California State University
Student Experiences with Connectivity and Technology in the Pandemic

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Institutional Context

The California State University is the largest, most diverse 4 year system in the United States.
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- 23 campuses
- Over 480,000 students
- Over 53,000 faculty & staff

Student Experiences with Connectivity and Technology in the Pandemic

Survey: Fall 2020

- 8,392 responses from 54 US institutions
Student Experiences with Connectivity and Technology in the Pandemic

Survey: Fall 2020

• 8,392 responses from 54 US institutions
• Including 1,007 student responses from three CSU campuses

Some topics:
• internet connectivity
• technical troubleshooting
• impacts to schoolwork
Student Experiences with Connectivity and Technology in the Pandemic

Survey: Fall 2020

• Some topics:
  • internet connectivity
  • technical troubleshooting
  • impacts to schoolwork

Focus Groups: Sp/Su 2021

• 28 undergraduate students at four CSU campuses

Survey: Fall 2020

• Some topics:
  • internet connectivity
  • technical troubleshooting
  • impacts to schoolwork

Focus Groups: Sp/Su 2021

- Humboldt State: 5 students
- Fresno State: 3 students
- CSU Northridge: 8 students
- San Diego State: 12 students
Research reports: links in chat

National survey findings: report available now

Focus group findings: mid-November

Where and how did students connect?
A complicated story

83% reported having home internet access that is reliable enough to meet most or all of their needs as a student.

36% reported that they always, very often, or sometimes struggled to find an internet connection that met their academic needs.

Connecting from home

“I’m renting a room from friends. The Internet is really spotty. There’s like two places in the house where I have Internet, and there’s three kids under the age of five in the house, so that makes it a little hard to hear over Zoom sometimes.”
Amplifying the stress: syllabus policies

“One of my professors, we did our midterms and finals on camera through zoom, but if your Internet connection dropped at all, our grade would be a zero for that assignment,
Amplifying the stress: syllabus policies

“One of my professors, we did our midterms and finals on camera through zoom, but if your Internet connection dropped at all, our grade would be a zero for that assignment, so I made sure all my family members did not use the Internet and bandwidth at all. And it worked out all the time, but it was shaky at times.”

Amplifying the stress: syllabus policies

“[The] first day I remember my internet started cutting out, and I got scared...
"[The] first day I remember my internet started cutting out, and I got scared... because I remember reading on the syllabus that one class was like if you did not attend, you know today, then you are automatically kicked out.

I was like please don't let that happen."
Short-Term Interventions

Short-term interventions on campuses:
- loaning hotspots (over 10k as of FA20)
- Expanding outdoor wifi in areas such as parking lots
- subsidizing low-cost internet at home

Image Source: Fresno State/Cary Edmondson

Longer-Term Strategies

Longer-term investments:
- expanding WiFi outdoors on campuses
- statewide bandwidth initiatives
- Expand Eduroam

Image Source: cenic.org
Audience Question - Connectivity

What approach(es) did your campus use to address connectivity issues?

• Loaned hotspots
• Subsidized internet service off-campus
• Boosted access to campus WiFi
• Some or all of the listed options
• Other

How did difficulties related to hardware and software impact students’ coursework?
Tangible impacts of device issues

I missed attending a remote class session because I couldn’t access my primary device or my primary device wouldn’t work. 11%

My primary device wasn’t equipped to perform a task I needed it to perform for a course. 10%

I missed a project or assignment deadline because I couldn’t access my primary device or my primary device wouldn’t work. 8%

My primary device malfunctioned or was broken and required repair, support, or replacement. 8%

I couldn’t access my primary device when I needed it because I had to share it with a family member or friend. 4%

Software compatibility

“I remember trying to use Excel...but for some reason it wouldn't work on the computer given to me by the University.”
Software compatibility

“When I was having an issue with the LockDown Browser I would try three of my roommate’s computers, and none of them were working…

Halfway through the semester one of my other roommates, her computer worked for it…
Software compatibility

“When I was having an issue with the LockDown Browser I would try three of my roommate’s computers, and none of them were working…”

Halfway through the semester one of my other roommates, her computer worked for it…

And so we would have to try to figure out a schedule... and that was really frustrating trying to go back and forth.”

