CompTIA®

Technology and Digital Literacy Education Trends

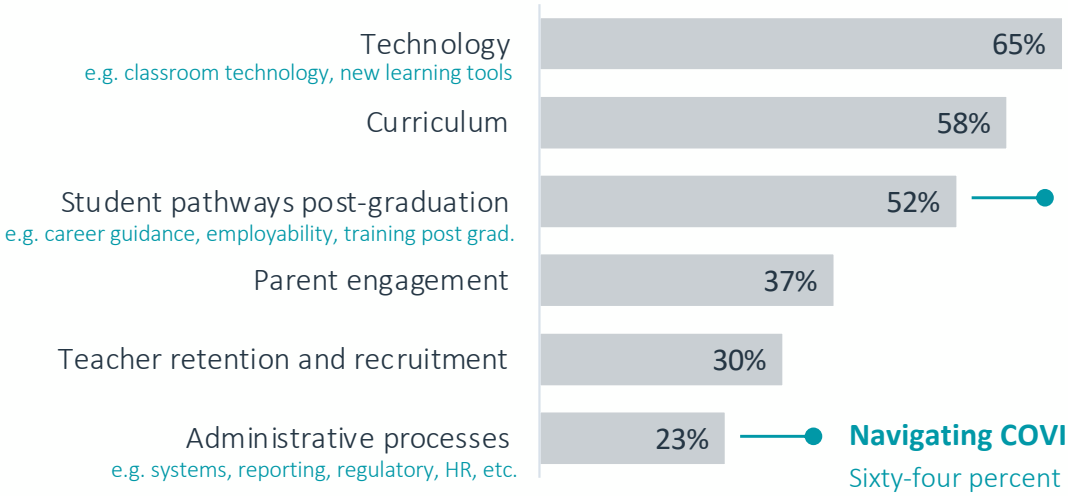
2021

Survey of 1,500 U.S. middle school and high school teachers, administrators and education professionals

Background

SEE METHODOLOGY PAGE FOR RESPONDENT PROFILE DETAILS

Top reported focus areas for school improvement or innovation over next 1-2 years



Slightly higher rate among high schools and public schools; and respondents involved in career advising.

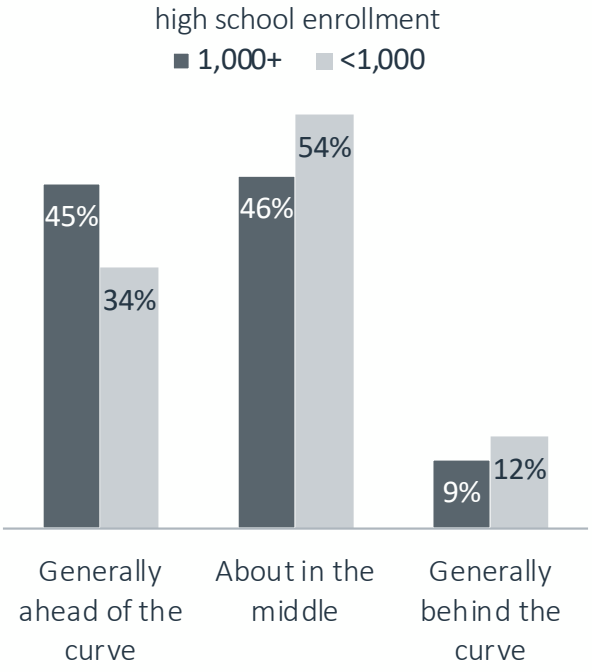
Navigating COVID

Sixty-four percent of school respondents indicate they are mostly returning to a degree of normalcy vs. the 36% indicating they are mostly navigating ongoing disruptions and uncertainty from the pandemic.

Student interest in tech ed on the rise

A majority of teachers and administrators believe **students** are now placing a higher priority on technology education and digital literacy (90% net).

Self-rating of school technology[1] utilization



[1]Technology in the classroom, school technology infrastructure, technology systems, etc.

For market statistics, such as school profiles by state, contact the Research Team.

