

Tech Troubles: How Technology-Student Interactions Impact Retention



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Foreword by Inside Higher Ed

This report delves into the relationship between students and technology across the higher education ecosystem in the United States. As institutions strive to meet the diverse needs of a tech-enabled and increasingly digitally literate student body, understanding the pain points and opportunities within this relationship has never been more important.

Throughout our global consultancy with higher education institutions and EdTech companies, Times Higher Education has always found that technology is more than just a tool; it is a critical component of the student experience. From the moment a prospective student visits a university's website to explore their options, to the daily realities of navigating learning management systems (LMS) and accessing digital resources, technology is intricately woven into the fabric of higher education.

This research reveals that while many students thrive in this environment, a significant number — more than there should be — encounter barriers that can disrupt their learning and impact their academic success. Whether to do with connectivity and accessibility to digital resources or how technology impacts teaching and assessment, these interactions inevitably shape students' perceptions of their institutions and impact their overall experience.

This report is not only a reflection on the current state of technology in higher education but also a call to action. Whilst acknowledging the significant and increasing challenges for US higher education, and the ever-pressing need to attract, enroll and retain students, it urges educators, administrators, and IT professionals to collaborate in creating an environment in which technology enhances rather than hinders the student experience. By addressing the challenges identified in this report, institutions can better support their students and, ultimately, ensure that technology becomes a route to success of both student and institution, rather than a barrier.



Dr. Ishan Cader
Director, Consultancy
Times Higher Education (Parent Company of Inside Higher Ed)

Introduction by Collegis Education

There is a disconnect in higher ed technology. A recent Educause survey of US students (2022) found that 35% of students had experienced stress due to an unstable internet connection, which was the highest percentage of any technology issue covered by the study. Yet, in the following year's survey, Educause (2023) found that 92% of CIOs think their Wi-Fi provision is good or excellent.

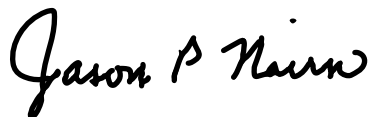
Further, a survey by Inside Higher Education (2022), found that 37% of students identified their college's online student portal as needing improvement. But the disconnect was made clear when 70% of CIOs at public colleges (Educause, 2023) rated their student portal highly.

While research and studies on technology in higher education have focused on the learning experience itself, we wanted more insights on the preambles to enrollment and the daily interactions with school websites, systems, and various applications that are part of that experience.

Students bring their expectations from consumer technology as they evaluate institutions and make decisions about continuing their education. This consumer lens heavily influences their preferences for updated hardware and software, relevant and timely digital communications, 24/7 help desk support — and, yes, powerful connections speeds.

With technology woven into every aspect of learning — from interactions with administrators to countless on- and off-campus experiences — higher ed leaders should view technology not as a utility but as an asset with a powerful impact on student persistence and retention.

Collegis and Inside Higher Ed felt the student's perspective and end-user experience of higher education technology deserved more attention. The punch-list of needed technology upgrades can be long. Armed with these insights and a better understanding of student experience, higher ed leaders can direct effort and investment toward the projects that will have the most impact.



Dr. Jason Nairn, CISSP
Vice President of Information Technology
Collegis Education

Executive summary

Collegis partnered with Inside Higher Ed to survey 450 students on their opinions about the technology they use every day. Our research gained insight into students' points of view about their entire experience with campus technology, from first web search to last course, identifying areas of friction and pinpointing barriers that frustrate student end users.

We surveyed students from a cross-section of public and private four-year schools, technical schools, and community colleges. Students are studying on and off campus, online and in person, and in hybrid modes. Cohorts range from typical college age to adult learners. (For technologies used and full survey demographics, see the Appendix.) We also interviewed higher education leaders for their perspective on technology management at their institutions. Select insights from them, and from students themselves, are included.

More red flags than green

While there are some bright spots in the survey results — namely, around digital communications — the high stakes for enrollment demand we take their frustrations seriously to win back those margins, even when a minority of students called out an issue.

These results point to the need for increased attention to the needs of the student end user in strategic decisions about technology investment. As they evaluate institutions, students are weighing the quality of technology against its ability to support high-quality learning and rewarding experiences.



Applications unwelcome

More than a quarter of students reported some level of difficulty with the process of researching and applying to their program of choice on the institution's website. With enrollment growth a top priority, this is a concerning number.



The learning disconnect

Seventy percent (70%) of in-person students and 79% of online students indicated that technical issues impact their learning experience to some extent. Their issues range from lack of access to up-to-date hardware/software to frequent connection issues and digital literacy or poverty



Help the helpdesk

Results for this topic are conflicting. While 58% of students agreed they receive sufficient support to effectively use the technologies needed for their learning experience, an equal number cited a lack of IT support staff.



Risk to retention

Undeniably, the most attention-grabbing result was the impact of technical issues on student persistence and retention. Among students who experienced tech issues, 41% said these issues could impact their decision to enroll for another term and 39% said they could impact whether to continue taking classes at all.

Inquiry & enrollment

An institution's website is often the first stop for prospective students researching a program. The "Online Colleges Student Report 2024" published by EducationDynamics found that the "majority of online college students (91%) visited the websites of institutions while researching schools for online study." As such, the student experience from the first click can make a lasting impression about the modernity, value, and usability of a school's overall technology ecosystem. We surveyed students to gauge their impressions during the earliest stages of engagement with their current college or university.

Website functions are too critical to fail

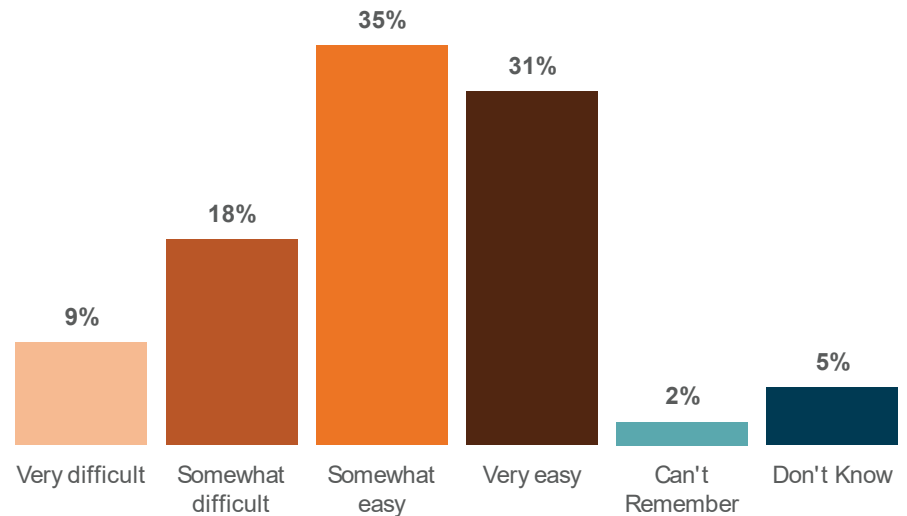
Overall, most students rated their experience with key inquiry and enrollment tasks on the school website to be somewhat easy or very easy. A significant minority, however, ranging from 24%-31% across questions, rated the tasks somewhat difficult or very difficult. Given the staying power of these first impressions, and the importance of a friction-free application process, even a quarter of students having trouble should be a red flag for higher ed IT and enrollment teams.

See the charts on the following pages for results on each question. Interested in diving deeper? Detailed crosstab data for the survey is available. Reach out with your questions.

Question: *Thinking back to the earliest stages of your engagement with the college/university you're now studying at, how easy or difficult was it to do the following tasks on the institution's website(s)?*

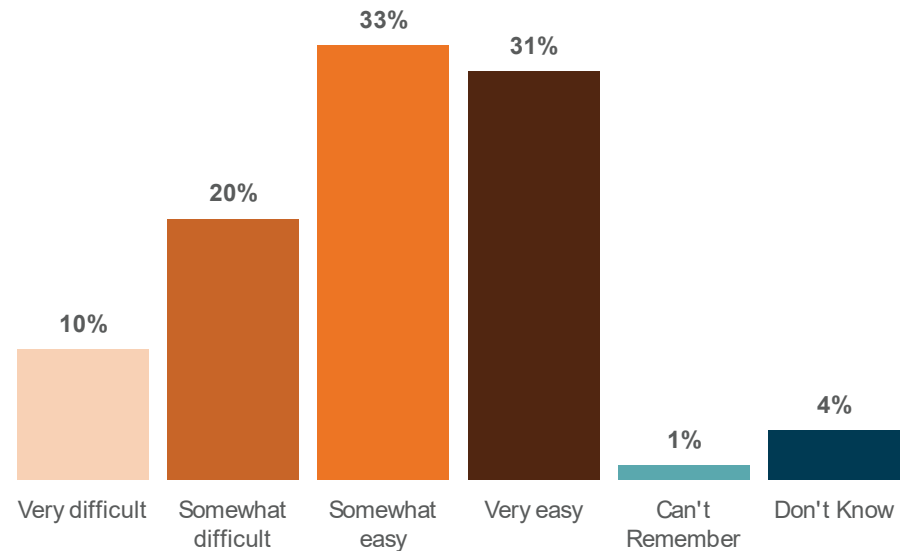
Making the decision to apply

Two-thirds of those surveyed (65.6%) said the website made it somewhat or very easy to make the decision to apply, while over a quarter found it somewhat or very difficult. Millennials (age 31-45) were more likely to find the process easy (75%), and Gen X and beyond (age 46+) were less likely to find it easy (50%).



