Pandemic studies: Remote learning during Covid

When the pandemic forced university students to study at home, Sinjini Mitra and Denise Stanley set out to understand the impact this would have on student experiences, course outcomes and future preferences.

Since the start of the Covid-19 pandemic in March 2020, millions of students worldwide have been forced into “remote learning.” As university professors, we wanted to know how our students had managed this change. What were their experiences of remote learning like, and what challenges did they face? Most crucially, we wanted to consider what colleges and universities could do to alleviate any such problems and to improve the student experience.

A survey was conducted at the end of the Fall 2020 semester among a group of undergraduate students enrolled in business statistics and business economics courses at our institution, California State University, Fullerton – a large, minority-serving, four-year public university located in the western United States.

All student instruction had been conducted online during the Fall 2020 semester, with synchronous class meetings over Zoom at an assigned hour. Of the 125 students who participated in our survey, 50% were female, 42% were of Hispanic origin, and 42% were first-generation college students – these are the most common subgroups of local policy interest, but the results overall offer a broad range of opinions which provide insight into the pandemic’s diverse effects on different student subgroups in undergraduate business education.

Further research into the experiences of graduate students and those in other disciplines can assist in understanding this historic disruption to education.

The student experience

Nearly 60% of our students had not taken online coursework prior to the pandemic, with Hispanic students being the most unfamiliar with online courses. Some students did not have an appropriate home environment conducive to attending online lectures and taking exams. Media reports have focused on the challenges experienced by younger students, from kindergarten (ages 5–6) to grade 12 (ages 17–18), with crowded study and living spaces being a particular issue. But this was also a problem for our student body, a large proportion of whom...
are commuters and working students, living in an urban region of expensive housing. Many of our students live with several family members (the median household size is 4, with 63% of students living with 4 or more members). Some also had children to care for in the absence of daycare, all of which could create distractions leading to a lack of focus, attention and motivation during class.

Among those in our sample, domestic challenges posed a higher barrier to learning for Hispanic and white students than Asian students, and also for first-generation students compared to others. Almost a third (31%) of Hispanic and white students reported such challenges, compared to 25% of the rest of the sample; similarly, 62% of first-generation students mentioned external challenges faced during the pandemic compared to 33% among other students.

Some students commented that “I have constant distractions with the dog or family members coming into sessions” or “it is challenging to separate home from school; it is difficult to focus during the Zoom lecture with so many other things going on in the background”. These comments aligned with findings from another campus survey, conducted in summer 2020, which found that 50% of our students were housing insecure (and 8% homeless), while nearly 50% lost or experienced reduced employment during the pandemic.2 But these statistics also suggest an inequity of space and study settings across students enrolled in a single class, which instructors would find difficult to control for in assessment.

Nearly a quarter of our participants reported experiencing mental health issues due to pandemic- enforced isolation and factors such as job losses, and the inability to pay bills and afford housing. One student commented: “I didn’t feel like school was worth it anymore and I stopped attending classes because I was mentally defeated.”

**Course outcomes and future preferences**

Our survey suggests that course outcomes changed with remote learning. Indeed, 38% of students felt that their learning changed drastically due to the transition, and 27% struggled to keep on track with the required coursework. This is higher than usual for these courses, which typically report 18–20% failure rates (according to data collected prior to the pandemic). More than half (58%) of students were concerned about the “change in the course structure” or the “change in assignments or assessments” and their ability to complete course activities in a new environment. Only 4% of those surveyed said that their learning in the new situation was the same as in the face-to-face context; 36% responded that the change in learning was substantially different (worse); and 48% rated their overall learning in the virtual format as average or poor.

After their experience of remote learning, we wanted to know whether university students would be interested in selecting online or hybrid classes in the future if they were provided with an option between these formats and regular face-to-face on-campus classes (ideally in the post-COVID era)?

Figure 1: Student interest in future enrolment in online or hybrid classes, with responses in each category split according to student ratings of remote learning experience during the Fall 2020 semester at California State University, Fullerton.

Figure 2: Student interest in future enrolment in online or hybrid classes, with responses in each category split according to student ratings of remote learning environment during the Fall 2020 semester at California State University, Fullerton.
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What did we learn?
First of all, students need a variety of physical locations for effective study and learning. A common physical class location (either off-campus or in campus rooms or libraries) can help “level the playing field” for students with challenging home environments. Second, we found that support from family and friends was crucial in these difficult times. But the university also has a role to play, even if students are not on campus grounds. The majority of students mentioned the need for additional financial, emotional, medical and academic support from campus in order to continue their academic journey. The university’s role in a student’s life goes beyond the interaction with learning material to a broader social network of resources required for this age group.

We also see that experiences with forced remote learning, although not ideal, were perceived as having an impact on learning outcomes and future preferences for instruction. Opinions about the efficacy of online learning (versus face-to-face experiences) sharpened, and students were likely to have learned more about themselves and their learning style. Since backgrounds, personalities and other cognitive and meta-cognitive factors are known to drive student success in different course environments, it is extremely important that students are able to select a format that is most suitable for them in order to be successful in a course.

This implies that, ideally, administrators should offer both online and face-to-face versions of a course. Moreover, it is important for administrators to ensure that the information available on the course registration portal is clear and easily understood by students so that they can make an informed decision about registering for their preferred class format. This is particularly relevant for online courses, some of which may be offered in a synchronous format (weekly meetings via Zoom) while others may be offered in an asynchronous format (with only some live meetings for exams or orientations). According to our survey, about 40% of students found it difficult to distinguish between these two types of online course formats while enrolling for their Spring 2021 courses.

The road ahead for higher education and online learning
The unprecedented shift to remote learning during the Covid-19 pandemic offers a chance to learn about student experiences and needs, and possible future trends in course design. Our survey results show an initial shock during the early period and then an awareness of the specific factors which could hamper or help in the new virtual environment.

Students’ off-campus environments became central due to stay-at-home policies; the underlying inequities in household wealth and housing patterns necessarily became a new focus of learning gaps. Many students had not taken online coursework before the crisis and suddenly gained experience in studying remotely. Subsequently, perceived learning and achievement gaps logically affected student preferences for future online coursework, with a continued divergence of opinions that was common pre-pandemic. The most important lesson is that, going forward, students will likely pay attention to class delivery methods and continue to require different learning environments, so that clarity around those delivery methods will be a crucial action for educational administrators.

While the period of forced remote learning may only have been temporary, our campus and other public universities in the USA appear to be providing more online course offerings. This is perhaps to be expected. Large investments of both financial resources and faculty time were made during the academic year 2020–2021 in order to deliver innovations in online course methods. Thus, faculty members are more enthusiastic about online teaching, and we see a wider range of course sections using hybrid and fully online formats. For example, traditional “in-person” classes on our campus can now include up to 30% of their seat time in a remote setting (which is increased from a pre-pandemic threshold of 20%).

These trends, along with the changes in student preferences that we explore above, point to a significant shift in the delivery of public higher education.

Disclosure statement
The authors declare no competing interests.

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