Positive correlation

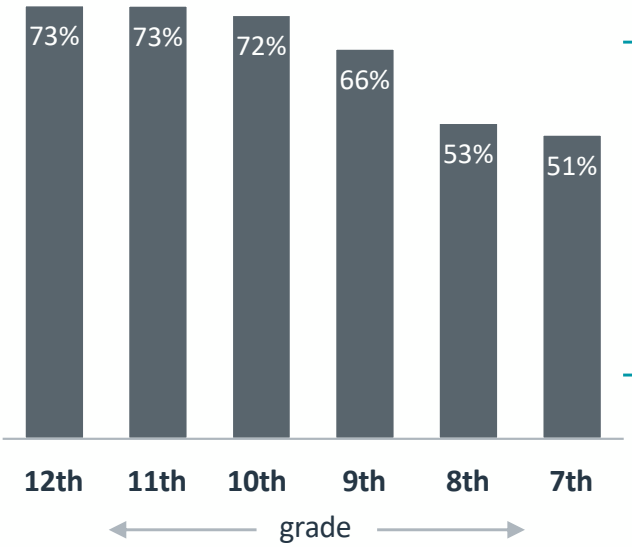
The data indicates a positive correlation between tech-savvy schools and commitment to technology education and digital literacy. For example, schools reporting they are ahead of the curve in technology utilization are more likely to require some form of technology education or digital literacy class vs. schools in the middle or behind the curve in technology utilization (70% vs. 43%).

Reported use of technology in schools

78%	Laptop or desktop computer
73%	Online educational videos
72%	Educational apps or software
59%	Chromebook
53%	Learning platform
54%	Interactive/smart whiteboard
46%	E-textbooks
46%	Research/reference web portal
44%	Video streaming/conferencing
37%	Tablet
30%	Electronic gaming for learning
24%	Simulations or E-labs
13%	3-D printer
14%	Dedicated e-reader
11%	AR or VR device

Technology Education Overview

Incidence of school offering some type of technology or digital literacy classes



Profiling

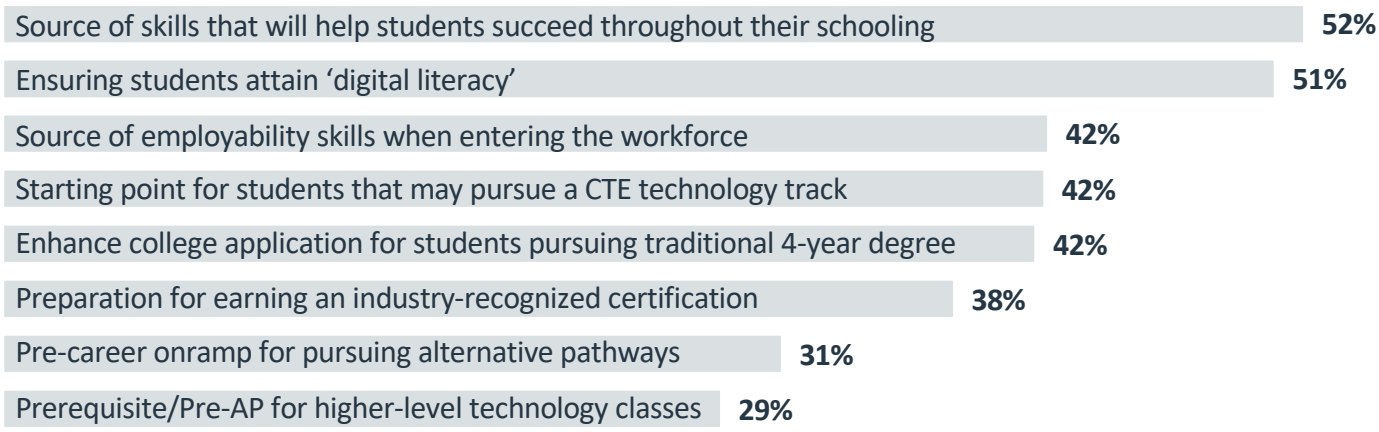
- Larger schools (1,000+ students) are slightly more likely to offer technology or digital literacy classes.
- Schools located in larger cities (250,000+ residents) are slightly more likely to offer technology or digital literacy classes vs. smaller towns (<50,000 residents).
- Public and private schools offer classes at similar rates.

Class Requirement vs. Elective

Slightly more than half of schools (56%) indicate technology or digital literacy classes are a requirement at some point during 7th-12th grade, while 44% indicate the classes are an elective.

