ChE teaching tips

Zoom Helpers: A Peer-Led Resource to Engage Virtual Students

A significant challenge facing instructors during the COVID-19 pandemic is how to engage virtual students attending a hybrid, synchronous lecture via Zoom® (or similar platform) because of how easy/tempting it is for students to turn off their cameras or mute their microphones. Instructors may tend to focus too much on in-person students at the expense of virtual students. Moreover, most virtual students prefer to only use the chat feature to ask questions. This leads to the virtual students becoming passive participants and getting left behind due to numerous factors including poor internet connection, domestic situations, psychological or emotional burdens, or old-fashioned tuning out the teacher. In

After the first two weeks of hybrid instruction during Fall 2020 with a class of 42 students, I realized that my virtual students were getting left behind because I could not balance my in-class instruction with tracking the activity of a tiny chat window to connect with the virtual students. This heavy mental load faced by the instructor is known as hyper-focus.[1] Online resources have encouraged instructors to lean into the technology to engage both populations of students^[4-5] and noted that it is important to maintain student attention; [1-2] however, there is limited insight offered on how to engage the students. [1] I needed help to manage my whole classroom, so I created the "Zoom Helper" position - undergraduate teaching assistants who attend the inperson lecture and are my conduit to the virtual learners. The Zoom Helper is a student who has previously completed (and performed well) in the course. They are funded by the department as student workers and help out in class (as the Zoom Helper) in addition to holding office hours and helping with grading. The Helpers are trained in some relevant aspects of educational pedagogy, including how to ask/answer questions, how to help students struggling with difficult concepts, and how engage students virtually. For the past two semesters, two of my Helpers (Caroline Lowery and Gloria Alvarado) have been my lifeline to the virtual students. I initially used them to track virtual student attendance, but I realized that they were capable of much more. Student participation (e.g. attendance, quizzes, in-class assignments) counts toward the final course grade, and the Helpers create an atmosphere of accountability with the virtual students. The virtual students are instructed at the start of class that they will not receive attendance points unless they actively engage during the lecture. The Helpers keep track of the students who are responding in the chat and provide insight on correct versus incorrect answers. They also reach out to students who are not participating via a direct message to encourage them to pay attention/engage. Additionally, the Helpers became the voice of the virtual students who only communicated using the chat. The Helpers would raise their hands to ask a question or provide an answer to an in-class question. Because they were peers, the virtual students were more willing to open up and participate.

The impact of the Helpers was semi-quantitative when looking at the difference in student performance on the midterm versus the final exam. During the first part of the semester, many of the virtual students did not engage with (or respond to) the Helpers and were passive participants. The result was a bimodal distribution on the midterm exam where the majority of in-person students performed well while the majority of the virtual students did not. This served as a wake-up call to the virtual students, who became more engaged with the Helpers during the second part of the class. We went from a chat with \sim 20-30 responses to one with \sim 120-200 responses, with the majority of students attempting to answer questions. The result was a substantial improvement on the final exam, with many of the virtual students earning several letter grades higher compared to their previous midterm exam performance.

As the pandemic continues and as more classes potentially move online in the future, we need to continue to find new and better resources to engage the virtual students. My Zoom Helpers have worked wonders for me, and I intend to utilize their help for all my hybrid classes going forward.

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