The CIO Perspective: First-Generation Students

Serving students' tech needs during the pandemic and beyond

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This report is based on a virtual roundtable discussion held on March 4, 2021.
For questions or comments, email ci@chronicle.com

S tudents who are the first in their families to enroll in college are less likely to graduate than their peers. The [challenges are multiple](). First-generation students often come from low-income families, juggle their studies with full-time jobs, and care for children or siblings. And they can't benefit from a parent's college experience, which can be a key resource for navigating the sometimes confusing terms and practices on a campus and in a classroom.

What's more, Covid-19 has injected new uncertainty, increasing concerns that students already vulnerable to leaving college won't stay enrolled.

For chief information officers, responsible during the pandemic for facilitating the technology required to teach online and deliver student services at a distance, the needs of students are paramount. CIOs have had to quickly figure out ways to make sure technology is both accessible and engaging to a diverse student population with differing tech capabilities.

To discuss those efforts during the pandemic – and ways to be a student-focused CIO once it subsides – *The Chronicle* brought together technology leaders from four colleges: a public-college system and a large community college in metro areas, both of which enroll a majority of first-gen students, and a private research university and a liberal-arts institution that have put a focus on serving a more diverse student body.

This report reflects key points from the round table discussion, which was moderated by a *Chronicle* editor. The following excerpts have been edited for length and clarity.

MODERATOR

Ian Wilhelm is an assistant managing editor in Chronicle intelligence, a division of *The Chronicle of Higher Education*. Previously he served as a senior editor, managing breaking and enterprise news stories, and as international editor, overseeing contributors from around the world. Before joining *The Chronicle*, Wilhelm was a reporter with *The Chronicle* of Philanthropy. He has a master's degree in journalism from Columbia University's School of Journalism.

Wendy Chang is vice provost for information technology and chief information officer at Miami Dade College, one of the nation's largest public institutions. Previously she served as chief information officer in the Connecticut State Colleges and Universities system and at Southern Connecticut State University. She also spent 16 years in the tech industry and held various leadership positions. She holds a Ph.D. in computer engineering from the University at Buffalo, in the SUNY system.

Brian Cohen is vice chancellor for technology and chief information officer at the City University of New York. Before joining CUNY, in 2001, he served as deputy commissioner in the New York City Department of Information Technology and Telecommunications and as deputy director of the Year 2000 Project Office in the New York City Mayor's Office of Operations. Cohen received a bachelor's degree in computer science from St. John's University, in New York, and a J.D. from Touro Law Center.

Paige Francis is vice president for information technology and chief information officer at the University of Tulsa, a private research university. Previously she served as associate CIO at the University of Arkansas. Before entering higher education, Francis served as a technology leader for Thomson-Reuters and for the corporate office of Dave & Buster's. She earned a master's degree in computer-information systems from the University of Phoenix.

Carol L. Smith is chief information officer at DePauw University, a liberal-arts college, which she joined in 1994. She oversees the information-services staff, whose expertise ranges across instructional technology and digital scholarship, administrative systems, networking, desktop and user support, web development, and printing services. Smith has a master's degree in instructional-systems technology from Indiana University.

Navigating the Pandemic

The outbreak of Covid-19 has had a profound effect on higher-education institutions, not least the role that chief information officers play within them. With the emergency pivot to remote work and education last year, CIOs have become even more crucial to fulfilling the educational and research mission of their institutions.

Previously, some CIOs may have felt left out of important conversations about strategy or been seen primarily as a service provider to facilitate the IT needs of various departments and offices. No longer. Now they are proving how they and their teams stitch a college together.

"I definitely feel I am the most popular person on campus," said Wendy Chang,

CIO at Miami Dade College, about the number of administrators and faculty and staff members contacting her for assistance.

Our panelists talked about how they see their jobs changing during the pandemic and in what ways their colleges are educating students – and where they expect to be this fall.

Ian Wilhelm: As we approach a full year since the pandemic shut down many campuses, where do your institutions stand when it comes to educating students?

Wendy Chang: We only have about 20 percent of the classes offered in the spring in-person, while 80 percent are remote.

Paige Francis: We started in late January for the spring semester, and about 20 or 25

"What has happened as a result of this pandemic is that there is a better connection between IT and leadership at a college than ever before."

—Brian Cohen

percent of our classes are on campus. We have students living on campus, but they are doing the majority of their work virtually. We are looking for fall to be business as usual.

Carol Smith: At DePauw, traditionally everything is a face-to-face class, and one of the things the students enjoy is small classes. This semester, close to 80 percent of our students have chosen to return to campus. We spent the first month of the semester fully remote, and we brought the students back in waves, to onboard them back in a managed way. Then, just this week, we started fully on campus. At this point we have at least 56 percent of our classes face-to-face. We plan to return to face-to-face fully in the fall.

