Remove the barriers to learning

How universities can unlock potential by conquering the challenges of hybrid learning

The pandemic accelerated transformation initiatives in educational institutions, hastening the adoption of edtech to help preserve learning experiences. Citrix offers universities a solution that supports hybrid learning, drives new areas of growth, and optimizes spending.

This Citrix Value Insights report covers:

How digitalization became critical to the education experience →

The technology challenges that come with digitalization →

Five ways that Citrix helps universities unlock value →

How digitalization became critical to the education experience

Traditional classroom teaching has required students and faculty to come together, in the same physical space and time, to engage and learn at an instructor-led pace. In this model, universities competed for student enrollments by offering industry-relevant, for-credit courses; by delivering high-quality learning experiences; and by building a strong reputation through industry collaborations and cutting-edge research.

COVID-19 disrupted even the higher education (higher ed) sector by challenging the underlying classroom teaching model itself. While social distancing requirements made it impossible to share the same space, global lockdowns meant that international students couldn't travel to university campuses in foreign countries—forcing over 200 million higher ed students out of the classroom when the pandemic started. As a result:

- Remote learning became the norm.
- Edtech investments accelerated.
- New business models came into focus.

Remote learning became the norm.

The COVID-19 pandemic forced traditional teaching institutions to scramble and move from classroom teaching to remote learning.[1] As classrooms went online, both students and faculty collaborated to learn new digital technologies and apply them in their day-to-day interactions. These widespread and coordinated experiments led to innovative ways of transposing physical engagements like teaching, team assignments, and even course exams to a digital space.

52%

of university teaching in the UK is now remote

71%

of students said they could easily take exams and submit coursework online

52%

of students said they were able to easily access necessary information, learning material, apps, and data remotely

Global edtech revenues will exceed

$538B

by 2030

53%

of UK university students prefer flexible learning

Edtech investments accelerated.

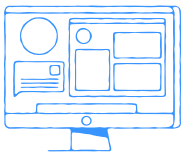
In the years prior to the pandemic, educational institutions increased investments in education technology (edtech), but the lack of referenced examples demonstrating realized value hindered mass adoption.[2] COVID-19 validated the effectiveness of edtech by helping universities surmount the challenges posed by the pandemic and deliver real-time learning experiences for students. Technology became the key differentiator in experience, even as students returned to campus. In our survey:

- 67 percent of students who either started or continued their education in the latest academic year said their experience was either as expected or better than expected.
- 65 percent agreed that "the overall technology my university provided for my classes provided me with an overall good experience."

New business models came into focus.

A recent Harvard Business Review article described how traditional universities and online program management (OPM) providers were competing for student enrollments by employing one or more of three strategies:[3] 1) **a residential campus model** with blended and immersive learning experiences, 2) **a hybrid learning model** where students and faculty could be in-classroom or remote, and 3) **an online-only model** that caters strictly to virtual (and possibly asynchronous) learning.

Each strategy requires a different playbook to execute—but edtech plays a central role in each of these three models for delivering education. Transnational education (TNE) also represents a real opportunity for universities to capitalize on international demand to shape their post-pandemic model.[4]



With increased course offerings for micro-credentials and stackable degrees, hybrid learning will be the new frontier of growth for traditional universities.

The technology challenges that come with digitalization

As the trends above continue to shape the future of higher ed, traditional universities face a set of technology challenges:

- The experience gap for remote students persists.
- Increasing IT complexity is stripping away potential value.
- Legacy IT investments are not future-ready and carry significant risk.

The experience gap for remote students persists.

Some version of remote learning is here to stay for the foreseeable future. However, while edtech has performed better than expectations, student experience remains inconsistent. A seamless hybrid learning model is still a work in progress.[5] The experience gap could be costly, as it may lead to claims for reimbursements on student technology fees in developed markets.

36%
of students struggle to find reliable internet connections

20%
of undergraduates had problems maintaining access to technology

52%
thought communication between professor and fellow students through collaboration tools needed improvement

Increasing IT complexity is stripping away potential value.

Decentralized decision making across campuses or departments within the same university had already increased complexity for IT operations. CIOs are finding it harder to adequately manage and deliver various applications as required by students, faculty, and staff—especially when course-specific requests impact only a subset of students.

Furthermore, with students joining in remotely from across the world and using a multitude of devices, data security risks have increased significantly. A lack of IT agility has value repercussions at a much broader level, ranging from delayed academic sessions, class cancellations to missed academic deadlines. This can lead to a loss of reputation and funding sources, in turn leading to budgetary cuts.

Legacy IT investments are not future-ready and carry significant risk.

