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OUT OF STEP

Students, Teachers in Stride with EdTech Threats While Parents Are Left Behind

CENTER FOR DEMOCRACY & TECHNOLOGY

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The Center for Democracy & Technology (CDT) is the leading nonpartisan, nonprofit organization fighting to advance civil rights and civil liberties in the digital age. We shape technology policy, governance, and design with a focus on equity and democratic values. Established in 1994, CDT has been a trusted advocate for digital rights since the earliest days of the internet. The organization is headquartered in Washington, D.C. and has a Europe Office in Brussels, Belgium.

As governments expand their use of technology and data, it is critical that they do so in ways that affirm individual privacy, respect civil rights, foster inclusive participatory systems, promote transparent and accountable oversight, and advance just social structures within the broader community. CDT's Equity in Civic Technology Project furthers these goals by providing balanced advocacy that promotes the responsible use of data and technology while protecting the privacy and civil rights of individuals. We engage with these issues from both technical and policyminded perspectives, creating solutions-oriented policy resources and actionable technical guidance.

Endnotes in this report include original links as well as links archived and shortened by the Perma.cc service. The Perma.cc links also contain information on the date of retrieval and archive.

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Introduction

Since the Center for Democracy & Technology (CDT) began polling school stakeholders in 2020 about their experiences with educational data and technology (edtech) in classrooms, the sheer number of edtech products and use cases has skyrocketed. Many of the tools being proactively implemented in K–12 schools across the country and adopted by kids in their personal capacity are well intended; however, some of these tools have had unintended consequences such as privacy violations and negative effects on students from historically marginalized communities.

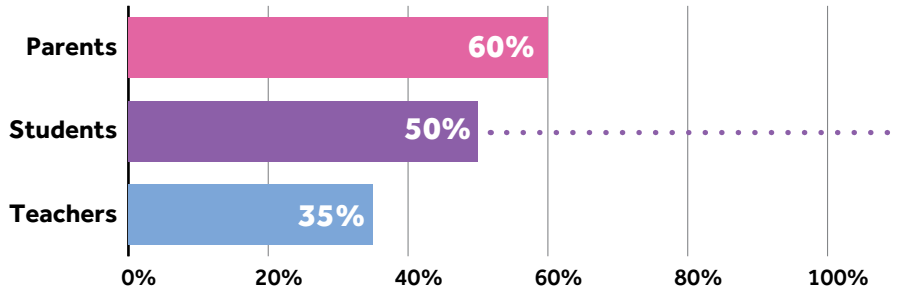
To continue tracking the impacts of edtech tools in the classroom and at home, CDT surveyed 1,028 parents of students in grades 6–12, 1,316 students in grades 9–12, and 1,006 teachers of grades 6–12 to understand their opinions on and experiences with student privacy, emerging technologies, parent engagement, school policies related to gender expansive students, content filtering and blocking software, student activity monitoring, and generative artificial intelligence (AI). Any subgroup n-sizes that differ from the total sample size are denoted throughout this report.

The definitions of these various edtech issues as shown to survey respondents are also denoted throughout the body of the report, and other key terms are included on page 22. This research builds on CDT's extensive body of quantitative and qualitative research, which is referenced on page 23. For additional details about the survey findings in this report, please reference the comprehensive slide deck.

Student Privacy

Despite growing public awareness about the privacy concerns that come with the use of edtech tools in the classroom, schools are not keeping up with the necessary training and infrastructure — especially as new privacy threats, such as doxxing, emerge.

The majority of parents and students are concerned about student data privacy and security, whereas the level of concern among teachers is lower.

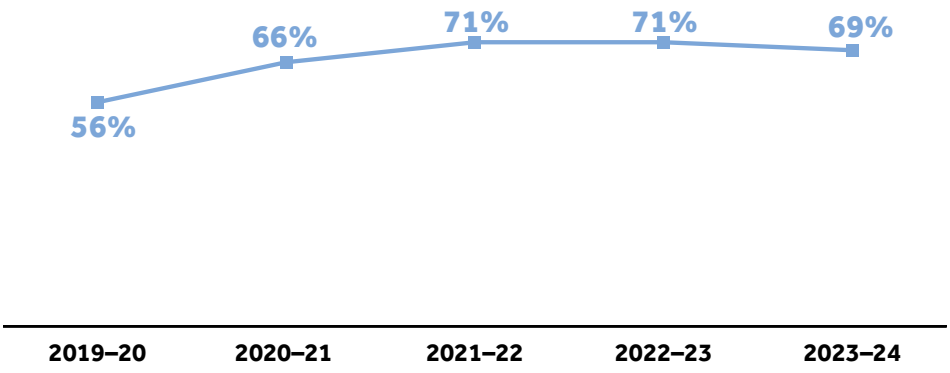


Privacy concerns among students are heightened on the basis of race and disability:

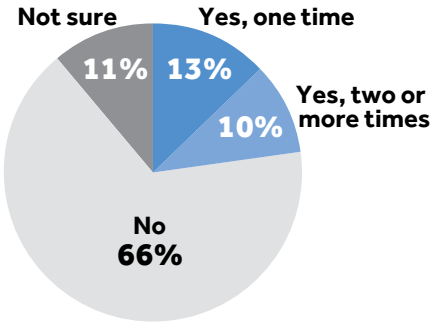
58 percent of Black students are concerned about student privacy vs. **49 percent of white students.**

57 percent of students with an individualized education program (IEP) or 504 plan are concerned about student privacy vs. **46 percent of students without an IEP or 504 plan.**

The percentage of teachers receiving substantive training on student privacy has remained relatively consistent since 2019–20, with nearly a third still *not* receiving this type of training.