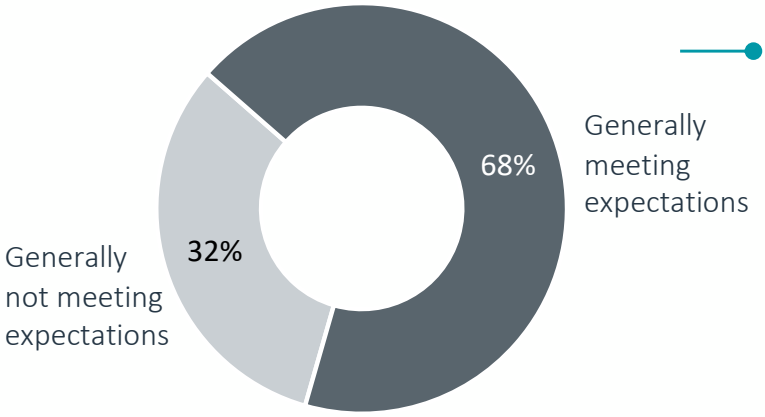
Reported class offerings	Overall	Larger School	Smaller School	Know CompTIA	Don't Know CompTIA
Intro to Computers / Technology	61%	69%	58%	72%	47%
Computer Science	54%	63%	55%	59%	49%
Intro to Digital Skills / Digital Literacy	45%	50%	40%	54%	34%
Programming / Coding / Software Dev.	41%	53%	37%	45%	36%
Multimedia / Graphic Design / Video	38%	42%	38%	37%	39%
Website Design / HTML	35%	44%	33%	41%	28%
Data Processing / Database	25%	25%	22%	33%	15%
Information Systems	22%	25%	19%	29%	13%
Cybersecurity	18%	20%	19%	24%	11%
Data Analytics / Visualization	18%	21%	14%	25%	8%
Network Administration	14%	16%	12%	20%	7%

Intended outcomes reported by schools offering technology or digital literacy classes



Technology Education Needs Assessment

Degree to which school technology or digital literacy program meeting expectations



Profiling

- Smaller schools (<1,000 students) slightly more likely to indicate technology or digital literacy program is generally not meeting expectations.
- Public schools slightly less satisfied than private schools.
- Schools where technology or digital literacy class is a requirement more likely to indicate the program is meeting expectations (81% vs. 58%).
- No significant difference of opinions between teachers and administrators.

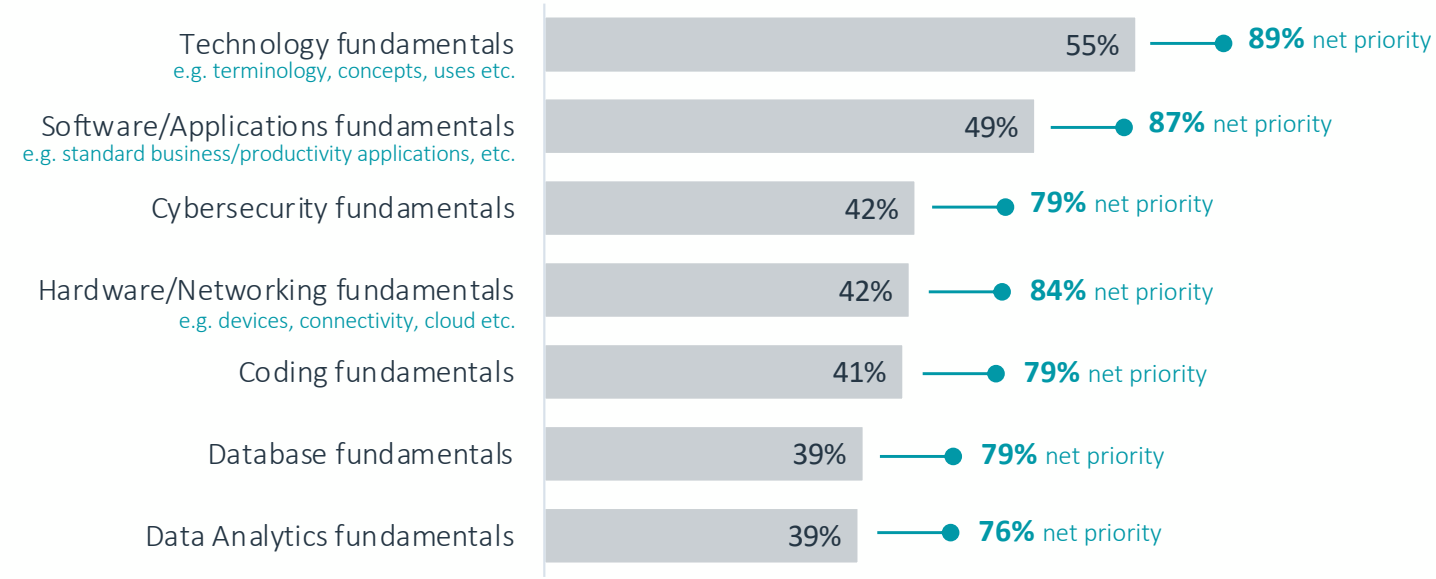
Desired areas for improvement of technology or digital literacy education programs	Overall	Teachers	Admin-istrators	Other Ed professionals
More hands-on learning elements, e.g. labs, simulations, etc.	61%	62%	63%	61%
Better teacher support materials, resources and training	52%	53%	57%	57%
More relevant materials that resonate with students	52%	52%	56%	45%
More timely materials with current examples, case studies, etc.	42%	43%	48%	40%
More adaptive learning tools for students to learn at their own pace	39%	38%	40%	52%
More connected to employability skills	34%	31%	41%	44%
More aligned to industry-recognized technology certifications and expectations	33%	32%	44%	43%
Enhanced reporting for technology certification and training	24%	22%	37%	33%