Universities have generated many technological advancements in recent history and are a research hub for future technologies. But fragmented, legacy IT investments are inadequate for today's distributed world.

Security became even more challenging for educational institutions during the pandemic, especially in higher ed, where there is an abundance of sensitive data to protect.[6] A study of ransomware threats found that attacks doubled against higher ed institutions following the onset of the pandemic.[7]

48%

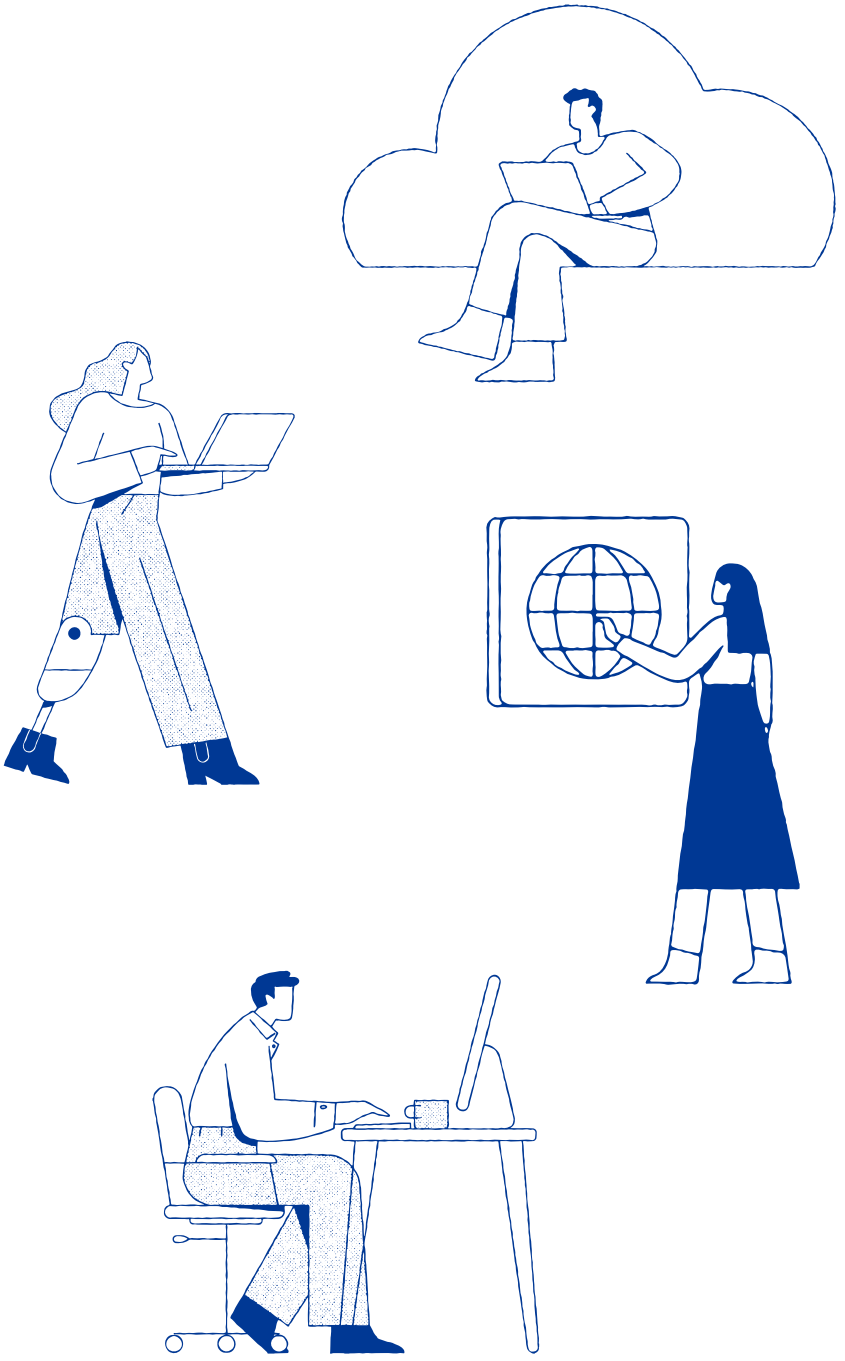
of higher ed IT pros suggested that insider threats presented the biggest threat to their cybersecurity

Some U.S. universities paid amounts from **$450,000 to over $1 million** to recover data stolen by ransomware attackers during the pandemic.[8]

Five ways that Citrix helps universities unlock value

Citrix helps higher ed organizations achieve greater value by not only helping reduce costs and mitigating risk, but also improving experience and enabling growth. By focusing on the experience for students, faculty, and staff—as well as on IT modernization, security, and compliance—Citrix helps:

1. Create a frictionless student technology experience to remove barriers to learning.
2. Craft an effective, easy, and resilient technology experience for faculty and staff.
3. Promote efficiency and sustainability by providing a platform for remote work.
4. Accelerate IT modernization to support the future of learning.
5. Improve security and compliance to protect the institution and its students.