One in four teachers report their school has experienced a large-scale data breach in the past school year (2023–24).



DEFINITION FROM SURVEY

Examples of a **large-scale data breach** *include a ransomware attack, a file or student information accidentally shared with other students, someone accessing the school system who should not have, and/or the school or a third-party company with whom the school works having their system hacked.*

Privacy concerns among parents are heightened on the basis of race and ethnicity and experience with prior incidents:

Black and Hispanic parents are more likely to be concerned about the privacy and security of their child's data and information that may be collected and stored by their child's school **(69 percent of Black parents** and **67 percent of Hispanic parents** vs. **54 percent of white parents).**

Parents who have been notified of a data breach happening at their child's school in the past school year (2023–24) **are more likely to be concerned** about the privacy and security of their child's data and information that may be collected and stored by their child's school **(86 percent** vs. **56 percent of parents who are not aware of a data breach).**

Teacher doxxing is a concerning issue in K–12 schools.

13% of teachers say they or another teacher they know were doxxed by a student, a student's parent, or another school employee in the past school year (2023–24).

DEFINITION FROM SURVEY

Doxxing *refers to the internet-based practice of gathering an individual's personally identifiable information, such as home address or phone number, and publishing it online for malicious purposes.*

Emerging threats in K–12 schools have heightened privacy concerns among teachers:

Teachers who are aware of a data breach happening at their school in the past school year (2023–24) **are more likely to worry** about the privacy and security of their students' data and information that may be collected and stored by their school **(57 percent** vs. **28 percent of teachers who are not aware of a data breach).**

Teachers who are aware of a teacher being doxxed at their school **are more likely to worry** about the privacy and security of their students' data and information that may be collected and stored by their school **(52 percent** vs. **33 percent of teachers who are not aware of doxxing).**

Gender Expansive Students and Privacy Policies

Over the past few years, the topic of student privacy for gender expansive students (e.g., students whose gender identity or gender expression differs from traditional gender norms including transgender, nonbinary, or genderfluid students) has become a hot button issue among parents. Parents of LGBTQ+ students in particular report having a clear preference for stronger privacy protections for their children and other gender expansive kids.

Parents of LGBTQ+ students are more likely to prefer policies that prioritize the preferences of gender expansive students, no questions asked.

	Parents whose child		Teachers reporting their school has this policy
	identifies as LGBTQ+	does not identify as LGBTQ+	
Teachers or school staff **should use the name and pronouns requested by a student, no questions asked**	**48%**	**20%**	—
OTHER POLICY OPTIONS			
Teachers or school staff **cannot share student requests** to use a different name or pronouns with a student's parent(s)/guardian(s) **unless the student has given permission** to do so	27%	16%	25%
Teachers or school staff **must notify parent(s)/ guardian(s) if their child requests** to use a different name or pronouns	25%	37%	23%
Teachers or school staff **must notify parent(s)/ guardian(s) if a student in their child's class(es) requests** to use a different name or pronouns	18%	27%	—
Teachers or school staff may only use a different name or pronouns **if a parent approves the change,** even if their child has requested the use of a different name or pronouns	15%	26%	27%

	Parents whose child		Teachers reporting their school has this policy
	identifies as LGBTQ+	does not identify as LGBTQ+	
Parents: I don't want my child's school to adopt a policy(ies) about student privacy for students whose gender identity or gender expression differs from traditional gender norms **Teachers:** My school does not have a policy(ies) about the privacy of gender nonconforming students	17%	14%	23%

n = 60 parents whose child who identifies as LGBTQ+, 936 parents whose child does not identify as LGBTQ+

Only **23 percent of teachers** report that **their school collects information about student gender with options that extend beyond male and female** (i.e., options such as nonbinary, transgender, intersex, etc.).

Emerging Technologies

Increasingly, schools are turning to technology to assist in enhancing students' educational experiences, from both an academic and a safety standpoint. However, these tools are being adopted despite concerns among parents — particularly parents of color.

Technology use for *academic purposes* and *student safety* is expanding as Black and Hispanic parents express heightened concerns.

