UNLV psychology professor Rachael Robnett led a study which found that the ability to contribute to class discussions via live chat boosted female students’ participation during pandemic Zoom classes. Credit: Josh Hawkins/UNLV

Women much more enthusiastically embraced the live chat function during pandemic Zoom classes than men, according to a new University of Nevada, Las Vegas (UNLV) study. Researchers hope the data could be a key to broadening underrepresented groups' access to STEM disciplines as colleges incorporate technology into hybrid and even in-person courses.

The study, published Wednesday in the journal *PLOS ONE*, examined the anonymous chat summaries from fall 2020 of 230 students spread across two introductory biology lecture courses for non-majors that were offered via synchronous remote video instruction. About half of the students participated in a follow-up survey, and of those, nearly two-thirds identified as women, 32% as men, and 5% as gender fluid or transgender.

The survey asked students to rate on a scale of 1 (disagree strongly) to 7 (agree strongly) statements about their live chat experiences, including whether the feature made class fun, helped them feel more comfortable participating in discussions, or facilitated learning. Although both men and women generally agreed, women’s ratings were significantly higher than men’s. What’s more, women (5.61/7) were significantly more likely than men (4.06/7) to say that they wished in-person classes included a mechanism similar to the live chat feature.

The UNLV research team noted that past studies have shown evidence that actively engaging with classmates improves performance and retention. Engagement, even through chat functions, deepens students’ sense of belonging—an outcome that’s especially valuable for students traditionally underrepresented in STEM fields due to ethnic background, gender, or lack of family history in higher education.

“Our findings imply that implementing strategies such as live chat may help to address stubborn gender gaps in STEM degree attainment and help women feel more comfortable in a space that has not always welcomed them,” said lead researcher, UNLV psychology professor, and gender development expert Rachael D. Robnett.

**Main takeaways**

- When a professor encourages use of the chat feature during remote instruction via WebEx, Zoom, and other video platforms, it appears to inspire more frequent and widespread class participation than educators typically see during in-person lectures.

- According to responses to open-ended survey questions, live chat made students in general—and especially those with social anxiety or disabilities such as a stutter—feel more comfortable offering opinions and asking questions.
In the post-pandemic return to primarily in-person learning, the research team called on future research to explore ways to incorporate live chat into STEM courses. Potential options include hybridizing courses to incorporate more diverse lines of in-class participation, or turning to an emerging technology called "backchannels" that allow students during in-person instruction to converse in real-time via an app that anonymously projects their comments onto a shared screen.


Provided by University of Nevada, Las Vegas

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