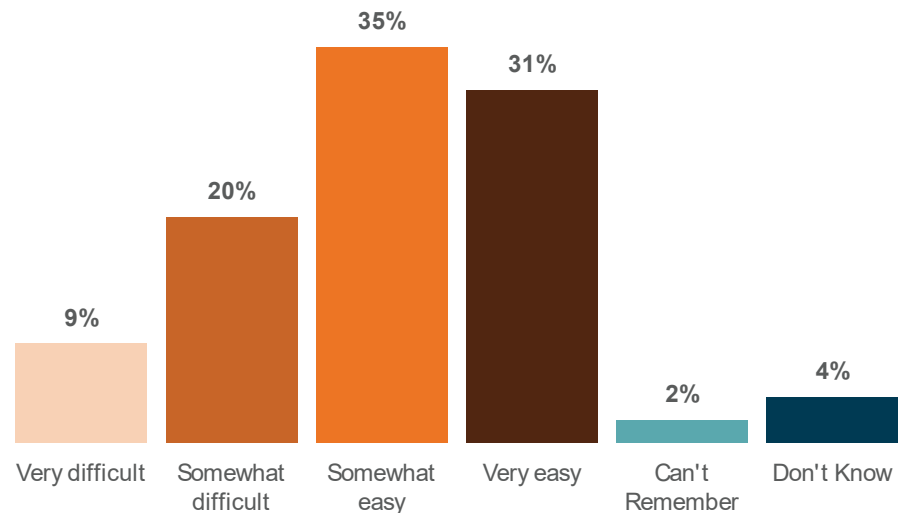
The application process

Most students surveyed found the application process on the website to be easy (65%), with those students studying in a hybrid in-person/online mode finding it the easiest (80%). Thirty percent found the application process difficult. These results may speak to the fact that the surge in online learning, particularly among working adults with a more transactional approach to education, has institutions paying particular attention to ensuring the application process is clear and streamlined.



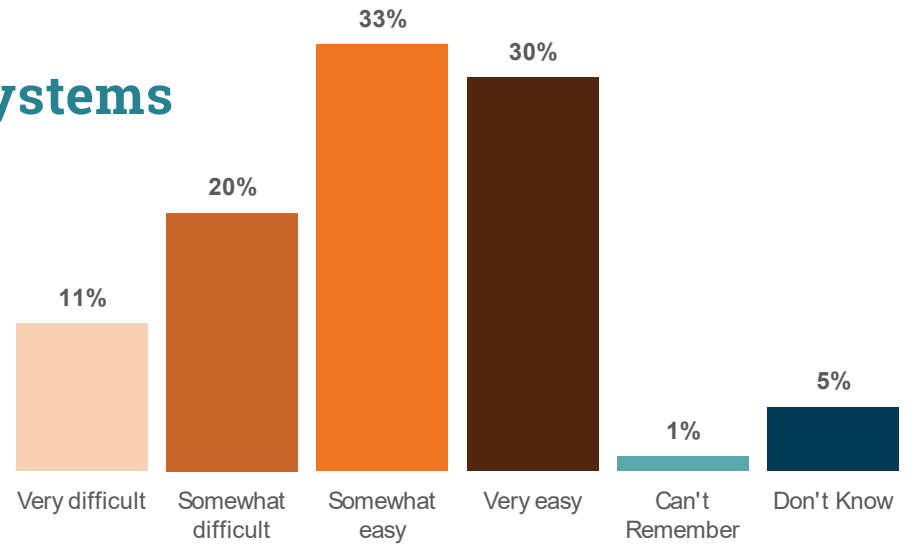
Finding further information about programs

Students generally rated websites positively for access to program details. Sixty-six percent found it easy while 28% found it difficult.



Accessing and logging into various systems

The least positive reviews from students in this section related to system access during “the earliest stages of their engagement with the college/university.” When compared to the other questions in this section, fewer students (63%) found this task easy and more students (31%) found it difficult.



“They need to update the website; it hasn’t been done since 2008.”

Postgraduate, 4-year private institution

Learning experiences & student support

The rapid adoption of online learning forever altered the balance of in-person vs. online learning in higher ed. Even students living on campus now attend some classes online, and hybrid modes of learning are commonplace. Increased enrollments in online/hybrid courses coupled with the ubiquitous use of streaming platforms and gaming consoles by residential students is stretching the limits of tech infrastructure.

Today's learning experience is judged by the technology experience

A significant segment of respondents noted frequent or very frequent delays, outages, and slow connection speeds with online learning platforms, with 70% of in-person learners and 79% of online learners saying that affects their learning experience to some extent, a worrying result for higher ed IT departments. More than half of students report that digital poverty, outdated hardware and software, lack of IT support, and low digital literacy impact their learning experience to some extent.

See the charts on the following pages for results on each question. Interested in diving deeper? Detailed crosstab data for the survey is available. Reach out with your questions.

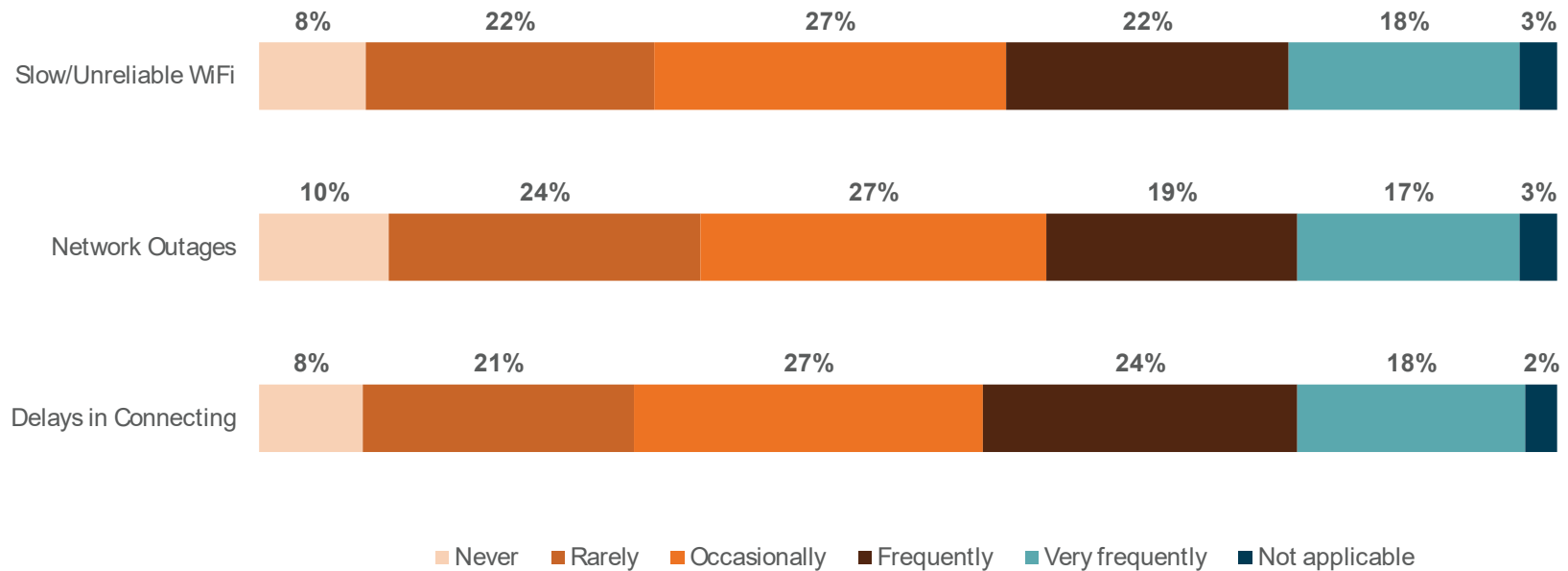


Connecting to online learning platforms

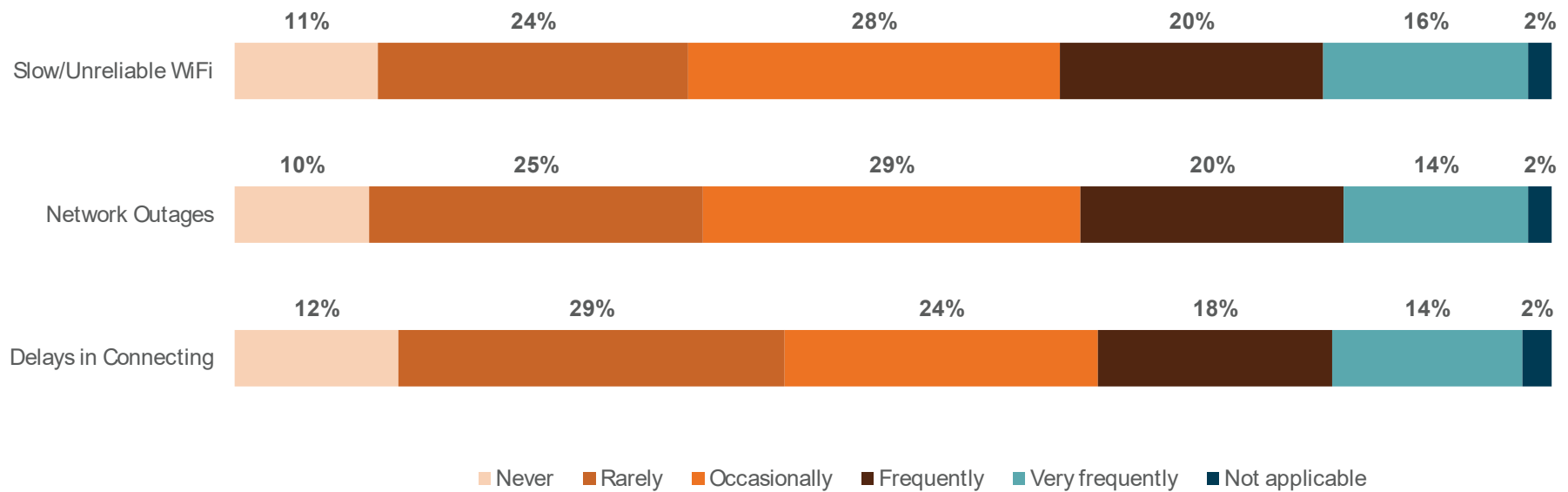
Both in-person and online students cited frequent or very frequent delays in connecting to online learning platforms in lectures or tutorials (42% in-person and 32% online), temporary network outages (36%, 34%), or slow/unreliable Wi-Fi/Internet connections (40%, 36%). Overall, students at four-year private colleges and technical schools reported connection issues more frequently.