ACADEMIC PURPOSES	Teachers reporting their school uses this technology	Parents concerned about the use of this technology	Parent concerns differ by race
School uses **adaptive learning technology**	69%	36%	51% Black,* 45% Hispanic* vs. 29% white
School or school district uses **learner profiling** and management software	65%	41%	45% Black,* 51% Hispanic* vs. 35% white
School or school district uses student data to **predict whether individual students are at risk of dropping out** or whether they are ready/not ready for college	55%	49%	62% Black,* 60% Hispanic* vs. 43% white
School uses **remote proctoring software** to determine if a student is cheating on an exam	35%	61%	61% Black, 61% Hispanic vs. 59% white
School uses **classroom voice assistants** to help teachers perform small tasks like starting a timer, opening a particular presentation, or searching the web by using their voice	31%	36%	43% Black,* 44% Hispanic* vs. 32% white
School uses **chatbots** that are specifically designed to help keep students on task and provide resources to help them with their schoolwork	27%	42%	45% Black, 49% Hispanic* vs. 39% white

n = 126 Black, 204 Hispanic, and 626 white parents
**Differences between parents of color and white parents are statistically significant.*

STUDENT SAFETY PURPOSES	Teachers reporting their school uses this technology	Parents concerned about the use of this technology	Parent concerns differ by race
School uses **vape detectors** to monitor if students are vaping on school grounds	38%	39%	48% Black,* 48% Hispanic* vs. 32% white
School or school district **shares student data** such as grades, attendance, and discipline information **with law enforcement**	35%	59%	63% Black, 66% Hispanic* vs. 54% white
School uses **cameras with facial recognition technology** to check who has entered a school building, identify irregular movements, etc.	31%	47%	50% Black, 56% Hispanic* vs. 43% white
School **tracks students' physical location** through their phones, school-provided devices like laptops, or digital hall passes when they leave the classroom	26%	63%	62% Black, 65% Hispanic vs. 63% white
School uses **wearable panic buttons** for students, teachers, and/or staff to report emergency safety incidents	24%	34%	33% Black, 40% Hispanic* vs. 31% white
School uses **drones/drone-mounted cameras** to patrol school grounds for security reasons	22%	44%	56% Black,* 51% Hispanic* vs. 39% white
School or school district analyzes student data to **predict which individual students** would be more likely to **commit a crime** or commit an act of violence	20%	64%	67% Black, 73% Hispanic* vs. 60% white

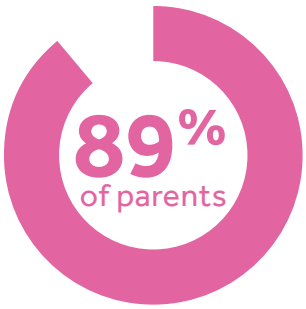
n = 126 Black, 204 Hispanic, and 626 white parents

**Differences between parents of color and white parents are statistically significant.*

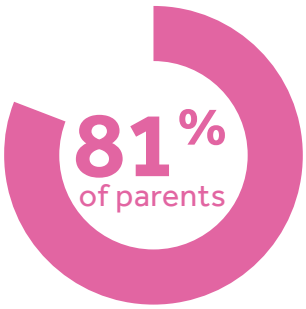
Parent Engagement

As conversations about AI tools continue to increase in the education space, parents express desire to have more information and control over how AI is being implemented and how systems are using their child's data.

The vast majority of parents want to be involved when their school is considering using AI to make decisions about *student learning* or *educational opportunities*.



want to be notified



think it is important that they be given the opportunity to provide input

DEFINITION FROM SURVEY

Artificial intelligence (AI) *or automated algorithms are used to inform how or what learning or educational opportunities are provided to students. These systems are used to make decisions based on a set of rules they are given, without individualized input from a human. In the school setting, the rules are applied to student data to make decisions about student learning or educational opportunities.*

When presented with a list of ways AI might be used in school, a majority of parents would like to opt their children out of most decisions driven by AI or automated algorithms.

	Yes, I would like to opt my child out of this use	No, I would not like to opt my child out of this use	Not sure
Determine appropriate **disciplinary measures,** like suspension or expulsion	57%	30%	13%
Make decisions about **student enrollment** (e.g., using a school lottery to assign my child to a school)	54%	32%	14%
Biometric information (e.g., fingerprint, face scan) being collected and used by AI and automated algorithms to confirm my child's identity	53%	35%	12%
Measure or assess my child's **academic performance**	47%	39%	13%
Whether a student qualifies for **financial aid awards or scholarships** for school activities	45%	42%	13%
Detect whether a student is **cheating on or plagiarizing** assignments	43%	43%	14%
Student safety purposes (e.g., weapon detection software, monitoring of student online accounts for threatening language)	42%	45%	14%

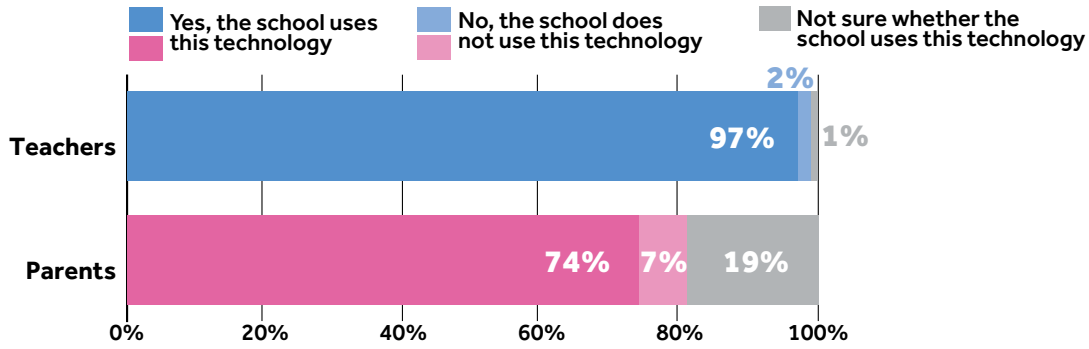
Content Filtering and Blocking

Teachers and students continue to report that content filtering and blocking software is impeding students' ability to complete assignments and blocking access to content pertaining to historically marginalized groups, such as LGBTQ+ youth and students of color.

