

## LEARNING FROM UNIVERSITIES' RESPONSES TO THE COVID-19 PANDEMIC: LESSONS FOR THE NEW NORMAL

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### ABSTRACT

The pandemic has negatively impacted many students' ability to continue schooling, or to do so with the same level of success. What is not well understood is how universities' responses to pandemic-induced changes helped or hindered students' success during the spring 2020 transitions to online learning. To better understand campus closures and transitions to online and blended learning, this paper explores students' perceptions of their universities' handling of and responses to the pandemic and which actions and resources would better support their success in the new normal. It is important to understand the impacts of universities' responses on students not only because some changes are likely here to stay, but also because pivots caused by pandemics may be required with increasing frequency in the future. The data came from an online survey conducted in the United States in spring and summer of 2020. The survey respondents were 669 undergraduate engineering students from 140 institutions. Student responses addressed several distinct groups of stakeholders with most related to individual instructors, followed by academic administrators, and counselling and disability service centres. Less prominent but still important themes related to other groups were also identified. Responses for each of these groups are presented in turn, and the paper concludes with recommendations for each group.

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## **1 INTRODUCTION**

The COVID-19 pandemic has negatively impacted many students' ability to continue higher education in the United States [1]–[3]. Even for those students who are able to continue, changes caused by the pandemic have made many aspects of attending college more difficult. What is not yet well understood is how universities' responses to pandemic-induced changes either helped or hindered students' success during the spring 2020 transitions. It is important to understand the impacts of universities' responses on students not only because some changes are likely here to stay, but also because rapid pivots will likely be required with increasing frequency. Shifts to blended and online learning, for instance, may continue permanently in some cases, and pandemics and epidemics are happening at increasing frequency [4], [5].

Therefore, we must understand the impacts of shifts to blended and online learning and to be better prepared to make rapid pivots in the future. To that end, this paper explores students' perceptions of their universities' handling of and responses to the pandemic and which actions and resources would better support their success in the new normal.

## **2 METHODS**

The data for this paper came from a nationwide online survey of 669 undergraduate engineering students from 140 universities in the United States. Further details about data collection, the survey instrument, and respondent demographics can be found in [6]–[8]. This paper focuses on responses to three open-ended questions related to universities' responses to the pandemic: 1) What did your university do that was not helpful in supporting mental wellness during the pandemic? 2) What strategies do you wish your university had taken during the pandemic to support mental wellness? 3) What resources do you wish had been provided by the university during the pandemic to support mental wellness? While the survey questions focused on mental health, we found that the open-ended responses spoke to broader instructional issues and held more generalisable lessons for shifts to online learning and universities' responses to emergencies of any kind. Similar responses were found across all three questions, such that it made sense to organise findings by stakeholder group rather than by individual question. Therefore, responses were first categorised by stakeholder group and subsequently by inductive themes within each of those groups. Findings were then narrowed down to prioritise themes that were actionable and that we deemed reasonable. Several quotations were edited for anonymity, to correct typos, or to increase clarity.

## **3 RESULTS**

### **3.1 Instructors**

The majority of comments concerned individual instructor's actions. These comments addressed three categories: 1) amount of work assigned, 2) lack of empathy for student difficulties, and 3) course organisational and instructional problems. As readers will see, there was some overlap between the categories.

The first category of comments related to instructors indicated that students believed instructors assigned an unreasonable amount of work following the pandemic outbreak. While some comments suggested that even a regular workload would be excessive due to pandemic considerations, many noted that instructors assigned significantly more work than they would have during a normal, in-person semester. Phrases such as “drowning in homework”, “flooded with work”, and “an absolute immense amount of work” captured these experiences. Other representative quotations included: “The amount of school work is excessively more than what would be done during the regular school year”, “Some teachers increased workload while students were still trying to get used to different platforms of online learning”, and “classes [are] far more difficult, causing mental wellness to be compromised due to stress/anxiety”.

