Going remote and back again: Lessons learned

Ruobin Gong, Assistant Professor of Statistics at Rutgers University, continues her "Sound The Gong" column with a reflection on what lessons we can, and should learn, from the experiences of teaching and learning online.

Prior to March 2020, taking classes towards a college or graduate degree remotely was anything but the typical way to do things. By June 2021, however, a large number of universities around the world have delivered their classes in some virtual format for more than a year.

It feels otherworldly to recount the steps we took to arrive at this virtual reality that was once merely a virtual possibility. On the first day of the state-wide lockdown of New Jersey, I frantically scrambled to rearrange a midterm exam scheduled for that same evening, worried that some student might drive a long way to campus only to find a locked classroom. Fast forward three semesters, I signed off from the last Zoom session, watching my screen popping a string of clapping-hand emojis and thank-you's from the chat window, while entertaining the euphoric idea that this might be the last virtual class I'd teach in a little while. Everything in between, however, seems to elude memory.

This is not amnesia. Rather, I blame it on the fact that too few genuine experiences made a mark on my long-term memory. Two years ago, when making my teaching plans for 2020, I had all kinds of exciting ideas about what to do. I wanted to host a reading class with the first-year students, to discuss privacy and data ethics, and to slip some of my own research on Dempster–Shafer theory into the graduate-level class on Bayesian analysis. Those plans were executed, although not in the manner I had hoped. The almighty Zoom is capable of miraculously transcending time zones, dialing in students from China, India, and South Africa. It also manages to let nearly all my questions, prompts, and jokes fall flat as if chucked into a humorless pit. Over the past year, I assigned grades, both good ones and so-so ones, to four cohorts of students, yet could not remember most of their faces. In a different context, this would have been a sure sign of an indifferent teacher.

I was confused. The enterprise of teaching and learning no longer functions in the way we understood it. In a desperate attempt to salvage a sliver of positivity, I thought of asking both my students and my colleagues in the Rutgers statistics department about their experiences of remote instruction. A questionnaire consisting of two open-ended questions was sent: 1) What do you hate most about remote learning/teaching (for students/faculty respectively), and 2) What do you like most about it? The purpose of the exercise was rather simple: I sought to know whether everyone else felt as vacuous as I did about their year. If there's any silver lining to this awkward natural experiment, I wanted to uncover it so that we have a basis to hold onto going forward.

A total of 19 students and 20 faculty members responded to the questionnaire, posting the response rates at roughly a third and a half, respectively. When examined side by side, their responses portrayed the two ends of a surprisingly coherent story. The table below tabulates the most frequently mentioned hate/like items, while I take the liberty to share with you some of the central themes.

For both the faculty and the students, an overwhelming majority stated that the single most despicable aspect of remote instruction was the lack of interaction. Most synchronous classes would not mandate students to turn on their cameras or microphones during class. Consequently, far too often the teachers found themselves speaking to a computer screen full of dark and muted rectangles. To elicit a response to a question became more difficult than ever. Worse, there was no way to gauge whether anything that was said landed successfully with the students. We were deprived of even the simplest kind of visual cue—a nod, a hand gesture, or even a blank stare that otherwise would have been helpful.

The students, arguably, faced a more dreadful challenge that was twofold. On the one hand, most felt that they could not communicate effectively with the teacher. Many indicated that the burden of communication hindered their comprehension of the class material, especially when the teacher walked through delicate matters such as a detailed demonstration of a problem solution. But the more salient adverse impact was that the students were unable to maintain concentration during class, a phenomenon that confirmed some of the faculty's observations. "Three-hour classes are already difficult," one student wrote. "Being at home with no accountability, it was very easy to lose focus and miss entire portions of a lecture." The students also felt helpless in trying to connect with their fellow students. Some were particularly disappointed by the lack of any peers' presence, as they were used to calibrating their learning progress by observing other students' reactions in class. A substantial portion of the students surveyed were either freshmen or first-year graduate students. They nose-dived right into the virtual learning environment without ever setting foot on the Rutgers campus. The international students among them spent the past year overseas, participating in class sessions at inconvenient times according to their days. To be deprived of social connections while these students made their transition to a new academic environment can be distressing, and stressful.

The lack of personal touch in the classroom had undesirable consequences on the quality of the learning outcome. The teachers reported difficulty in designing meaningful assessments to accompany virtual instruction. The students, on the other hand, bore the repercussions of the teacher's struggle. The homework took more effort, class projects felt simultaneously more demanding and more pointless, and grading appeared harsher. At its worst, the unhealthy disconnect between the student and the teacher could brew distrust.

All is not lost, however. The students also expressed delight over a few transformations to the traditional teaching practice. A vast majority rejoiced in the fact that the lecture recordings were made available, making reviews much easier than before. Considering how slippery concentration could be in class, the recording served not merely as a convenience, but as a necessity indeed. The benefits of a recorded lecture went beyond making up for the lost time in class, however. Students learn best at different paces, and some preferred to tackle new material in shorter, 10- to 20-minute chunks rather than the default three-hour long lecture, which was made possible by the recordings.

Another notable improvement over traditional instruction was that the students didn't need to commute to campus any longer. This simplification presented a real saving of both time and money, especially for part-time students who juggled their job and their degree at the same time. A few students expressed a special appreciation for virtual office hours. Often, a student might really just have a simple question for their professor. A virtual, low-commitment meeting would encourage them to actually voice those questions.

Last but not least, open-book exams, previously endorsed by only a portion of the advanced or graduate-level classes, were also a student favorite. While it may not be ideal for classes of all sizes at all levels, the open-book format may be fitting for quizzes and small-scale assessments, even after in-person instruction resumes.

The faculty expressed a more reserved attitude towards the benefits of remote instruction. Two of my colleagues simply declared that they liked nothing about remote teaching. Some noted a change of routine in their teaching practice. A more optimized working schedule for preparing asynchronous classes, the use of slides, as well as the myriad of online pedagogical tools to help with anything from software demonstration to automated grading. Some of these changes made their teaching more organized and purposeful. Interestingly, I could not help but notice from a few of my colleagues' comments that what they ended up appreciating about remote teaching were those things that the students liked and found useful: recorded lecture videos and online office hours being the two favorites.

The truth is, habits can form faster than we know it. The fully remote means of instruction was once unthinkable, yet is by now widely and proficiently practiced. As universities everywhere prepare for the return to in-person instruction, new challenges—withdrawal symptoms—will emerge too.

We did not spend the gruesome year in our isolated quarters to learn nothing about the future. There is no doubt that in-person communication is an essential ingredient of a high-quality learning experience. At the same time, virtual communication has demonstrated its value in creating a more inclusive and accessible environment. It may be an unremarkable luxury that a student can sit side-by-side with their peers and face-to-face with their teacher, but it is her extraordinary basic right to be aided in her pursuit by all the technological conveniences at our disposal.

	Students	Faculty
The Bad	✗ Lack of interaction with teacher and fellow students ✗ Cannot maintain concentration ✗ Lack of interpersonal empathy (workload, grading)	✗ Lack of interaction with students ✗ Cannot ascertain comprehension and stimulate communication ✗ Difficulty of assessment
The Good	✓ Lecture recording available ✓ No need to commute (especially for office hours) ✓ Open-book exams	✓ Organized, purposeful instruction ✓ Students don't need to commute ✓ Aid of online pedagogical software

Table: Top responses from students and faculty to the questions (1) What do you hate most about remote instruction? and (2) What do you like most about it?