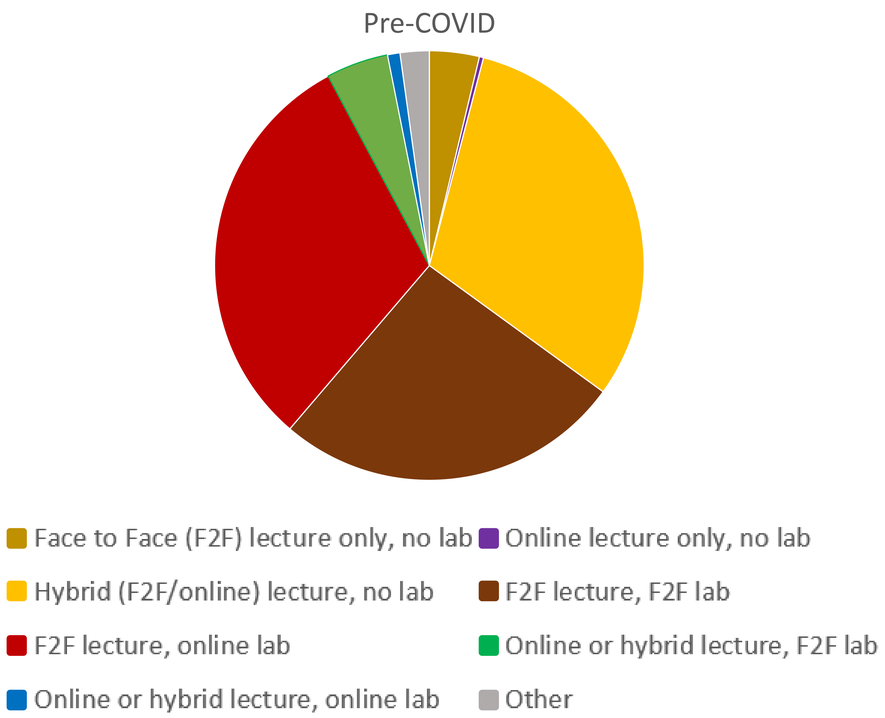
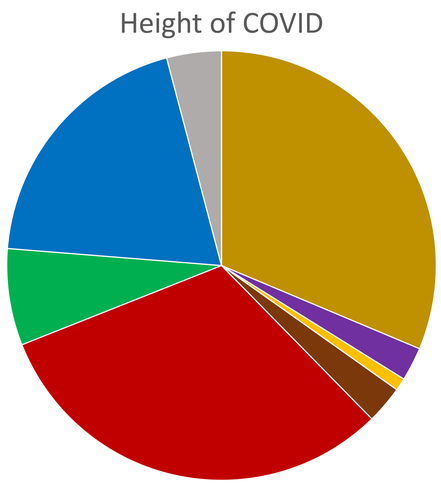
INTRODUCTION

The purpose of this sabbatical project is to learn how cellular physiology, specifically membrane transport, is taught to students in an undergraduate anatomy and physiology course. With recent changes in modality of instruction (see pie charts below), we need to ensure that the core concepts are being presented and mastered.





METHODS

Educators were invited to complete a survey on how they teach cellular physiology. They described the format of their course, any prerequisites, and associated lab components. They were able to describe when and how they first presented the concept of membrane transport within their course.

Educators were interviewed through Zoom to elaborate their method of presenting and assessing student mastery of membrane transport in their course. They described the coverage of that core concept specifically in muscular, nervous, endocrine, and urinary systems.

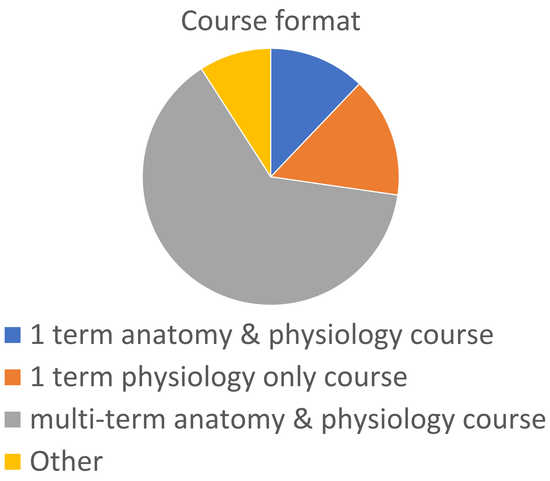
*"**Membrane transport** trips up my students each year…I would love some way for them to see the concepts for themselves."*

*"We **spend so much time** in class on this topic and I am worried that they do not reinforce when they go home."*

*"I can see the **light bulbs go off** when the students are explaining this idea to their classmates during review sessions."*

Data from surveys:

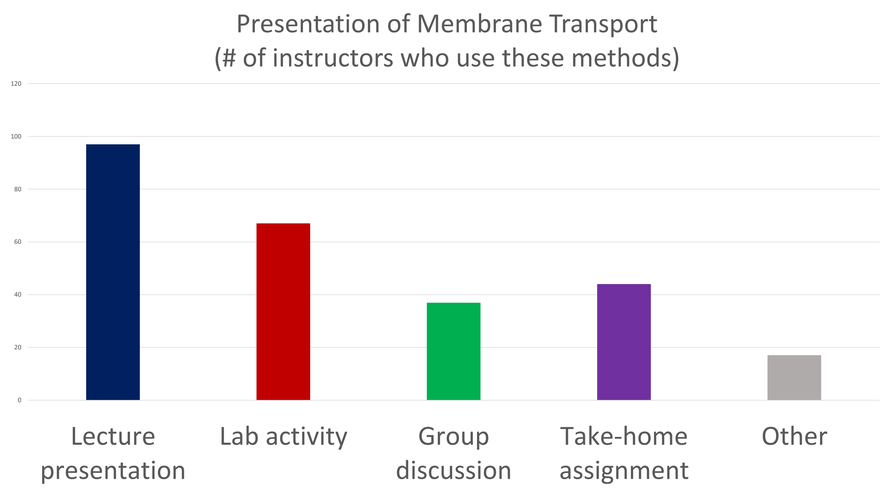
Coconino.edu/lehman-sabbatical



RESULTS

Ninety-nine (99) educators completed the online survey. 32 states were represented by the 91 full-time and 8 part-time faculty members. Educators represented high schools, 2-year schools, 4-year schools, and graduate/medical schools.

Thirty-four (34) educators were interviewed through Zoom. Most present cellular physiology in lecture or through case studies or worksheets, but a number described lab or group activities for presentation of membrane transport (follow the QR code for more analysis and descriptions).



DISCUSSION

Whereas most educators agree to the importance of student mastery of membrane transport in Anatomy & Physiology, few have hands-on classroom or lab activities to demonstrate these concepts for students. Many admitted that they would love to utilize a hands-on activity, but do not feel they have the time to commit to create such an activity.

ACKNOWLEDGEMENTS

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