The second category of comments indicated that students believed instructors had acted without empathy. The general perception was that instructors acted as if their courses could and should carry on as normal and did not recognise, care about, or adjust to the myriad ways in which some students’ lives were upended by the pandemic. Phrases such as “unsympathetic”, “not at all compassionate”, and “cruel” captured this sentiment. Representative quotations included: “Professors need to understand that not all students are local and have access to being on the computer all the time especially with Wi-Fi issues and housing insecurity by not being able to pay rent due to loss of job”, “They just kept going with the course material like if we were still in class”, “[...]when I missed an assignment due to technical difficulty (hardware failure after dealing with two family members getting sick (grandmother is fine, cousin has COVID)), they ignored my emails asking them to understand my situation, then responded two weeks later saying that I had waited too long to ask”, “The grading policy, it’s much more difficult to get stuff done when you have an insecure internet connection. You get dropped out of class in the middle of lecture. I’ve missed points because my internet sucks. Or just flat out couldn’t do homework because of my internet was out for a couple of hours”, “Professors were being horrible and not at all compassionate. They didn’t care about what we felt”, “[they should have] Kinda relaxed more and not have students stress about grades. So that we could focus on surviving”, “Kept pushing ‘maintaining academic integrity’ and constantly making us feel like the only thing that mattered was our grades”, and “Completing my regular coursework was unreasonable and cruel to expect of me in my mental condition. It almost cost me my life. When I reached out for support, I was not believed and I was reluctantly given \*some\* accommodation”.

The third category of comments indicated that students experienced organisational or instructional problems with their courses. These problems ranged from instructors not adhering to specified exam times, a move to asynchronous learning, and an overreliance on YouTube and letter grading policies (not switching to pass/fail). Representative quotations included: “My professors made the exams longer because we were at home and they overlapped the time which made it incredibly stressful and difficult to get done within the timeframe given”, “I wish lectures still remained at

designated times instead of YouTube videos”, “Half of the professors quit teaching and just sent out YouTube videos as their lectures (videos were often not made by them)”, “Some classes became completely asynchronous (lectures posted for students to go over on their own) which is good to help with time zones, but a lot harder to engage in the material and makes asking questions a lot harder (primarily due to required effort)”, “Teachers assigning us projects without proper instruction or support”, and “[they should have] Taken it slower. Not to expect students to have every single engineering software on laptops when it was not required. Not to expect students to be able to get help from professors, because it takes a lot longer through email rather than in person”.

### **3.2 Academic Administrators**

Academic administrators (e.g., deans and chairs) were the second group of stakeholders referenced in students’ responses. The majority of these comments reinforced the salience of the themes identified above for individual instructors. For example, many students commented that administrators should have prevented instructors from increasing student workload during the pandemic. Representative comments included that administrators “Did not regulate or coordinate the workload between classes”, that “professors didn’t communicate on when or how much work they were going to assign so it made the workload 10x worse”, and that administrators should “Instruct professors on not to give more just because it is all online”.

The theme of instructors acting without empathy was reflected in comments that administrators should have required and enforced more empathetic actions by instructors. One specific means of doing so that was repeatedly mentioned was implementing a college-wide switch to pass/fail grading policy: “It is completely unfair to expect all students to complete school work at the same level when there are HUGE disparities between ability and privilege”. Other specific actions mentioned were “mandating assignment extensions or forgiveness for certain situations”, and “taking mental wellness into consideration when discussing online learning”. Another student said: “I also wish the college had been more helpful instead of making me fight for my incompletes while I waited for access to my chronic pain treatments (which were shut down because of COVID)”. More generally, comments indicated that administrators should: “More closely supervise the professors because some of my professors have been very difficult and not understanding during this period”, “Enforce that all teachers go a little bit easier on us rather than just encourage it”, “Tell professors to take it easy and realise students are now just trying to survive and school now has to come 2nd to that”, and encourage “professors to lay back a bit on the harshness”.

The theme of organisational or instructional problems was reflected in comments that administrators should have done more to prevent these problems. Specifically, students voiced a need for: 1) more coordination at a college and department-wide level (i.e., not leaving organisational and grading decisions up to each individual

instructor); 2) more communication with professors on how long and frequently exams should be given, 3) better substitutions for labs; 4) better and more communication with students and staff overall, and 5) helping instructors transition to online learning. For example, one student said the university should:

Help the teachers be better prepared for the transition to online. Each teacher is trying to figure everything out just like the students. Some professors don't have adequate audio setup which has wasted valuable time in class and makes it harder to understand lecture material.