Question: Thinking about both in-person and online formal learning sessions such as lectures, tutorials, how frequently do you encounter the following types of issues?

In-person formal learning sessions



Online formal learning sessions



“There were many times the teachers couldn’t show us examples due to internet issues, so we ended up having nothing but the notes to go off of.”

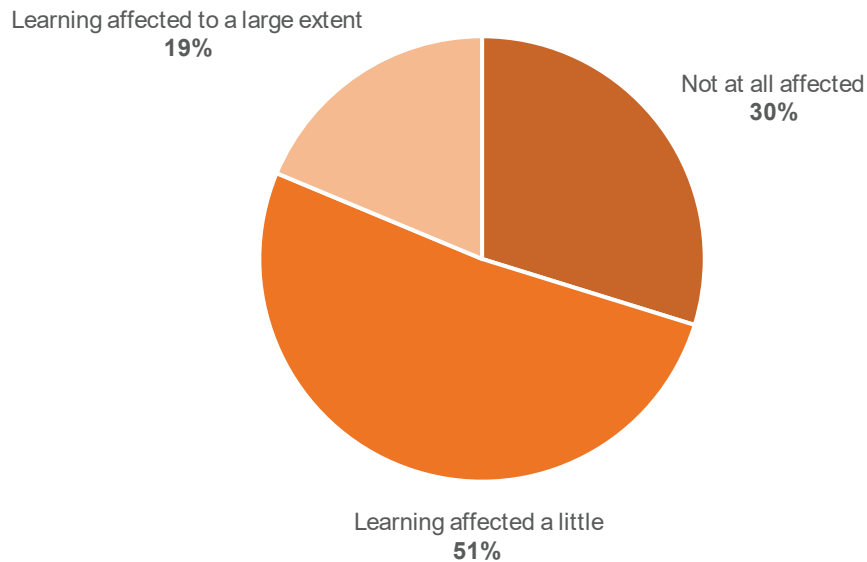
Undergraduate, 4-year private institution

Impact of technical issues on learning experience

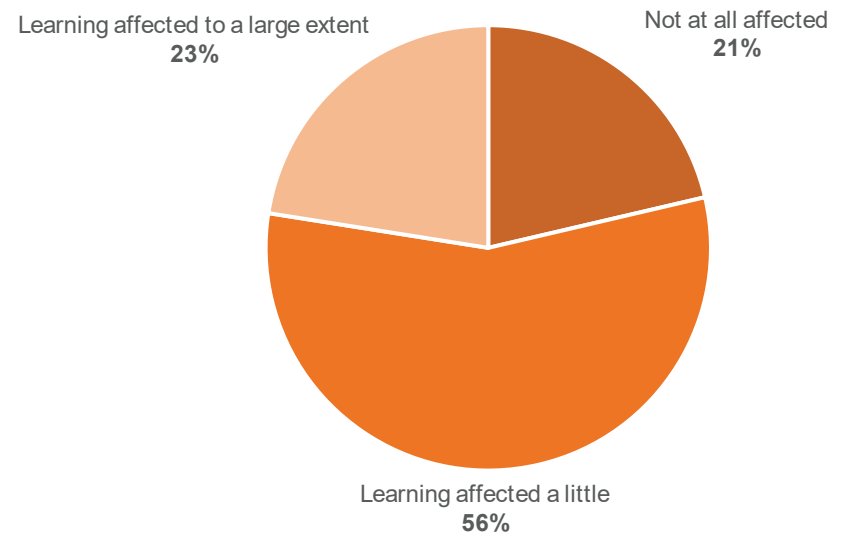
Both in-person (70%) and online students (79%) cite technological issues as having an impact on their learning experience to some extent. Thirty-three percent of students who learn online all or some of the time report the impact on their learning experience is very frequent. Technical colleges fared better on this question, with only 68% of online learners saying their learning experience is affected to some extent.

Question: How much have these technical issues affected your overall learning experience?

In-person learning sessions



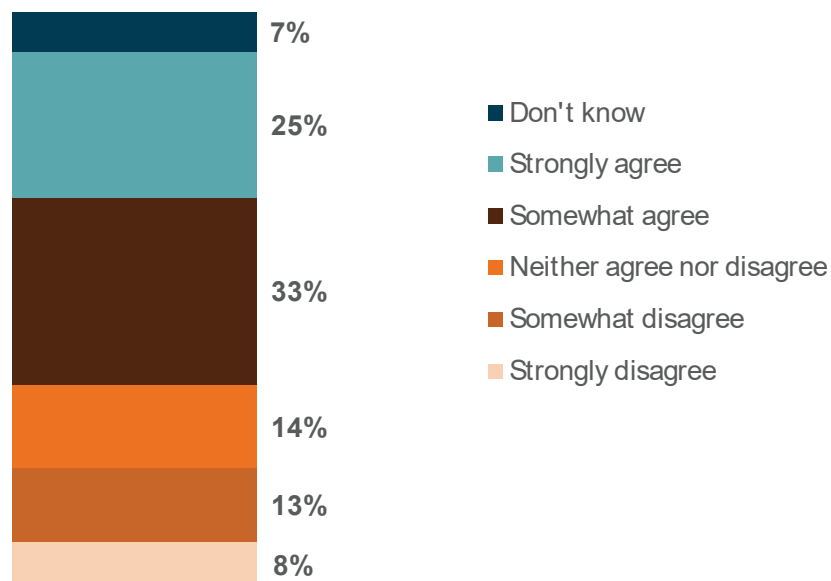
Online learning sessions



Sufficient support

Asked whether they received sufficient support to effectively use the technologies needed for their learning experience, 58% somewhat or strongly agree and 21% disagree to some extent.

Question: To what extent do you agree or disagree with the following statement? I have received sufficient support to effectively use the technologies I need for my learning experience.



“Would like to have more off-campus communication with IT or support on the website or online software or programs.”

Undergraduate, community college

Digital capabilities/access/support

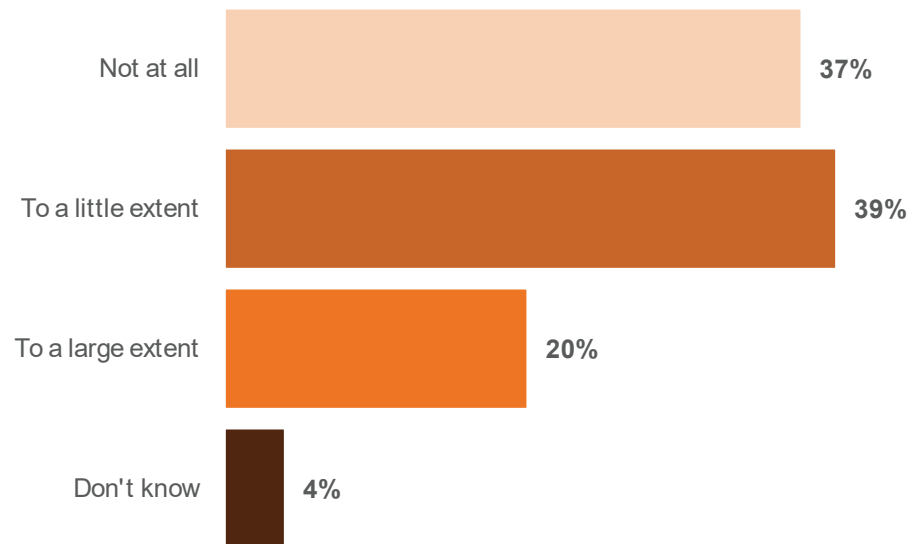
These questions dig deeper into the sources of satisfaction and frustration with technology, revealing that more than half of respondents say they are affected by one or more of these barriers:

- Struggling with digital poverty / being able to afford the technology needed for studies
- Not having access to up-to-date software
- Not having access to up-to-date hardware
- Lack of IT support staff to help
- Struggling with digital literacy / knowing how to use the technologies I need to use

Question: To what extent do you agree or disagree with the following statements about what might be affecting your learning experience?