Brian Cohen: CUNY is different, with 250,000 students, 50,000 employees, 25 colleges, five boroughs, 17 locations. It is hard. Next week will be our one-year anniversary since we all switched to remote. Probably about 97 percent of our courses still remain today in a remote capacity. Our campus-reopening plans are unique; each campus has different challenges. Some are sprawling 160-acre campuses, some campuses are 60-story-high buildings in Manhattan.

I have been remote since March 17. I have never been remote for such a long period of time. I come from a perspective of you need to be on site and on campus and that's where you are most effective as a leader and a manager. The pandemic has taught me that I can work just as effectively remote. But we also recognize the fact that there is a value to being in the same room and working collaboratively. We hope that we will achieve some balance between remote and on-site in the future.

Wilhelm: Brian, you suggested a good big-picture question to pose to the group: How has the pandemic changed the role of the CIO?

Cohen: My role is different from the role of the CIO at my colleges. As a vice chancellor at the university, I have always had a seat at the chancellor's cabinet and been part of the big picture for planning, strategically and operationally. That's not necessarily the case for all of our campus CIOs. What has happened as a result of this pandemic is that there is a better connection between IT and leadership at a college than ever before. College presidents and provosts are more engaged in discussions with the CIOs. Technology is viewed now more as an enabler than as a hurdle that people have to jump over. This is a huge paradigm shift. Higher education may have been slower in getting there. That change happened in the corporate sector over the last 10 to 15 years, with technology a key player to the CEOs of companies. Now technology is becoming more of a key player in higher education.

Chang: The pandemic actually forced the CIO to get more engaged. Previously, most of our interaction was limited to certain areas, certain departments. But during the pandemic, you're forced to engage with everybody. All operations have moved virtual. I definitely feel I am the most popular person on campus. What's happening is very good for IT as a whole. Before the pandemic, we often needed to really push to get our community to leverage the technology. We no longer need to do that.

Francis: When we all moved to remote, it was hysteria, sitting all around the big table. And then, all of a sudden, all eyes looked at me. How are we going to do this? From that point forward, the CIO role and IT has been very much the focal point at the university. We've always known this as CIOs, that every facet of our business relies on technology. What the shift has done for the CIO office in particular is that in many ways, many of us have almost been living for a terrible moment like this, and we show what we have been learning for the past decade or two, which is how to build an environment that is able to reach students where they are, regardless of device, regardless of pocketbook.

The past year has allowed us to play in that space a little bit. At Tulsa, it has changed the dynamic of the IT department

"Before the pandemic, we often needed to really push to get our community to leverage the technology. We no longer need to do that."

—Wendy Chang

to where now I am leading a new strategic-plan effort led by the Board of Trustees. I am the transformation office. A year ago this would not have been the case; it would not have been me. There will never again be a time where IT will be aligned with plumbing or utilities.

Smith: This is our moment to shine. We joke that people don't realize what technologies they have until they don't work. When our campus shifted to remote, the first thing was, How do we conduct instruction? How do we keep teaching?

In my organization, we also have instructional technologists, as well as the infrastructure-and-systems piece, so that gave us a direct line to working with the faculty members and understanding what their needs were. That dialogue was amplified, and that relationship was amplified — in ways that are really going to impact the relationship with our technology people on campus. I meet regularly with our provost to figure out what are the tool kits that enable people to continue to do what they do. People don't really care about the technology, but they care about what they can do with it.

Francis: One of the gaps we identified when we made the pivot was there was nothing in place on the academic side to help faculty learn how to teach better online. Because why would there be? We are a traditional institution. We have done it like this forever. We suddenly realized there was nothing in the academic unit that could address training. And IT decided we are going to own training of our faculty. We looked at it as what a wonderful opportunity to be able to get to know our campus better. It has really been a pleasure to watch the campus bloom through this terrible pandemic.

Serving Students Today

As colleges have looked to their CIOs to help keep the doors open – even if virtually – new needs have emerged among students. Many students have sought housing, food, and financial assistance as the economy and job market suffer. Others have requested mental-health services to help deal with the isolation of the socially distanced life.

But perhaps the biggest barrier to education during the Covid-19 era has been the lack of access to technology and the internet. CIOs have scrambled to buy and distribute laptops, provide hotspots, and work with faculty members to better understand the tech capabilities of their students.

During the roundtable discussion, the participants described the steps they have taken to make sure first-generation students, among others, stay connected.

Ian Wilhelm: What gaps did the pandemic and the shift to remote learning reveal in how you served students, particularly first-generation students?

"The students we think we have are not the students that we have. We don't have a campus full of haves."

—Paige Francis

Paige Francis: We all know that those first-generation students are typically the first to withdraw from courses. And with that goes all of the economic gain they might have throughout their lifetime by having a degree.