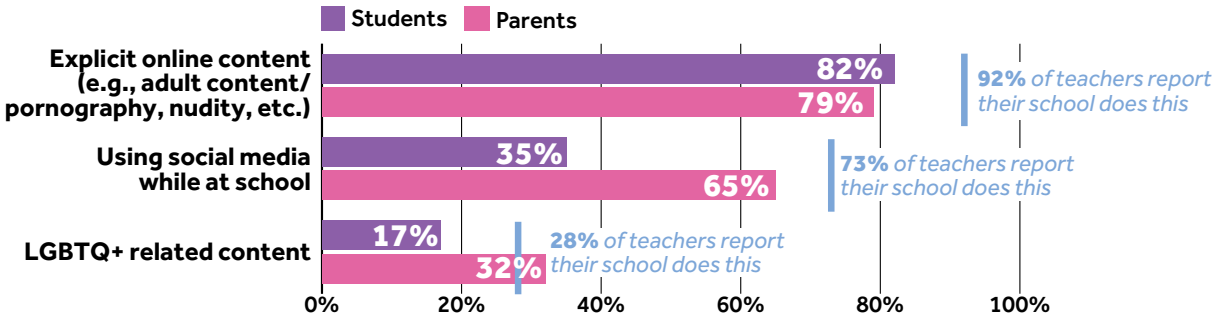
DEFINITION FROM SURVEY

Content filtering and blocking *uses software to screen or restrict access to material deemed objectionable, including websites and mobile apps. This filtering or blocking can occur on school-issued devices, on a student's own devices while connected to school networks, and/or while logged in to a school account.*

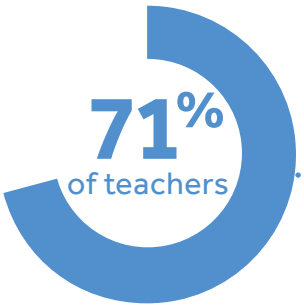
Parents report lower awareness of content filtering and blocking software than teachers even though it is present in almost every school across the country.



While parents and students agree that explicit online content should be blocked, their views diverge about social media use and LGBTQ+ related content; teachers report that schools generally filter and block these types of content more than either stakeholder deems appropriate.



Almost three-quarters of teachers and students report that content filtering and blocking impedes students' ability to complete schoolwork.



say that students have been blocked or filtered from content they needed to complete a school assignment

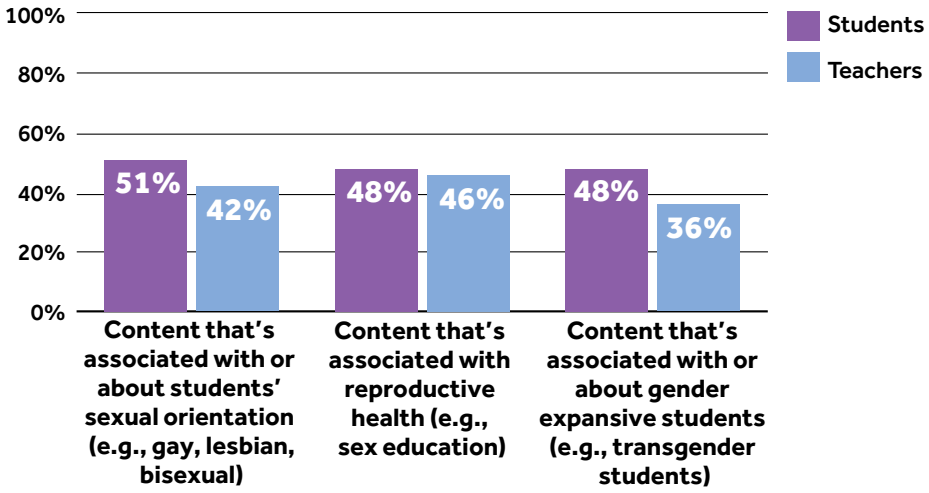
n = 1,248 students and 977 teachers who say their school uses content filtering and blocking software

46 percent of students report **that content filtering and blocking software has been an impediment to them** completing a school assignment **three or more times** in the past school year (2023–24).

62 percent report that **they have used workarounds** to avoid this technology.