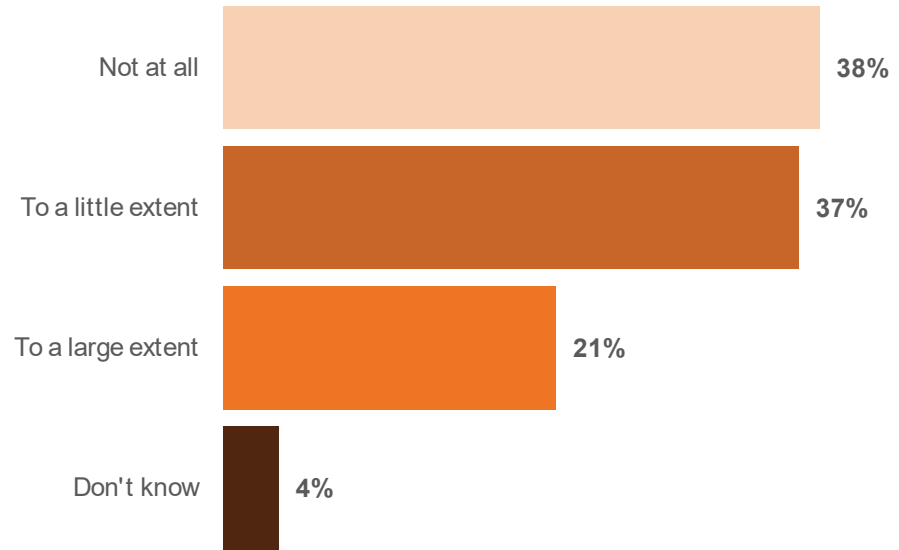
Digital poverty

Ability to afford the technology needed for study.



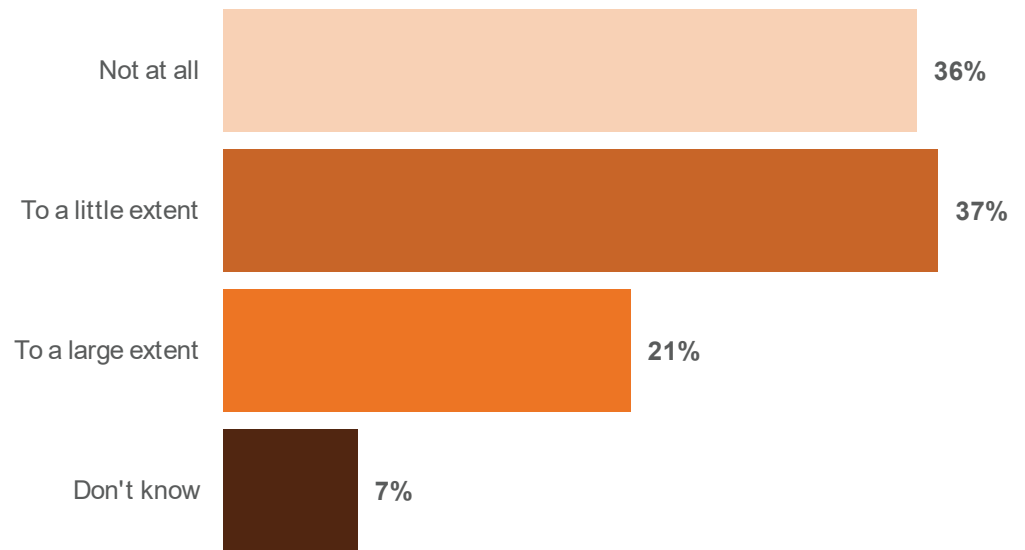
Up-to-date software

Ability to afford the current/up-to-date software.



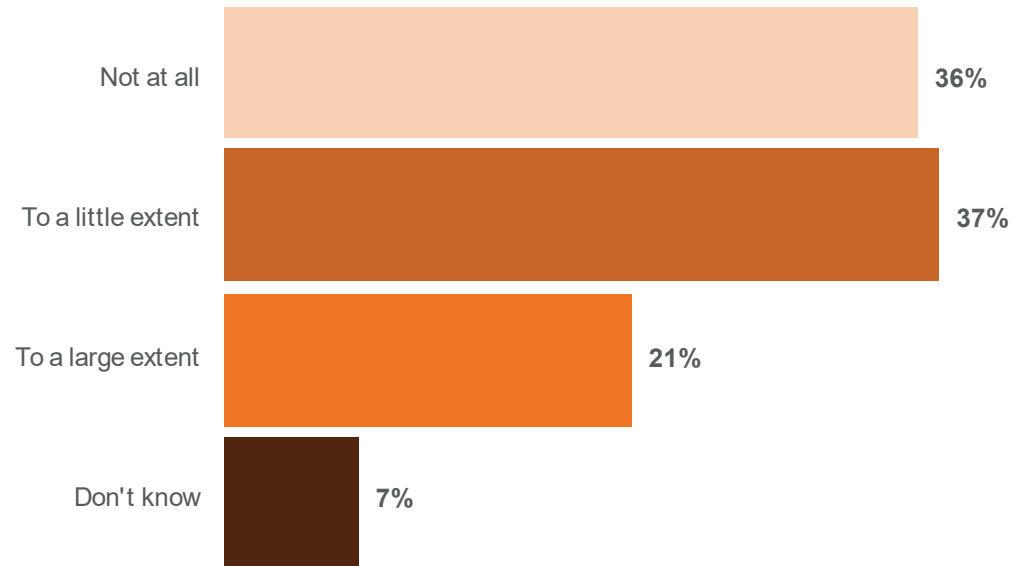
Up-to-date hardware

Ability to afford the current/up-to-date hardware.



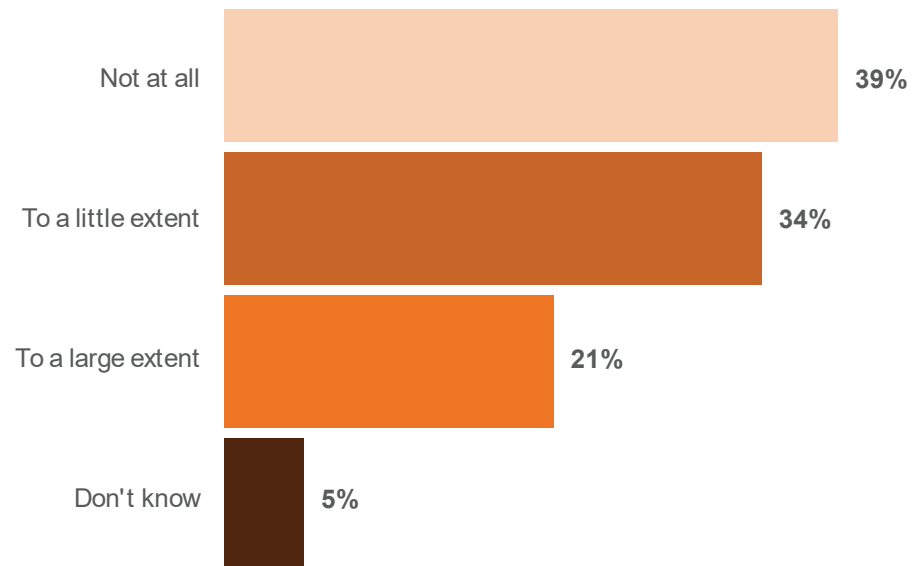
Lack of IT support

Institutional staff to help



Digital literacy

Knowing how to use technology



Student engagement, persistence, and retention

Student interactions with higher ed technology go beyond the classroom. These interactions begin before they start their first class, continue during everyday interactions, and persist after they graduate to alumni status. Schools should be aware they are being graded on how they use technology as much as which technologies are used.

Technical issues factor into persistence decisions for students

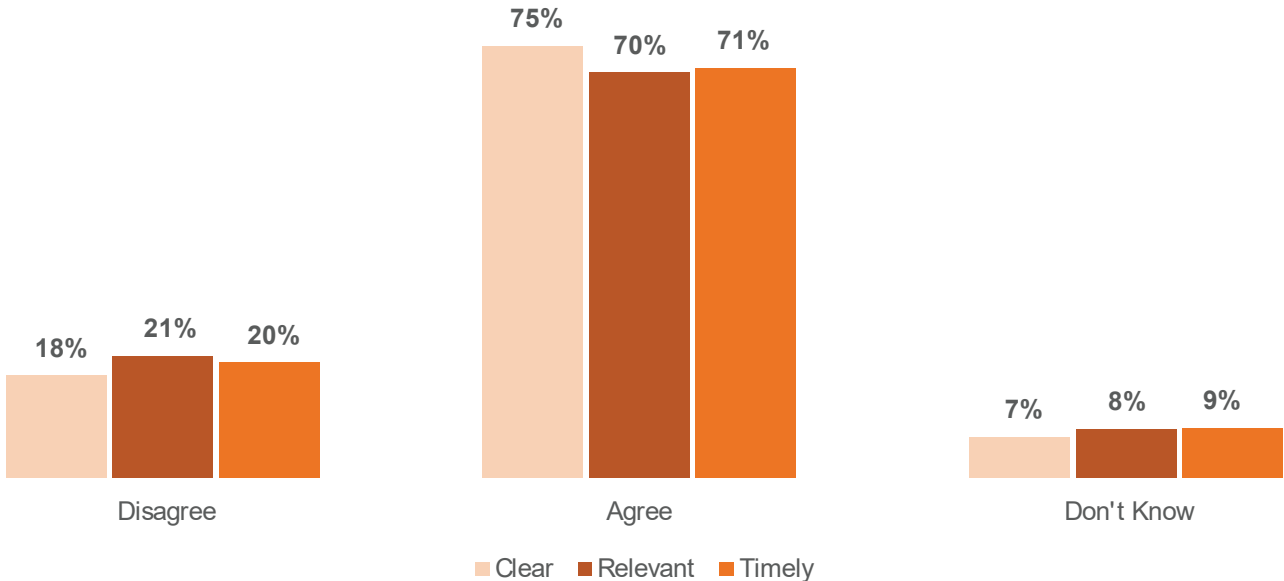
Overall, student perspectives on digital communications are positive and reassuring. However, higher ed should be spurred into action by the extent to which issues with technology could impact student persistence and retention. Over a third of students that have experienced frustration with technical issues would reconsider staying on for the next term or continuing their education at all.

See the charts on the following pages for results on each question. Interested in diving deeper? Detailed crosstab data for the survey is available. Reach out with your questions.