Broad foundational approach vs. targeted approach to technology education

A majority of teachers and administrators (54%) support starting with a broad approach to technology education and digital literacy to equip students with a strong foundation before advancing to specialty areas within the field of technology. In contrast, a subset of teachers and administrators (38%) support starting with select targeted subjects, such as software coding, that have high perceived value. The remaining 8% are unsure. The data suggests teachers lean towards the broad foundational approach to start, while administrators lean towards the narrow targeted approach to start.

Needs Assessment Continued

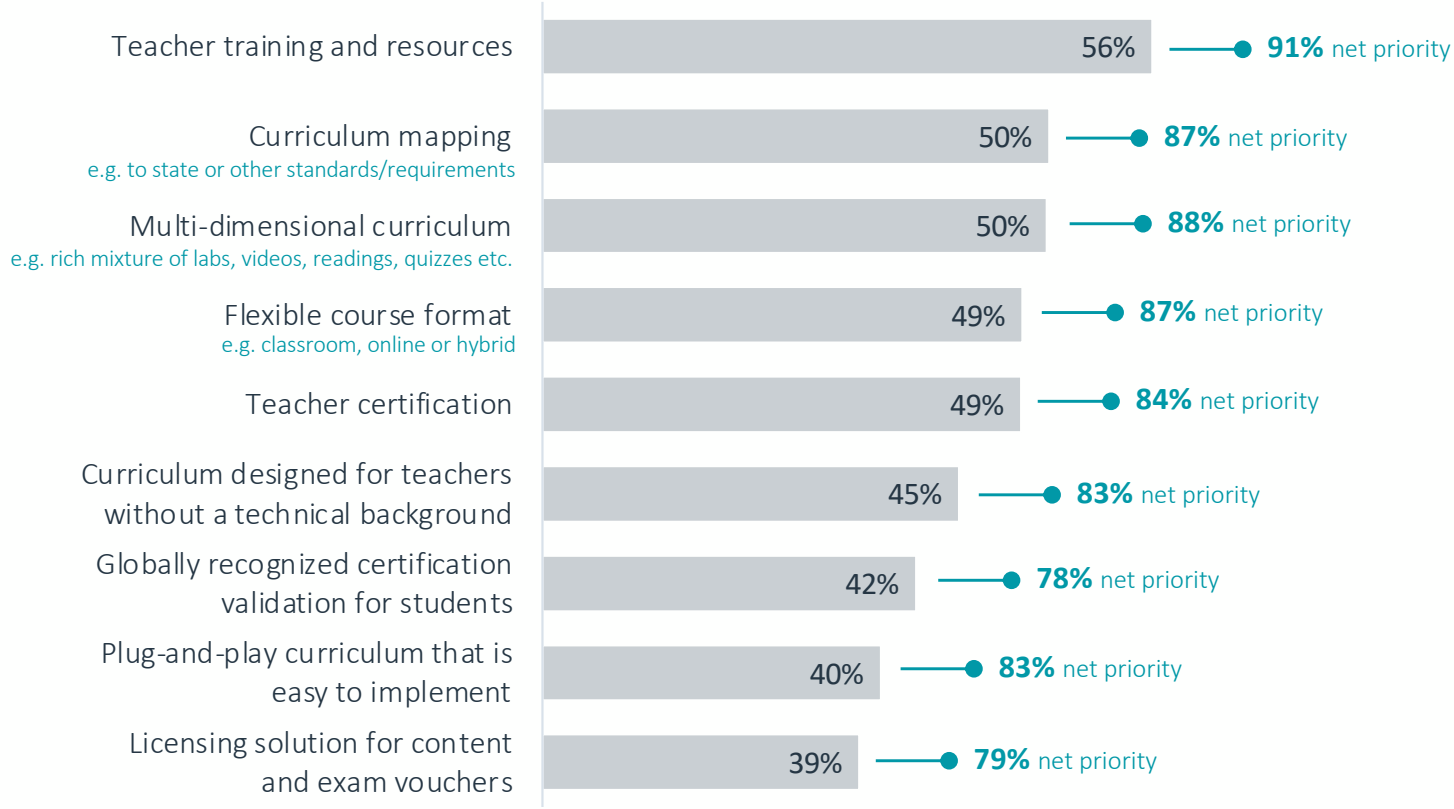
Foundational technology education domains assessment: core/high priority ratings