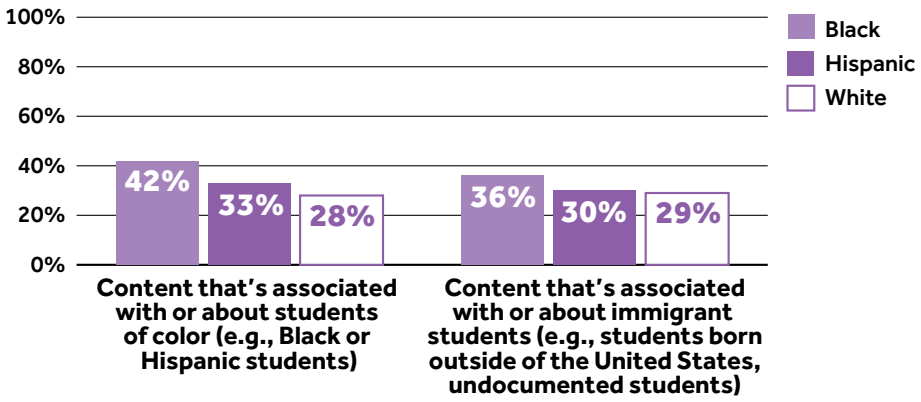
75 percent of teachers report that **students have used workarounds** to avoid the school's content filtering and blocking technology.

Students and teachers at schools that use content filtering and blocking software agree that certain types of content are more likely to be filtered or blocked by the school.



n = 1,248 students and 977 teachers who say their school uses content filtering and blocking software

More Black and Hispanic students than white students report that certain types of content are more likely to be filtered or blocked by their school.



n = 372 Black, 335 Hispanic, and 746 white students who say their school uses content filtering and blocking software

Despite reporting much lower levels of awareness of this technology than students and teachers, parents express strong interest in being more involved:

95 percent of parents report that it is **important for schools to share with parents** what content the school filters or blocks from students.

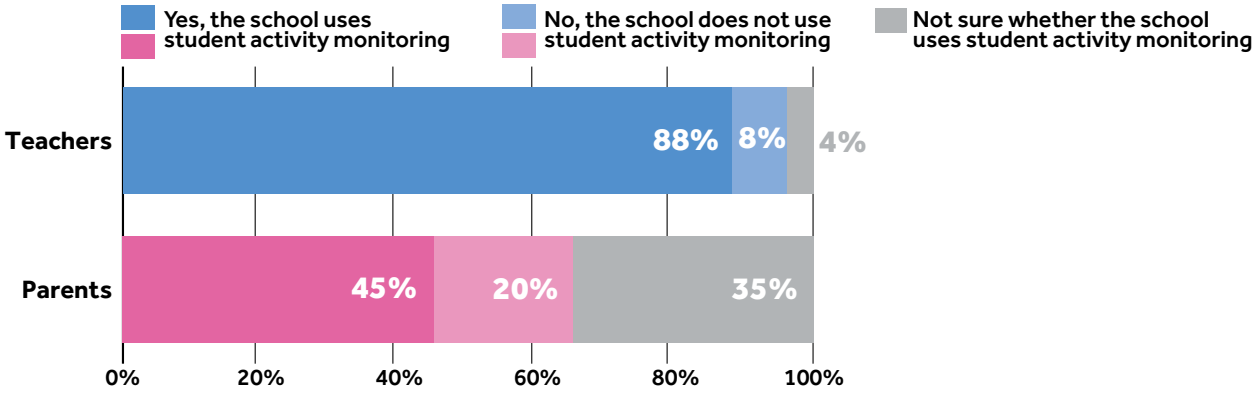
94 percent of parents report that it is **important for schools to give parents the opportunity to share their input** about what content the school should filter or block.

However, only **15 percent** of parents report that their **school has asked for input** on the content the school blocks or filters.

Student Activity Monitoring

A majority of K–12 schools across the United States use student activity monitoring software, despite decreasing comfort among parents and students about its use. Students continue to be disciplined even though the tool is being used in the name of safety, and LGBTQ+ students continue to be disproportionately harmed. However, 24/7 monitoring of students' devices and law enforcement engagement have both decreased since 2022.

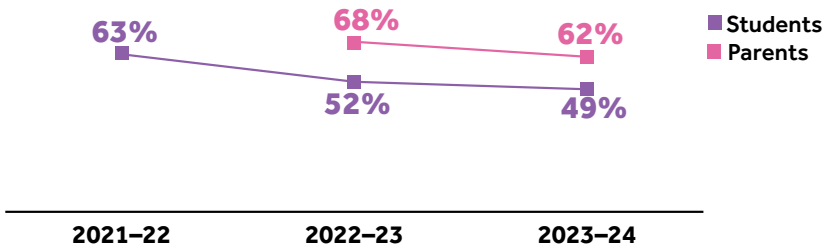
Teachers report that student activity monitoring remains nearly ubiquitous, but parent awareness of its use by schools is lower — and many parents are unsure whether it is used.