Digital communications

Outreach over email and text is a cornerstone of higher ed engagement. Most students rated institutions highly in this category, finding communications clear (75%), relevant (70%), and timely (71%).

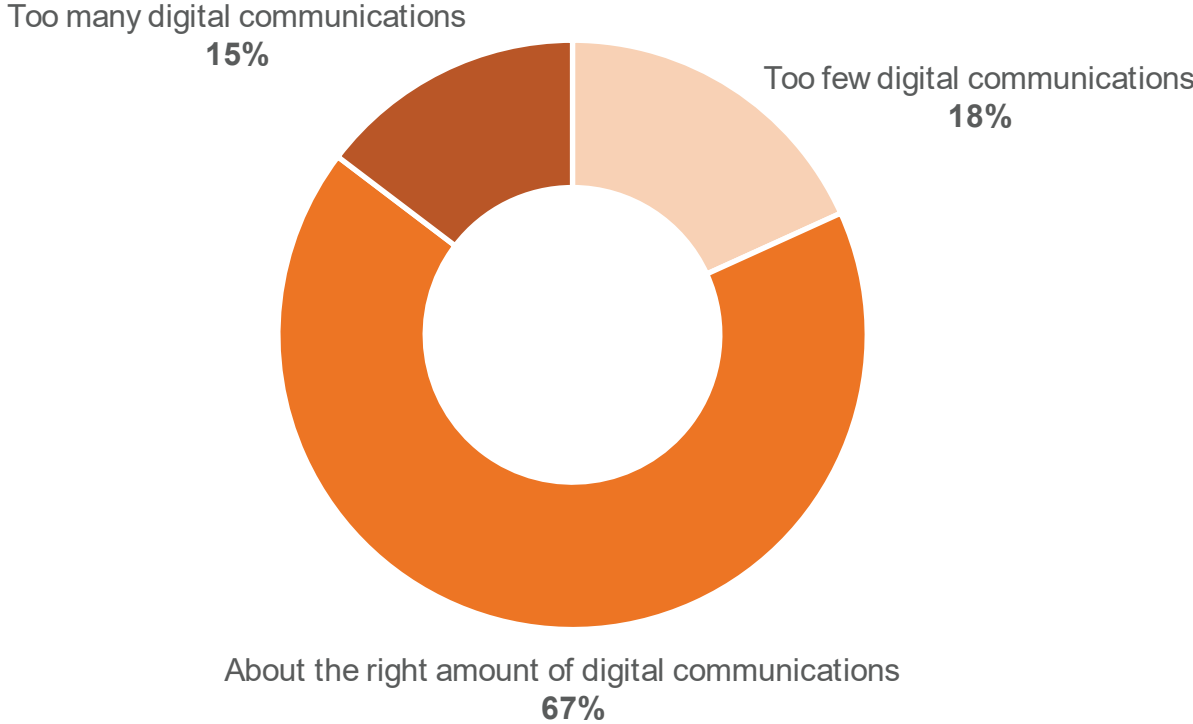
Question: Thinking about the digital communications you receive from your institution, would you agree or disagree that they are:



Frequency of communications

Most students (67%) found the frequency of digital communications to be about right. Approximately equal segments of students rated the frequency of communications as too many (15%) and too few (18%).

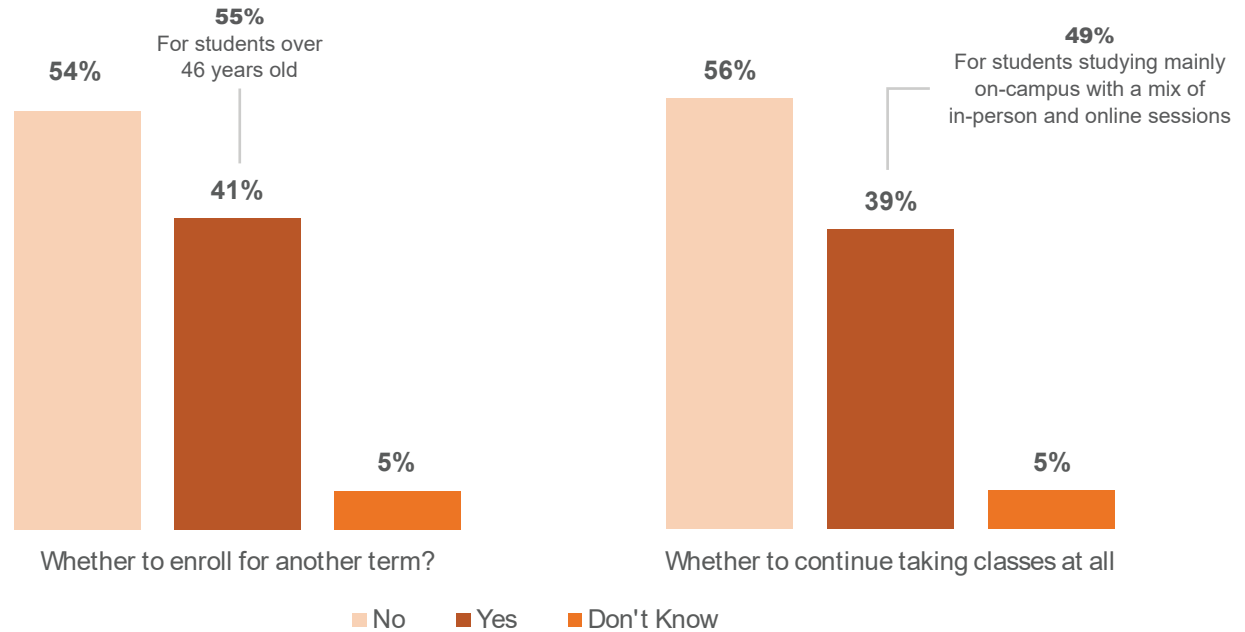
Question: Would you say you receive from your institution ...?



Technology impact on decisions

Students who experienced technical issues were asked if those issues affected their decisions to enroll for another term or continue taking classes at all.

Question: *If you experienced technical issues, have these issues affected decisions on ...*



“I feel the lack of prioritized investment in our education makes me second guess the degree I chose. But I found this out as a junior and was already more than halfway done and chose to finish instead of waste the two years I spent already.”

Undergraduate, 4-year private institution

Challenges higher ed leaders face

For this portion of the study, Collegis Education and Inside Higher Ed reached out to higher ed leaders to get their reactions to the survey findings. Few were surprised by how students responded, and they offered their perspectives on the opportunities and challenges in meeting student technology needs and expectations.

Most acknowledge facing hurdles due to technology debt, outdated systems, inefficient processes, competing priorities, and more. They also cite the complications of leveling up infrastructure and IT personnel to support the proliferation of technologies used in the classroom and brought to campus by students.

Improving student retention

Declining enrollment has made student persistence and retention a top priority. But students don't advertise their intention to stop-out or drop-out. Schools need other means to identify those experiencing a loss of momentum, such as missing assignments, repeated absences, and other signals of struggle or dissatisfaction. How can AI tools help in this area?

“I believe that at the graduate level, and particularly primarily online education, technical challenges are going to impact retention. At the undergrad level, I think of it more in terms of focus on tools. Are we using the technical tools that we have available to really support retention?”

President, private 4-year university



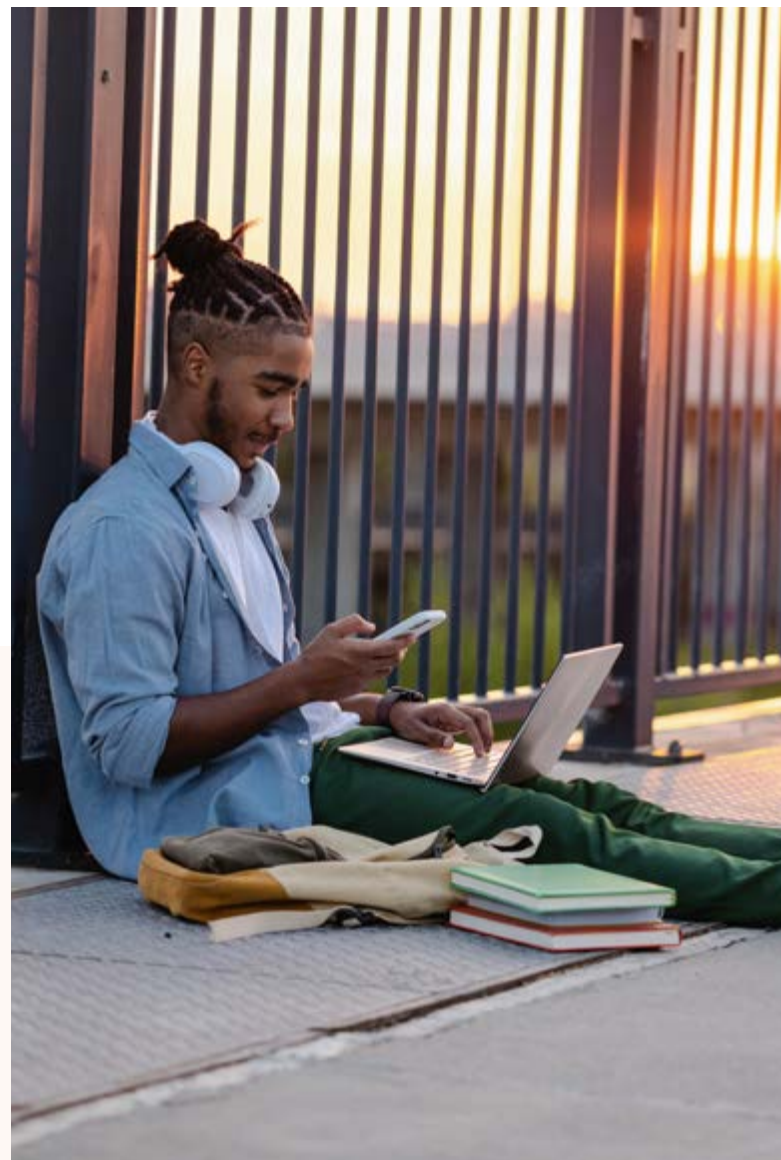
Meeting the demand for fast internet – everywhere, all the time

Students expect a strong Wi-Fi signal everywhere on campus, and not just in classrooms, halls, libraries, labs, and other institutional buildings. Residence halls (including those near or off-campus) are expected to offer a level of internet bandwidth that is sufficient to not only handle academic studies but also streaming entertainment, gaming platforms, and multiple devices, 24 hours a day.