One thing we noticed was our faculty members had a real hunger for teaching courses the way they always taught them, but online. What that meant was having real-time discussions. We had to sell our faculty members on the idea that they need to be recording lessons. They need to not penalize students for having to go asynchronous; students may not have the bandwidth to participate synchronously.

We started this transition to remote education recognizing that our playing field is changing dramatically. The students we think we have are not the students that we have. We don't have a campus full of haves.

We did two things to help.

One, when we considered shuttering the entire institution, including our dorms, we put in place an exception process where students could remain on campus. That way they could have access to the internet even if most of the campus was closed.

Two, we extolled the virtues of grace. We had some faculty members who were trying to get punitive toward students who were in and out of sessions. It wasn't the students' fault. We try to normalize grace, recognizing that the problem is not technology but how we now live in a world where we are all relying on technology at the same exact time. Our internet in the United States is not used to the amount of consumption that is happening right now. That went longer, in a way, than providing the hotspots and all of these different gap fillers. It was instilling a culture of appreciation, acceptance, and recognition that everyone was at a different place, and that is OK.

Brian Cohen: I agree with that approach to students. Some 60 percent of our student population is first-generation. And we found early on in the pandemic that there are several challenges.

First, do they have the technology that they need to access the course online, regardless of how it is being actually taught, whether synchronous or asynchronous? In many cases, our students did not. We knew our first challenge was to get devices in their hands. And we did. We purchased within a short period of time 34,000 devices.

Next, access to the internet. Where students historically would rely upon the Starbucks of the world, and the free WiFi, they were not leaving their homes now. They weren't even coming to our campus to use our free WiFi. We had to figure out how to put mobile hotspots in students' hands.

While we provided all these tools for students, the next problem was policy. For instance, our students didn't always have a home environment that they wanted to show on their screens. We had to have an enormous amount of effort focused by our provost on how to make sure our policies address the needs of the students. We didn't make a mandate that the faculty require that the camera is turned on during the classroom. And we looked at policies associated with pass-fail grades, credit/no-credit classes, and refunds. Because of the change in what students were expecting, all of these policies needed to be reviewed.

The last piece of this is the training component. We found ourselves as an organization becoming the technology trainers to the faculty and students, tens of thousands of people. We have done more training in the past year than we ever thought we would ever do in 10 years. My technologists are not faculty members; they do not know how to incorporate technology into the curriculum. We needed to bring the curriculum specialists and developers who knew how to incorporate technology. And then there was a huge effort over the course of the summer to train thousands of faculty members on how to do this. We had a massive professional-development effort going on to benefit the students.

Wendy Chang: Our demographic is very similar to CUNY – over 50 percent of our students are first-generation. The measures we took immediately after the pandemic started are also similar. The first thing we did was secure a lot of laptops

and distribute them to our students. In terms of the internet, our students have issues in terms of affordability. What we have done is instead of issuing hotspots, we have provided additional financial assistance to our students. Since last spring, with support from Cares Act funding, we distributed over $20 million to our students. With part of the dollars we asked students to pay for internet service.

We also definitely see an increase in demand for mental-health services and tutoring. This pandemic has had more impact on female students than male students. About 60 percent of our students are female. Many have had to stay home and take care of children. So we noticed that most of our students are challenged if a course is synchronous. We talked to our faculty and tried to convince them to teach asynchronously.

Carol Smith: We have right around 20 percent first-generation at our institution, and we are also very diverse in our student demographics. Many of these issues are not just first-generation problems. We talked to a number of faculty members who had a student in their class who was learning remotely and took a full-time job at the same time. We spent a great deal of time developing the mechanisms to help our faculty members learn how to adapt their teaching.

As technology people, we are not teachers and do not understand pedagogy. But we know our faculty peers do. So we had our instructional technologists, working with development folks, putting together a weekly discussion session for faculty members to come together on a particular topic. What is the difference between synchronous and asynchronous teaching? How do you do online testing? Topic after topic, it created the scaffolding to help with the technology but also the environment for the faculty members to share and explore together.

An interesting thing we learned about admissions for prospective students is creating what we called the faculty speakers bureau. Faculty members have created lessons that they are offering to high schools in Indiana and around the United States. A high-school teacher can bring a department professor to lead a session and meet the students where they are, so they can begin to see what class looks like at our institution.

Obviously there is value from an admissions perspective. It gives students the opportunity to virtually come to campus when they can't come to campus physically, particularly for those students who might not have initially thought of themselves as going to college, period. They can now imagine what it's like to be in a classroom. So we are looking at that as a real way to borrow from what we have learned over the last year and repurpose it.