Additionally, students needed access to computers and software programs that they previously were able to access on campus. As one said: "I wish they would help those who have limit [sic] access to school equipment, such as a laptop, the ability to check one out. I wish they would have better prepared the professors for it, too". A similar comment said: "As an engineering student, we use many computer programs to do schoolwork. I personally never really had the money to pay for these so therefore I would do these assignments at the school computers...Now working from home, I found myself forced to buy them because the department did not offer any help paying for them".

### **3.3 Counseling and Disability Service Centres**

The third group of stakeholders referenced in comments was counseling and disability service centres. Comments indicated that there was a need for 1) more services, 2) different services to respond to pandemic conditions specifically, and 3) continuity of services. These comments indicated that many students' mental health needs were not being met during this time. For example, they indicated that it was difficult to access the counselling during this time. There were many suggestions for different services and resources that were needed in response to the pandemic. Desired services and resources included: emails regarding available health, wellness, and online therapy options; continuation of free counseling that was previously available on campus; more accessible and free online counseling; better availability for counseling; a counseling helpline; online seminars or courses on aspects of mental health including anxiety management and coping with loneliness; psychological testing; and group support meetings or group therapy "where we can all talk or do some kind of activity together". Additionally, responses indicated the need for continuity in counselors, (i.e., not having to meet with a different counselor each time).

Continuity of services was needed in other ways as well. Respondents indicated that services and accommodations normally offered on campus had been disrupted during this time, to the detriment of their mental health and coursework. For example, one respondent shared a story of having their accommodation request ignored: "I had a request for disability accommodation for ADHD ignored. It wouldn't have happened if classes were on campus. I'm really embarrassed about needing accommodations so I didn't follow up on it". Similarly, another shared difficulties not normally experienced:

Due to chronic migraines, I could not easily access any of my class material because it was all on a screen, nor could I access my usual medical treatments due to COVID shutdowns. My university made it extremely difficult for me to get accommodations and eventually incompletes for my classes. For much of the semester in shutdown I was under significant stress and thought I would not be able to graduate at this college due to my inability to complete essential courses without my usual accommodations.

Another respondent shared: “I was denied a psychiatry appointment I had scheduled before we left campus with student health. Because I had not yet had an appointment, I therefore could not receive medication for my anxiety which was heightened due to the extreme life change”. And still another lamented that, “It was difficult to accommodate tests for people with disabilities that allow them to receive accommodations”. These comments indicated that counselling and disability centres need to work on adapting their services to meet conditions of the new normal.

### **3.4 Other Stakeholders**

The final category of comments concerned other groups of stakeholders not referenced in the above groups. These groups included financial aid, health centres and gyms, on-campus housing, student employment offices, and others. First, a large number of students were unhappy with how quickly their universities shut down. Students reported being forced to leave campus housing with only two days’ notice and never being allowed to return to collect their belongings after that. Second, many comments indicated need for direct monetary support or grants to support students financially. Students found themselves unable to pay for food, rent, relocation costs, or access to therapists once free access on campus was no longer available. Relatedly, there is a need for changes to financial aid policies in light of the pandemic. Primarily this is due to changes to expected family contribution, which is used to determine need. One student explained: “Because of the pandemic my family will require aid next year but the financial aid office said that they would only look at the 2018 financial year which means we will not qualify for aid.” Also related to those financial challenges, the fourth theme in this category was an expectation that tuition and fees should have been lowered and/or refunded. This included fees for services that were no longer accessible, such as gyms, student union buildings, room and board, and parking passes, as well as lowered tuition for “lower facilities and learning”. Fifth, many students needed access to healthy food to help address food insecurity. Less common, but mentioned, needs included gyms offering virtual exercise programs, creating more remote jobs for students who previously worked on campus, domestic abuse support, providing PPE to keep students safe, better access to tutoring/support services, and offering ways to keep people connected or engaged with online social activities. As one student summed up: “It would have been useful to have resources that could have made up for what we are missing since not being on campus (food security, gym access, internet access). Some people’s lives were flipped upside down due to this, and the university made minimal effort to help the affected people”.