In fact, students would prefer that the entire campus, including green spaces, playing fields, and social areas like cafeterias, has powerful Wi-Fi coverage.

“Bandwidth is key. And it’s not that we don’t have the bandwidth, but when you have 1,600 students, all with their computers plugged in watching Netflix, gaming, using their own printers, etc., you start to see pockets of time where the internet is certainly reaching its maximum.”

President, private 4-year university



Technology sustainability and obsolescence

Technology investment is never a one-and-done proposition. Technologies adopted to support remote learning have become permanent fixtures that need to be maintained and upgraded. (See the survey results on hardware and software in the Appendix)

There are also issues of scaling and sustainability. Are today's systems capable of supporting a higher volume of students or a different set of needs in the future? Should institutions be moving to cloud-based SaaS services to keep up?

“We found that the equipment in the classroom, which may have been industry standard five or six years ago, now doesn't work well. So, it's another expensive thing that our IT colleagues have tried to do over the past summer to make sure every single classroom is up to date.”

Provost, private 4-year university

Equalizing the online vs. on-campus student experience

In our survey, 57% of respondents (including those studying on campus) take all or some classes online. While technology allows students to participate in either mode, the student experience can be wildly different and not always equal. Can technology be used to improve access to and participation in academic and social activities for mostly online students? How can technology, including AI, be implemented to enhance student engagement and promote campus culture?

“The one other thing I will also say is that for those students who are in the online programs, particularly the undergraduates, we tend to see lower numbers of them connecting with academic support. It's as if they feel like they're out on an island of some sort. And, don't get me wrong, we have the support for every student, and they'll reach out for advising, but from the academic support side, not really,” said one Provost of a private, 4-year institution.

■ Remaining competitive and helping students be competitive

Students enter higher ed familiar with, and mostly users of, consumer-grade technology. Their opinions of devices and software they consider to be out-of-date can be harsh and reflect negatively upon the institution. Students are also aware that professional prospects after graduation depend on relevant computer skills and exposure to current hardware and software capabilities. That will factor into their enrollment calculus.

“Having those types of shiny toys and objects is, of course, an important thing so that we can demonstrate that we are maintaining competitiveness in the world of technology. And so that we’re preparing students for their world outside the university when they’re done.”

Provost, private 4-year university

■ Needing to prioritize security and privacy

EdTech Magazine (2024) reports that 2023 was “the worst ransomware year on record” for the education sector. Satisfying the Gramm-Leach-Bliley Act’s (GLBA) audit standards isn’t just urgent for protecting students and the institution itself. It’s also a legal requirement, and violations are taken very seriously. For some schools, this has meant a commitment of IT funds for GLBA compliance over other priorities.

“The GLBA mandates that every institution ensures cybersecurity is robust ... That’s required a significant investment.”

President, private 4-year university

Helping digital natives become digital literates

Most students are comfortable with free and popular technology tools for researching everything from new music to historical events. As a result, many do not take advantage of professional academic research resources; in some cases, students are discouraged by nothing more than the barrier of logging in.

“Our students grew up with iPads, phones, iPods, and everything else. And yet, I don’t believe they are deeply literate in academic uses of that technology. Our library invests a ton of money into top-flight research databases, and students think that they can get the same thing out of doing a simple Google search.”

Provost, private 4-year university



Next steps

The degree to which technological issues across the student lifecycle factor into enrollment decisions, learning experiences, student support, and retention offers higher ed leaders valuable understanding to inform IT resource allocation and investment. Based on our survey findings, here are some recommendations on where to focus efforts for maximum impact on the issues students raised.

1 Remove any barriers to a seamless application process on the website

In the context of industry-wide enrollment trends, 30% of students finding the application process somewhat or very difficult should set off alarm bells. Encountering friction on a school's website during the application phase can quash a student's interest for good. Rarely are students applying to just one school, and an unfavorable comparison makes a bad impression.

Even small increases in the conversion performance of your website can have outsized impacts on the key metrics that drive enrollment.

“Disrupted connections can lead to missed lectures, classwork, or important updates. Frustration with technology can make it difficult to focus on the material. Lack of access to reliable devices or internet can create an uneven playing field for students.”

Non-degree student, community college

2 Prioritize optimization of digital learning platforms/resources

Virtually all students rely on digital resources, whether it's through regular interaction with the learning management system (LMS) or through digital textbooks and library assets. Capabilities like seamless access (via single sign-on), rapid network speeds, and 100% uptime are expected by all learners.

Complementing in-house IT with **a partner for tech-managed services** can help ensure learning management systems are optimized with the latest enhancements and internet access is fast, widely available, and reliable.

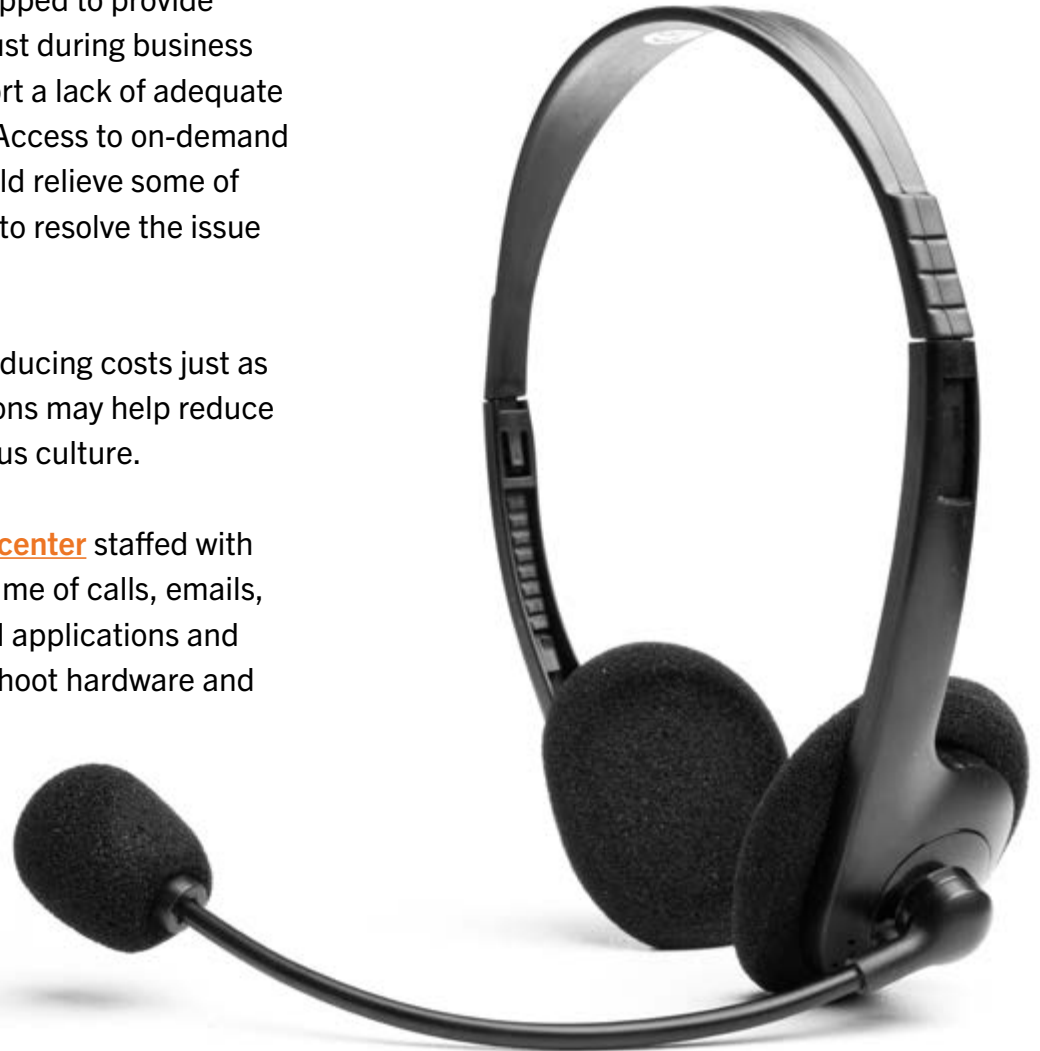
3

Ensure adequate, trained IT help desk staff and first-call resolution

Learners expect access to knowledgeable IT personnel equipped to provide immediate resolution at all hours of the day and night, not just during business hours. Yet, our survey found more than half of students report a lack of adequate staff is impacting their learning experience to some extent. Access to on-demand technology training for school systems and applications could relieve some of the burden on help desks while also giving students agency to resolve the issue themselves.

Meanwhile, help desks are in a state of flux, charged with reducing costs just as student reliance on technology grows. Off-shore or AI solutions may help reduce costs, but those experiences may not align with every campus culture.