Reducing Tech Barriers

As CIOs mark a full year of operating remotely, they have largely solved the immediate technology problems that arose with distanced learning and work-from-home mandates. They have developed new routines and efficient operations despite the health emergency – and now look forward to a time when colleges will reopen fully as vaccines get distributed.

The participants talked about how to better assist first-generation students long term, focusing on how to make it easier for them to navigate inadvertent barriers created by technology. They highlighted the importance of good communication with students and cutting down on tech jargon.

Finally, how well IT leaders take care of their students depends on how well they take care of their staff members. The workload caused by the pandemic means many teams have not taken a break. As Covid-19 grinds on, CIOs will need to focus on ways to keep staff from burning out.

Ian Wilhelm: First-generation students often have challenges navigating the unwritten rules of campus or the possibly confusing terms, like "bursar" or "registrar." Outside the immediate issues raised by the pandemic, what's the CIO's perspective on reducing these cultural barriers?

Carol Smith: On our campus we have this situation where we are rich in portals. We have the student-information system, we have the learning-management system, and we also have a multitude of portals for services and housing.

It's just a plethora, and they can be very confusing to students. Where do I even go

"Where do I even go to do something online? How do I start? From a technology perspective, we can think about how we reduce and consolidate those portals."

—Carol Smith

to do something online? How do I start? From a technology perspective, we can think about how we reduce and consolidate those portals. How do we create a single place so you don't even have to think about, Do I go to the bursar to pay my bills? No, I just go into my portal. And in my portal, there is a place which says pay your bill, check your account, register for classes.

Paige Francis: Make it as easy as one-two-three. In my past few institutions, we had an entry page for students: Here are the things you need to do to get started. Easy, clear. Refocus the portal integration to make sure that no matter where your students enter, they can get what they are looking for. And it doesn't look wildly different as you cross platforms. We focused on consistency and easy access.

Another thing is we changed, especially during this pandemic, is the communications about technology. They come directly from me now, as opposed to buried in an email. It comes from me and my email address. It has opened all kinds of communications with those who have tech issues.

I noticed really quickly that you need to speak not in acronyms. You need to speak in basic English. Or whatever language you are comfortable with. Just make sure it is not technical-speak. I try to make sure as a technology leader, and expect this of my staff as well, that you walk into a room and you speak as if you want everyone in the room to understand no matter what level they are at.

Brian Cohen: Understand the message you are communicating. Use the platform that our students are most familiar with. Do it in their space. I have sent out more student emails and faculty emails in the last year to a population of 275,000 of my closest friends.

I have the highest open rate in my 20 years here because people want to hear what I have to say now. It is very gratifying to know that we are doing something that they care about.

Wilhelm: I imagine being responsive to the multiple student needs also may mean your team ought to reflect the diversity of races and experiences in your student population.

Cohen: We have a very diverse team. Everything we do on my team we think about in the context of multiple languages. If we don't have the authority internally, we will find somebody who can help us do it. As technologists, we often take the approach that we have to be the connoisseurs of our own technology.

Wilhelm: Let's talk about the IT staff. The staff can care for students only as long as they are cared for. Paige, you wrote recently on your blog in *Forbes Magazine* about your concerns about burnout.

Francis: Our staff has not stopped since March 2020. We have a quarterly meeting with IT leadership where we go through our strategy, where are we, what are our next steps. And prior to that meeting I went back through and realized that none of our directors had taken leave since March 2020. That makes me teary thinking about it and knowing that the majority of the staff underneath them, who likely make far less money, were also not taking vacation. Not because they were asking for it and getting denied, but because we have been moving at such a lightning pace.

I know that our team is only as strong as our people; they are our absolute biggest asset. They are our business card across the campus; they support our entire campus and are keeping everyone going. For this next quarter we are going to tap the brakes; we don't need to knock anything out of the park for the next three or four months. We can wrap up loose ends, we can tie up the stuff we are working on, and we can take vacations.

I have asked my leadership to start taking vacations so that their staff see them taking vacations. I noticed throughout this pandemic – if we as leaders don't model self-care behavior, our staff will not either. We have somehow normalized this grind.

"Covid-19 Robs First-Generation Graduates — and Their Families — of a Meaningful Milestone," by Karin Fischer, *The Chronicle of Higher Education*, May 13, 2020.

"New Semester, Who Dis? Another Covid-19 College Semester Begins," by Paige Francis, *Forbes Magazine*, January 18, 2021.

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Technology and Engagement: Making Technology Work for the First-Generation College Students, by Heather T. Rowan-Kenyon, Ana M. Martínez Alemán, and Mandy Savitz-Romer, Rutgers University Press, 2018.

"The Surveilled Student: New ways of monitoring health and academic performance won't just disappear when the pandemic subsides," by Katherine Mangan, *The Chronicle of Higher Education*, February 15, 2021.

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