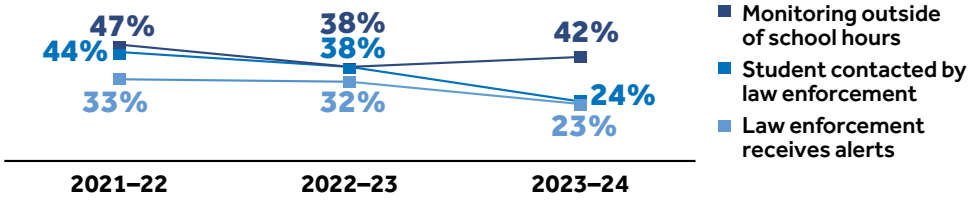
DEFINITION FROM SURVEY

Student activity monitoring *is the use of technology to track students' online activity, such as the date/time a student logs in to the system, the contents of students' screens or emails, and/or student internet searches. Student activity monitoring may also enable real-time visibility into what students are looking at on their computers and can occur within a learning management system or through a separate software program.*

Comfort with student activity monitoring continues to drop among parents and students.

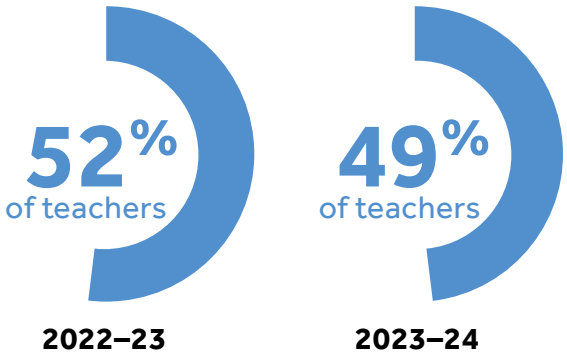


Teachers report that monitoring outside of school hours is lower than in 2022, as is law enforcement engagement.



n for 2021–22 = 897 teachers who report their school uses student activity monitoring
n for 2022–23 and 2023–24 = 883 teachers who report their school uses student activity monitoring

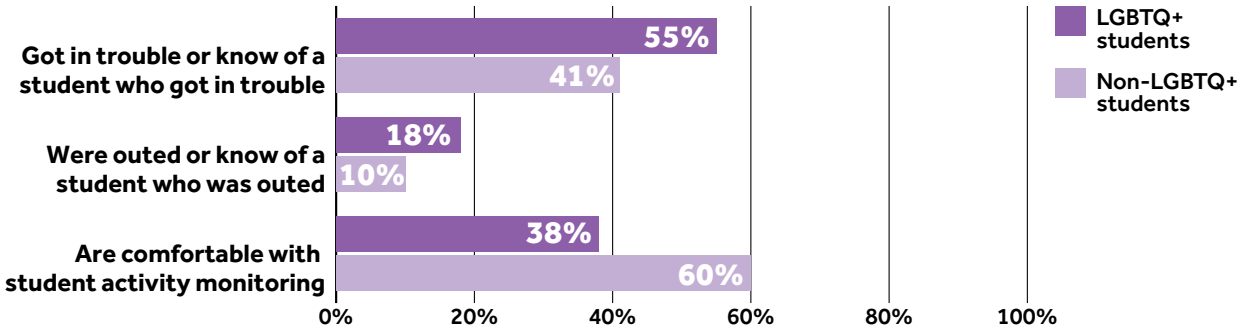
The percentage of teachers reporting that a student got in trouble for something they did online remains consistent.



Students with an IEP or 504 plan are more likely to get in trouble for how they respond when being confronted about behavior that was flagged by student activity monitoring — with **33 percent of these students getting in trouble** vs. **27 percent of students without an IEP or 504 plan.**

n for 2022–23 and 2023–24 = 883 teachers who report their school uses student activity monitoring

LGBTQ+ students continue to be disproportionately harmed by student activity monitoring, potentially contributing to more discomfort with this technology.

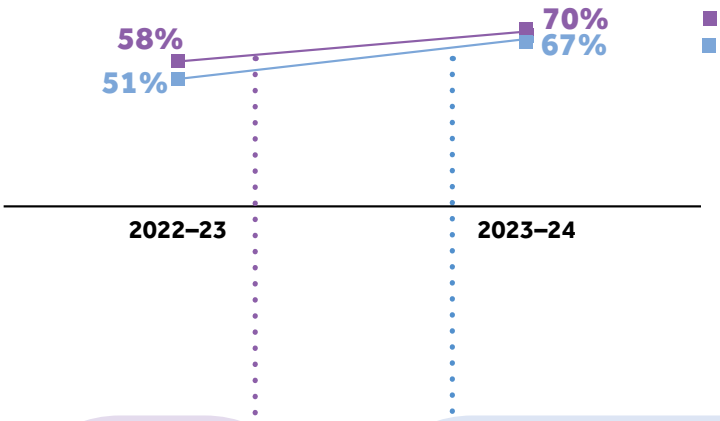


n = 296 LGBTQ+ students, 816 non-LGBTQ+ students who say their school uses student activity monitoring software

Academic Uses of Generative AI

The use of generative AI continues to grow and expand into new areas, such as developing or informing IEPs. But despite schools being in their third school year since public generative AI tools were released, policies and guidance on how to responsibly manage generative AI in the classroom are still lacking, even though students continue to be disciplined for its use.