#### 4 DISCUSSION

We recognise that students were not the only group negatively impacted by the pandemic. Changes to home and work lives were stressful, disruptive and traumatic for many university staff as well. Most employees did the best they could under the circumstances, and challenges were to be expected because no one was prepared for this. Nonetheless, the data revealed that there are many actions within university control that can and should be improved going forward. Improved responses are needed not only for academic success, but also for engineering students' mental health, which is a persistent challenge, and which the pandemic made worse in some regards [6], [9], [10]. Perhaps most notably, findings revealed that decisions need to be made with greater empathy toward students' changed and differing situations. Additionally, findings revealed that some actions, perhaps taken in order to be empathetic, did not actually benefit some students in the ways intended. For instance, although instructors may have decided to switch regularly scheduled live class meeting times to asynchronous videos in order to accommodate differing time zones or changed student obligations, some of our respondents wished that normal class schedules had been maintained. Looking to countries, such as Australia, with longer histories of extensive online engineering education programs could prove useful for understanding how to better conduct remote labs or accommodate testing requirements for those with disabilities.

While some of the resources and actions students wanted may initially seem unrealistic, rather than dismissing them out of hand, it would be worthwhile to invest in creative solutions to the problems—if the goal is to retain and support a larger number of students. For example, while still honouring contracts and payroll commitments, are there ways in which fees for services that are no longer operating could be redirected to better support students in new ways? Finding ways to best support students through these realities could mitigate the negative cyclical impacts of attrition. Loss of students has had detrimental impacts on universities' budgets; programs, staff positions, and even entire departments have been eliminated and furloughed. During such times, finding new and creative ways to support students financially may seem out of the question. However, if they *are* supported fewer may leave and budget impacts ultimately lessened. This is a cyclical problem whereby if those supports are not provided, students will be lost, which will further decrease revenue.

It is also important that instructors and administrators rethink and counter the myth of the “ideal” student when making pandemic-related decisions. Prior to this pandemic, engineering education was structured for the “ideal” engineering student who was tacitly assumed to be “White, male, between the ages of 18–22, on campus and without major obligations such as full-time employment or family care” [11, p. 24]. Such assumptions about students disadvantage those whose lives are outside the idealised model of what an engineering student should be. Given the changes caused by the pandemic, some aspects of this idealisation need to be highlighted. It is important that university staff not operate on the assumption that their students

have safe and stable home lives, reliable housing, food, reliable internet and technology access, no children or family obligations, and the same income, resources, and healthcare they had on campus. Our findings showed that many students do not fit this “ideal” student myth.

## 5 CONCLUSION

In response to questions about their universities’ handling of the COVID-19 pandemic, engineering students identified a wide range of stakeholder groups whose actions could have been more helpful. Responses indicated that instructors and academic administrators had the biggest role to play, but also that various student services could be improved. By way of conclusion, we offer the following recommendations for US institutions. Applicability to other countries will necessarily vary. **Instructors should:** not make students do more work than usual, and consider assigning less; adhere to scheduled timeslots for classes and exams; ask “Am I making this decision based on the myth of the ideal student?” If so, make a more inclusive and empathetic decision; find ways to respect disability accommodations students are entitled to; and not overly-rely on YouTube videos to teach class.

**Academic Administrators should:** enforce the above recommendations for instructors; develop a plan for future transitions to online learning that ensure staff and students have the technology they need, including for remote labs; during times of crisis, consider requiring empathetic changes to grading policies (e.g., universal pass/fail); coordinate instructional decisions at a departmental or college level rather than leaving up to individual instructors; and learn from other countries and institutions with more experience with distance learning. **Counseling Centres should:** maximise continuity of services and providers; create new online group therapy/support groups offerings; offer all existing appointments remotely where allowed by law, or develop strategic partnerships with counselling centres in different regulatory regimes to ensure wide availability of service to students; and create courses/programs for supporting mental health. **Disability Service Centres should** work directly with instructors to help them find ways to accommodate disabilities for online learning and testing, and create new ways of testing for and documenting disabilities that can be done remotely. **Financial Aid Offices should** change any policies that are based on income from before the pandemic to be based on current income. (We recognise this may require changes at the national policy level first).

**Other stakeholders should:** redirect or refund fees for services that are no longer being offered; create ways for providing food that was previously available on campus; identify new opportunities for remote student employment to replace on-campus jobs; and identify ways to transition on-campus services to remote options.

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