Too many apps

“So it's like for this class, I have to do Blackboard.
Too many apps

“So it's like for this class, I have to do Blackboard. This class I have to do Canvas.

This class I have to post something on Instagram…
Too many apps

“So it's like for this class, I have to do Blackboard. This class I have to do Canvas. This class I have to post something on Instagram… It was just like using that many applications and just being on a laptop for like 15 hours a day, not counting Zoom.”

Near-Term Interventions

Near-term actions:
- device loaner programs (over 21,000 devices distributed as of FA20)
- Provided supplementary equipment such as webcams and headsets
- Purchased more than $18 million on new equipment and distributed about $4 million of existing equipment
- Virtualized software
CSUCCESS Program

Closing the Digital Divide

“As a first-generation college student myself, I struggled financially. I got it. And I want to make sure we remove barriers for our talented students.”

– Joseph I. Castro, CSU Chancellor

Faculty Development

QLT & QM Course Completions by Year

Number of CoursesCompleted

Year


62 33 389 627 334 253 296 1,012 1,456 1,284
Audience Question - Device Access

What approach(es) did your campus take to ensure device access to students?
- Laptop loaner program
- Extended campus access to labs and study spaces
- Virtualized software
- Ancillary equipment (headsets, webcams)
- Some or all of the above
- Other

Where did students go for IT support?
The do-it-yourself model

- I try to resolve the issue myself: 72%
- I go to a friend or family member: 13%
- I contact IT/ttech support at my institution: 9%
- I contact the manufacturer's tech support: 4%

“I also don’t really know what IT does for us, so I don’t know if I should really ask them for help when I have issues or not.”

“Most of the issues I would face I could just fix by myself...I just knew about it from past experience or I would just Google it.”

“Majority of my problems are with the [internet] company itself, not with [university] stuff... I’d rather just call the [internet] company and have them deal with it.”
Communication challenges

“I think the university was providing [hotspots] at some point, but I heard from a friend that they were doing that, so I don't know how the university’s reaching out to students.”

Communication challenges

“I've never been told that hotspots were available, so I don't know if they are, but I just took the liberty to purchase it on my own so that I had something.”
Audience Question - Communications

What have you done to get communications to students? How do you encourage students to use your support services?

Post your responses in chat.

What do students recommend?
In their own words - Software and Hardware

Free or discounted software:

“Maybe give the students free access to software, such as Microsoft Word or other programs like Adobe Photoshop.”

Digital devices such as laptops, tablets, and smartphones:

“Wouldn't it be fantastic if the universities could provide brand new laptops and smartphones?”
In their own words - Software and Hardware

Digital devices such as laptops, tablets, and smartphones:

“Wouldn't it be fantastic if the universities could provide brand new laptops and smartphones?”

“Every student should have a tablet or something.”

In their own words - Additional Equipment

Assistive devices such as blue light filters to reduce screen fatigue:

“We used to get headaches and our eyes would get really bothered by the monitor... I know that someone was talking about glasses that would help.”
In their own words - Additional Equipment

Multiple monitors or large screens:

“Two monitors would be really helpful just because you need a lot of tabs open in order to complete the assignments.”

In their own words - Additional Equipment

Space to study, connect to the internet, and print course materials:

“I also think that more study spaces should be open.”

“Not having access to a printer was really rough.”
In their own words - Program Ideas

Financial support and maintenance programs for technology:

“A grant...[for] electronic kind of stuff, so if your charger breaks or you need a program or some kind of service online, you can use that money to pay for it.”

“Maybe some sort of repair program for hardware so we don't have to just trash it [or] buy something brand new. That would be great to just be able to fix our stuff so we can continue working with it.”
In their own words - Digital Learning Strategies

Blended (remote and in-person) learning:

“There were some positives…

So I think perhaps that, for instance, they can somehow combine doing Zoom and in-person.”

In their own words - Digital Learning Strategies

Multiple options for multimedia assignments (e.g., slides, videos, podcasts):

“I thought that was great to add that extra layer of options for students to be creative in their own way in their own chosen platform to finish assignments.”
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Thank you!

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