Generative AI use by teachers and students for personal and/or school reasons has significantly increased since the 2022–23 school year.



DEFINITION FROM SURVEY

Generative AI *systems use machine learning to produce new content (e.g., text or images) based on large amounts of data that already exist. Generative AI is trained on enormous amounts of text/information for systems that will produce text responses and/or hundreds of millions of images for systems that will produce new images in response to prompts.*

Students are more likely to use generative AI **for personal reasons (60 percent)** than for **school uses (36 percent).**

Teachers are more likely to use AI for **school reasons (46 percent)** than for **personal uses (21 percent).** For example, teachers report the following school-related uses:

21 percent of teachers report that they use generative AI to **grade tests.**

16 percent of teachers report that they use generative AI for **other school-related purposes** (e.g., lesson planning, email writing).

Parents of high schoolers report much lower use of generative AI by their children with only **46 percent of parents saying that their child has used generative AI — 24 percentage points lower than students** themselves report.

Four in 10 licensed special education teachers (39 percent) report using generative AI in one or more ways to develop or inform IEPs.

	Licensed special education teachers reporting this use for IEPs
Identify trends in student progress and help determine patterns for goal setting	23%
Summarize the content of an IEP	19%
Choose specific accommodations as part of the IEP creation process	16%
Write only the narrative portion of an IEP	12%
Write an IEP in full	8%

n = 378 licensed special education teachers

Despite the growing use of generative AI, significant policy gaps remain, with two-thirds or more of teachers reporting that they have *not* received guidance on important topics.

	Teachers reporting that they have received this guidance
How you or your school should respond if you suspect a student has used generative AI in ways that are not allowed (e.g., plagiarism)	33%
How to use professional judgment to detect student use of generative AI by comparing previous student work with the assignment in question	30%
How to apply your school's discipline policy to determine how a student should be penalized for using generative AI in ways that are not permitted (e.g., detention, suspension, receive a "fail" grade)	23%

21 percent of teachers report that their school **still does not have a policy** about whether school-related generative AI uses are permitted or banned, while **11 percent of teachers are not sure.**

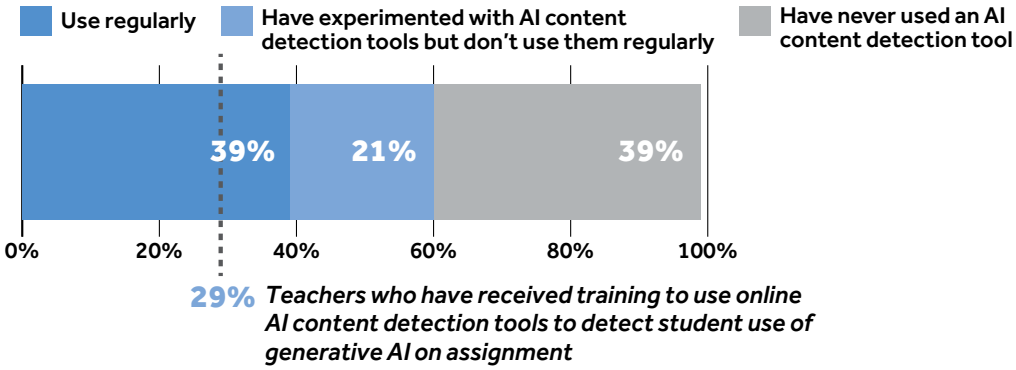
Of the 68 percent of teachers who report that their school has such a policy, **36 percent** say **generative AI use is generally permitted** while **32 percent** report that it is **generally banned.**

Six in 10 teachers (58 percent) report that student(s) at their school have experienced some form of negative consequences for using or being accused of using generative AI on a school assignment.

	Teachers reporting this consequence
Student(s) **did not receive credit/full credit** for an assignment when it was proven that they used generative AI to cheat	38%
Student(s) **received detention or were suspended** when it was proven that they used generative AI to cheat	17%
Student(s) **failed a class** when it was proven that they used generative AI to cheat	13%
Student(s) **was/were accused** of using generative AI to cheat on a school assignment, but it **could not be proven** or it was later shown that they **did not use generative AI inappropriately**	13%

One in five students (20 percent) report that **they or someone they know has been accused of using generative AI to cheat** on a school assignment, but it **could not be proven** or it was **later shown that they did not use generative AI inappropriately.**

Despite having little training, teachers report that AI content detection tools play a regular and significant role in managing student use of generative AI tools.



Note: Data do not include those who responded "Not sure."

Teachers report that student activity monitoring, which has been in place in most schools for years, plays a role in ensuring academic integrity.

School or school district uses student activity monitoring to detect use of generative AI to cheat on an assignment/test	37%
Received training on how to use student activity monitoring to detect student use of generative AI for school assignments	24%

OTHER KEY TERMS USED IN THIS REPORT

Edtech: This report uses the term *edtech* broadly to mean all data and technology that is used in the classroom and with which students interact, regardless of whether it was designed with the education sector in mind. For example, generative AI applications that are broadly designed for consumers but used by students and teachers fall within this report's definition of edtech.