1

Create a frictionless student technology experience to remove barriers to learning.

What does a great experience look like for students? In a hybrid learning model, it requires technology to access all their applications and files, no matter where they are or what device they are using. This is difficult to accomplish when students struggle with low-bandwidth internet access, lack devices that are up to the task of online learning, or store their files across various locations.

Cognitive science points to autonomy as critical for productivity. Whether they're choosing between Windows, Android, or iOS devices, or specialized use cases like Chromebooks or Ubuntu—or even choosing the location where it's most convenient for them to learn—students value choice. According to a study from University of Central Florida, enabling effective hybrid learning will lower student attrition rates.[9]

> **"Citrix is fundamental to supporting the student experience and our Active Blended Learning model. With Citrix, students feel the whole town is their campus. Without it, we just couldn't achieve the mobility that we want to give students."** [10]

Rob Palfreman, Head of IT Services, Northampton University

“Faculty members make calls, take calls, work with students, access company resources, help students in the classroom, and much more, all from the Citrix platform.” [12]

Dave Aldarondo, Manager of Network Services, Post University

2

Craft an effective, easy, and resilient technology experience for faculty and staff.

While any barrier to a student’s ability to learn is tragic, the scope of the impact is even greater for teachers. If a teacher misses a class, educational institutions risk revenue impacts with broad implications. The technology experience for faculty and staff must be frictionless so that they can create an effective learning experience.

Furthermore, switching to hybrid learning models in response to local conditions can improve workplace safety for older faculty members and maintain their availability to students. An empirical investigation of how pandemic affected the higher ed learning experience observed several advantages of online learning—notably, increased communication between faculty and students using online chat, forums, and regular webinars.[11]

3

Promote efficiency and sustainability by providing a platform for remote work

By reducing unnecessary commuting and using more energy-efficient technology, universities can improve environmental sustainability.[13] Many staff members (such as those in human resources and finance) do not need to be on campus to accomplish their work. They can easily and securely work from home, enabling increased productivity from reduced commutes.

In parallel, universities can also sell off, sublease, or downsize office buildings to cut costs when staff work remotely.[14] Eliminating long commutes also reduces carbon footprints from staff vehicles and allows staff to live in less expensive areas of their choosing.[15]

4

Accelerate IT modernization to support the future of learning.

Optimizing the cost of course delivery is top of mind for many universities, both to make education more affordable and to manage operational costs. By centralizing IT management and moving to cloud, universities can reduce spending on hardware capacity and system maintenance, and scale seamlessly with peak demand.

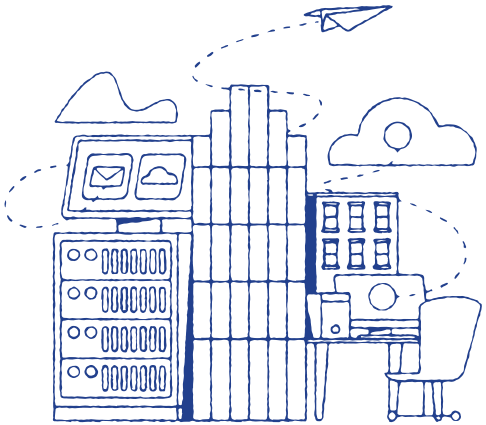
Centralized IT can also solve for fragmented IT problems (such as siloed active directories) that exists across multi-campuses for established universities. A good solution allows for simpler management and maintenance of IT systems while enabling sufficient autonomy for each campus to publish their own resources.

5

Improve security and compliance to protect the institution and its students.

Higher ed institutions and their research labs face increasing security risks, threatening their reputation and future funding opportunities. Furthermore, compliance is a challenge for many universities, as they are required to meet FERPA, GLBA, HIPPA, and even PCI requirements.

To meet security and compliance requirements for all user types, data must be kept off unmanaged endpoints and within the confines of the university's network, ensuring uniform policies can be enforced across siloed IT departments. By combining such unified solutions with the power of security analytics to identify threats before they occur, higher ed organizations can upgrade their end-to-end security posture and still improve end-user experience.



"The great thing about platforms like Citrix is that they are feature-rich, flexible and scalable, so we can embrace leading-edge ways of educating students and researching complex global problems." [16]

Jordan Catling, Associate Director of Client Technology, The University of Sydney

For more information, please visit citrix.com/solutions/education.

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