The bar for a well-run help desk is high. A [personal support center](#) staffed with trained IT professionals should be able to handle a high volume of calls, emails, and chats 24/7/365 while offering thorough knowledge of all applications and e-learning systems and providing remote access to troubleshoot hardware and software problems.



4 Intervene early to ensure student persistence

Any struggles — academic, personal, financial, and clearly technical — that contribute to a student’s decision to stop out is cause for concern.

AI and machine learning algorithms can analyze vast quantities of student data from admissions, demographics, grades, financial aid, and engagement metrics to build proactive alerts to [identify students who are at risk of not continuing their studies](#) and push notifications directly to decision makers who can intervene with relevant support before it’s too late.

5 Formalize wider participation in technology decision-making

Establishing representative committees of students, faculty, administrative staff, and help desk staff can ensure implementations don’t run into roadblocks to adoption and effective use. Having separate forums where each group’s highest priorities are clearly communicated ensures leadership has the necessary perspective to make informed decisions on IT investments.

Instituting a [higher ed IT strategy and governance](#) structure ensures that decisions about proposed technology projects involve key stakeholders and effectively serve institutional goals.

6 Heard: Responding to the end user

Collegis Education's flexible approach to innovation offers schools multiple pathways to overcoming technology hurdles:

- In addition to large-scale infrastructure projects and adoptions, we help institutions apply fresh thinking and accelerated effort to realizing more immediate performance upgrades that optimize your existing technology and improve student experiences while strategizing for future investments.
- Higher ed is often at a disadvantage when competing with the private sector for top IT talent. Collegis helps schools solve hiring limitations by providing fractional or augmented IT staff as needed, enabling them to improve student experiences at a fraction of the cost.
- We help colleges and universities collect, connect, and activate siloed data to impact technology decisions, implement enrollment strategies, and strengthen student experiences.

The road to addressing student concerns starts with an assessment of current technology. Students have provided a roadmap for improved technology experiences; Collegis can help you travel it with velocity and impact.



Start here

Contact us today to assess the tech that powers your student experience

About the authors

About Collegis Education

At Collegis Education, we're higher ed's innovation enabler, empowering institutions with a better vision of how they fit into learners' lives and what's possible when they do. As an industry pioneer for the last decade, we help schools leverage their data, tech, and talent to pursue better student experiences and tech-enabled enrollment growth. As thought partners and tactical pros, we provide both the know-how and the show-how. We can manage discrete day-to-day operations, leverage institutional data, build in-house capabilities and defy expectations. Learn more at CollegisEducation.com.

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Acknowledgements

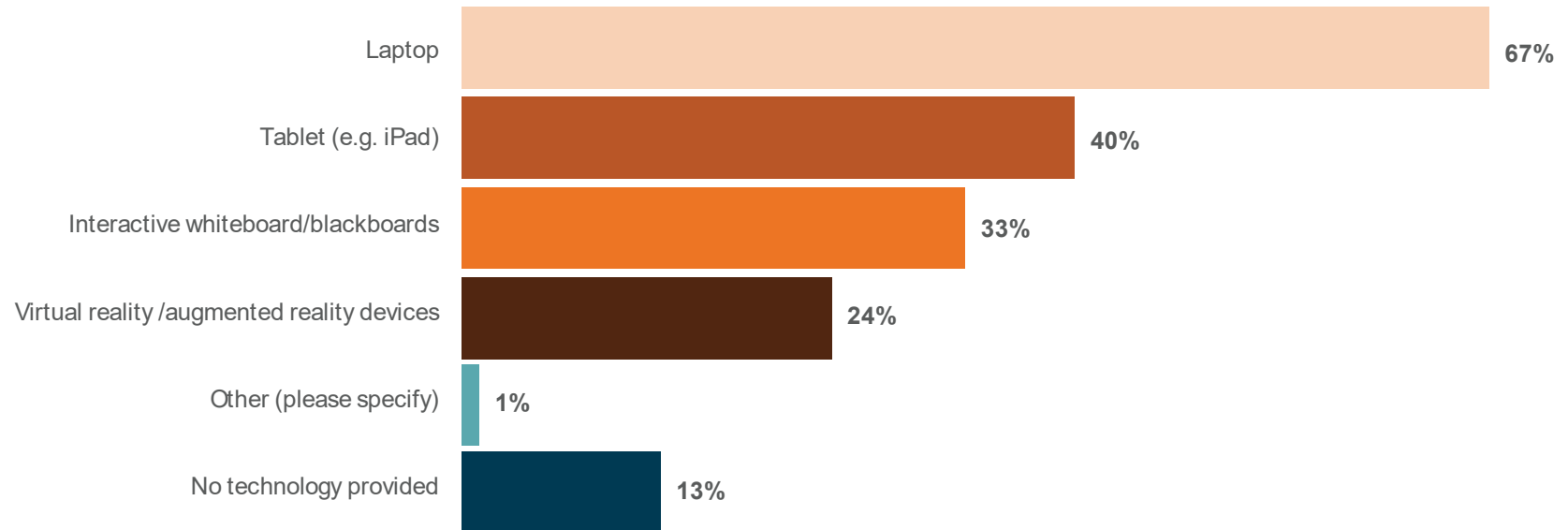
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**Appendix:
learning technology
& survey
demographics**

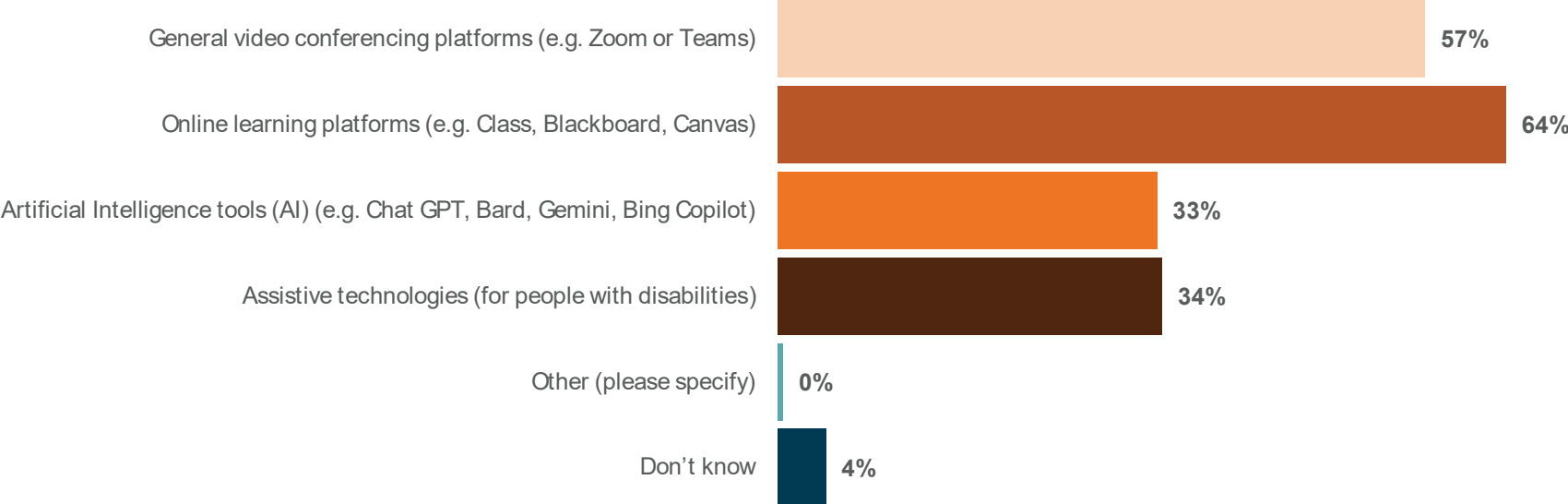
Technology used by students

Question: What hardware and software technologies does your university provide to you personally or in your learning environment (such as classroom, lecture theater, or lab)?