LGBTQ+ students: Students who self-identify as lesbian, gay, bisexual, transgender, and queer are a part of the LGBTQ+ community. In settings offering support for youth, Q can also stand for questioning. LGBTQ+ is also used, with the + added in recognition of all nonstraight, noncisgender identities.[1]

Licensed special education teachers: Licensed special education teachers are certified to work with and meet the needs of students with varying disabilities.

Outed: Outed refers to when a student's gender identity or sexual orientation is shared without their consent or approval.

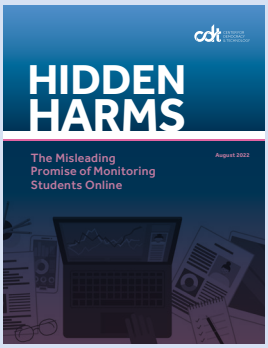
Parents: This report uses the term *parents* broadly to encompass all primary caregivers, including but not limited to biological parents, step-parents, foster parents, grandparents, legal guardians, or other blood relatives.

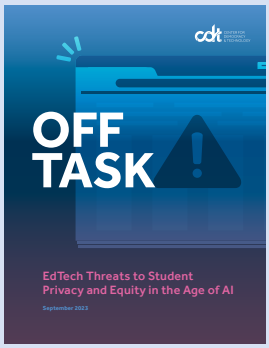
Students with an IEP or 504 plan: Students with a disability that necessitates specially designed instruction receive an individualized education program (IEP) that is documented and reviewed annually. Students who have a disability and who require accommodations to participate in school to the same extent as their nondisabled peers receive a 504 plan. Students with disabilities typically have either an IEP or a 504 plan but not both, although it is possible.

1 *Glossary of Terms: LGBTQ*, GLAAD Media Reference Guide (11th Edition), https://perma.cc/3993-JSMK.

ADDITIONAL RESOURCES

This year's surveys comprise CDT's seventh poll among teachers, sixth poll among parents, and fourth poll among students. From 2020 to 2024, these surveys have measured and tracked changes in perceptions, experiences, training, engagement, and concerns about student data privacy, student activity monitoring, content filtering and blocking software, generative AI, nonconsensual intimate imagery, deepfakes, and more.



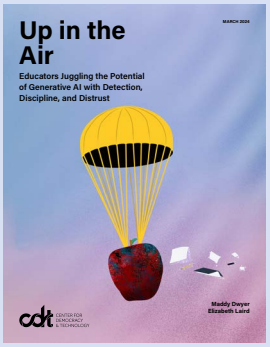


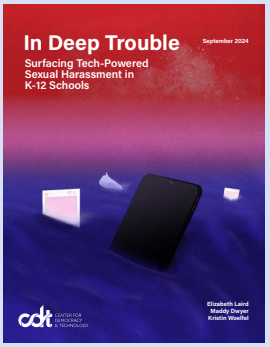
The following is a comprehensive list of CDT's foundational survey research upon which this report builds:

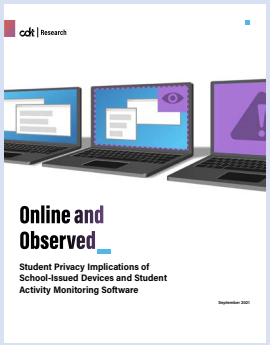
- Research Report: Protecting Students' Privacy and Advancing Digital Equity (2020)
- Research Report: With Increased EdTech Comes Increased Responsibility (2021)
- Hidden Harms: The Misleading Promise of Monitoring Students Online (2022)
- Off Task: EdTech Threats to Student Privacy and Equity in the Age of AI (2023)
- Up in the Air: Educators Juggling the Potential of Generative AI with Detection, Discipline, and Distrust (2024)
- In Deep Trouble: Surfacing Tech-Powered Sexual Harassment in K–12 Schools (2024)

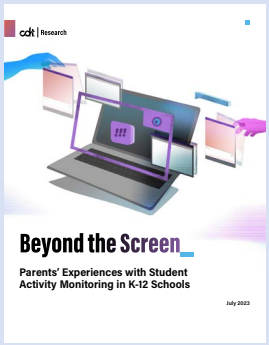
Additionally, CDT has conducted qualitative research to hear directly from school stakeholders and supplement the qualitative findings:

- Online and Observed: Student Privacy Implications of School-Issued Devices and Student Activity Monitoring Software (2021)
- Beyond the Screen: Parents' Experiences with Student Activity Monitoring in K–12 Schools (2023)









Methodology

Online surveys of nationally representative samples of 1,316 9th- to 12th-grade students, 1,006 6th- to 12th-grade teachers, and 1,028 6th- to 12th-grade parents were fielded between June and August 2024. Quotas were set to ensure that the data collected among students, parents, and teachers was representative of their respective audiences nationwide, and the data was weighted as needed to align nationally with key demographics. Sample sizes among parents and students were sufficient for analyses within key demographic groups, such as gender, race, ethnicity, and sexual orientation. Any subgroup n-sizes that differ from the total sample size are denoted throughout this report.

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