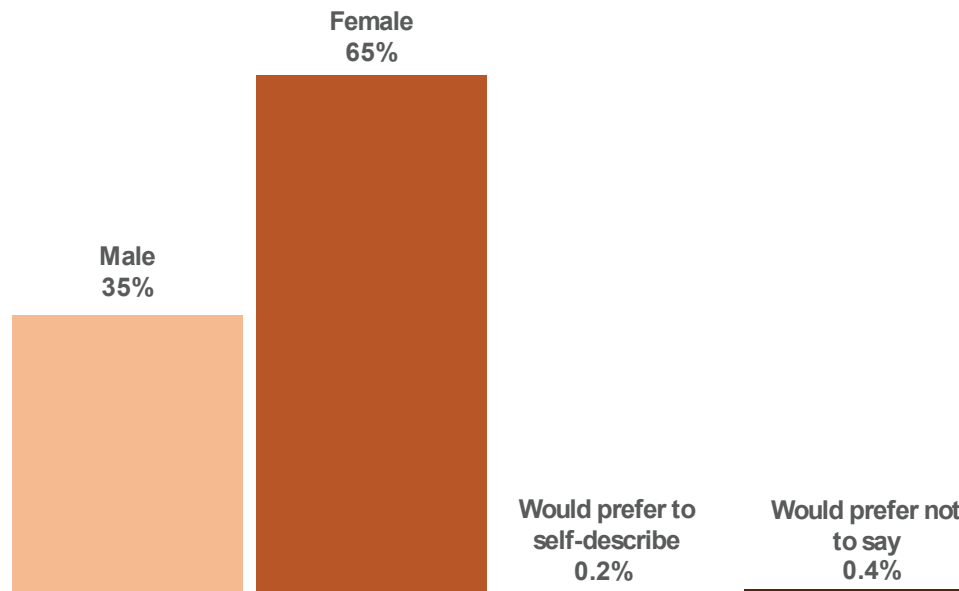
Hardware



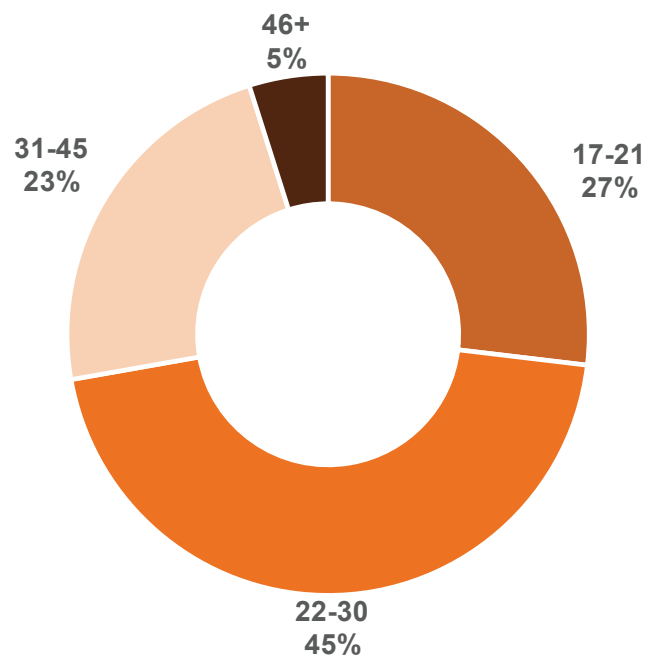
Software



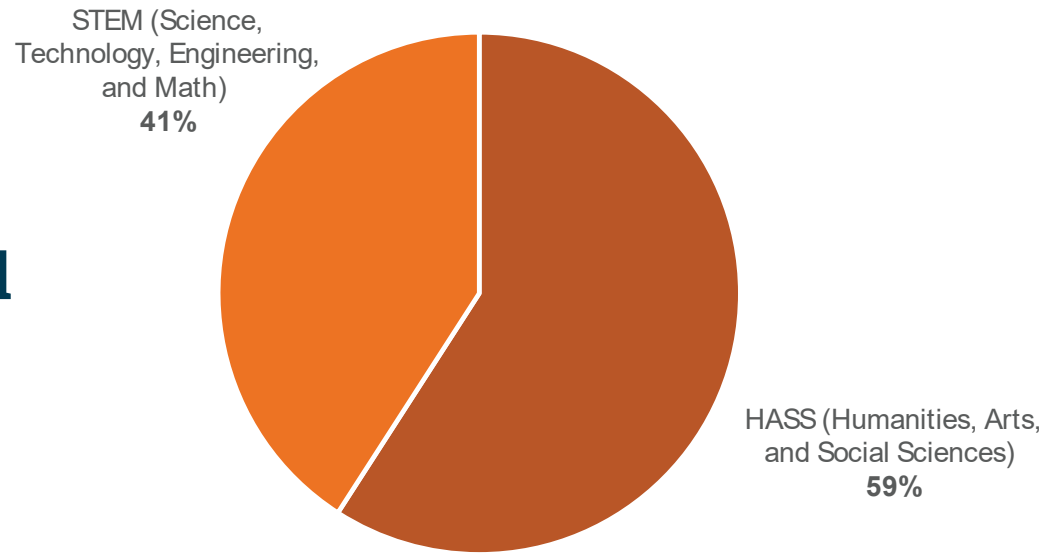
Gender



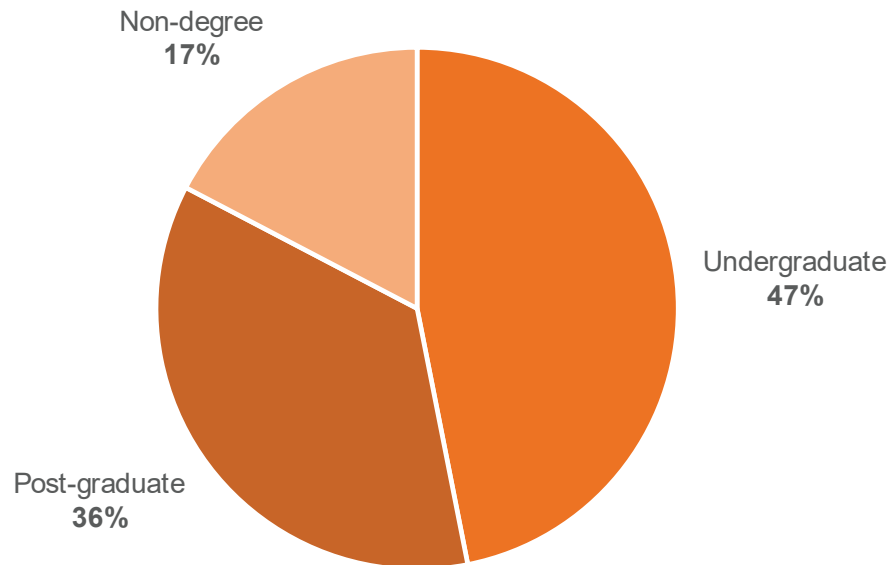
Age



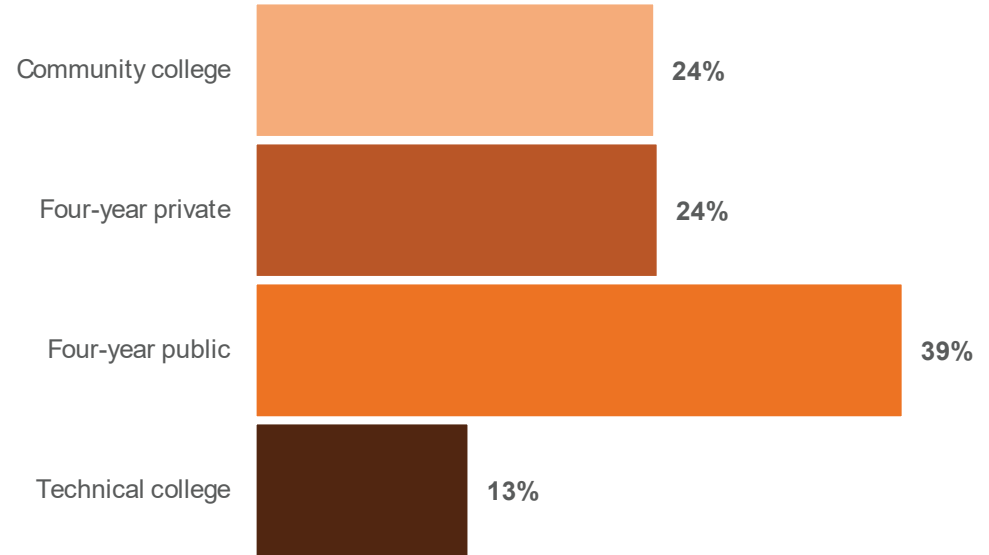
Subject studied



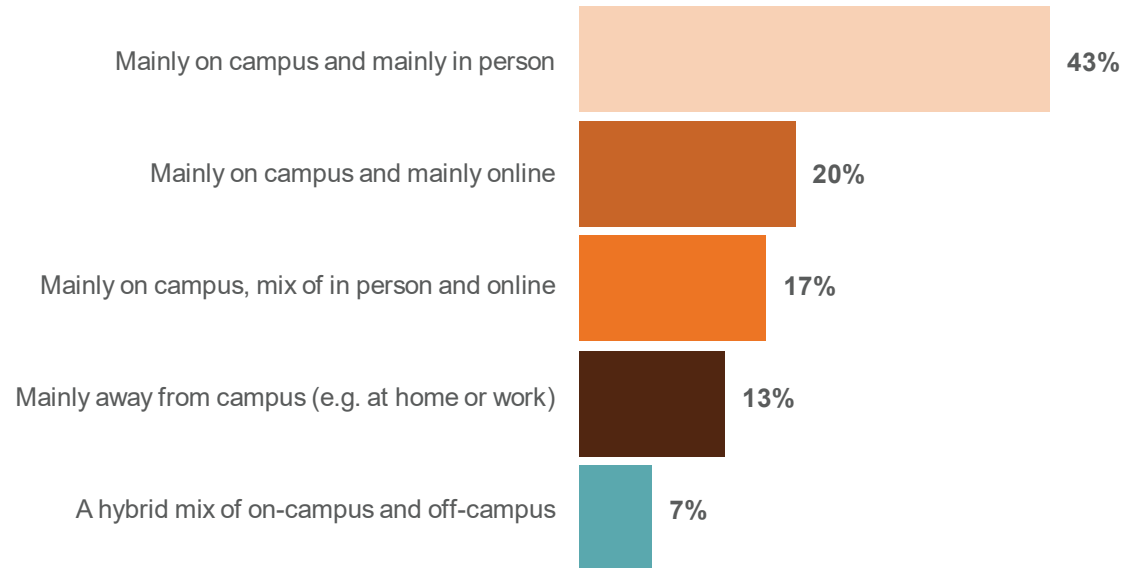
Level of study



Type of school



Mode of study



Sources and additional resources

Sources

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<https://collegiseducation.com/insights/student-experience/tech-troubles-how-technology-student-interactions-impact-retention-ihe-report>

Further reading on technology and retention

- [“Students Grade Higher Ed Tech” Infographic](#)
- [“Rethinking the Student Experience” Infographic](#)
- [Higher ed technology resource library](#)
- [Student retention and experience resource library](#)



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