Some similarities and a few differences in the prioritization of technology education domains

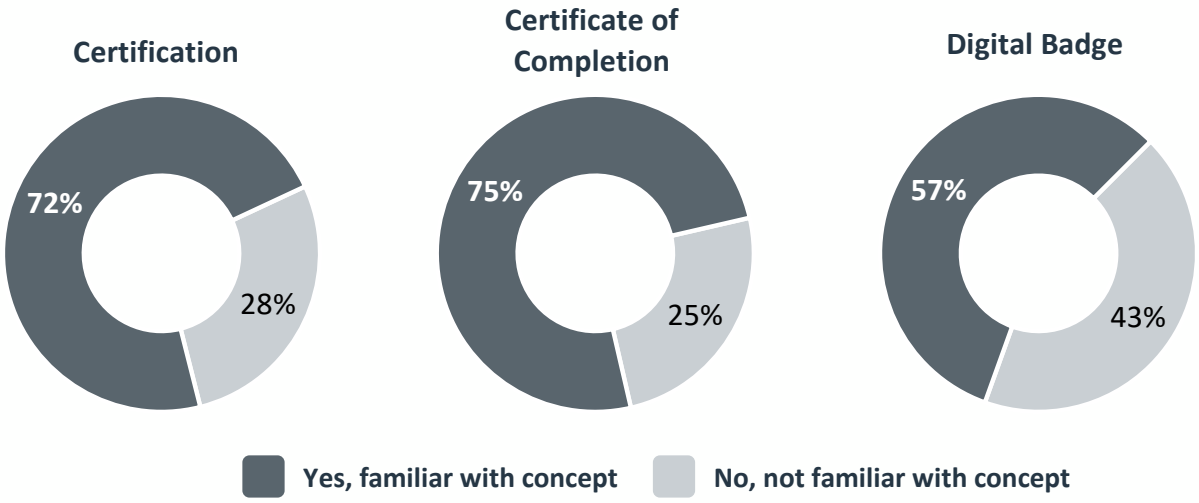
Interestingly, the domain priority ratings between high school respondents and middle school respondents are nearly identical. For the net results – the sum of core/high priority rating + secondary/lower priority rating, results are very similar across school size, school type and respondent job role. Differences, however, do emerge in the intensity of the rating. For examples, larger schools are more likely to rate domains as core/high priority. A similar pattern exists with school administrators.

Teacher support needs assessments: core/high priority ratings



Certifications and Curriculum

Reported familiarity with credentialing concepts in the technology field and professions



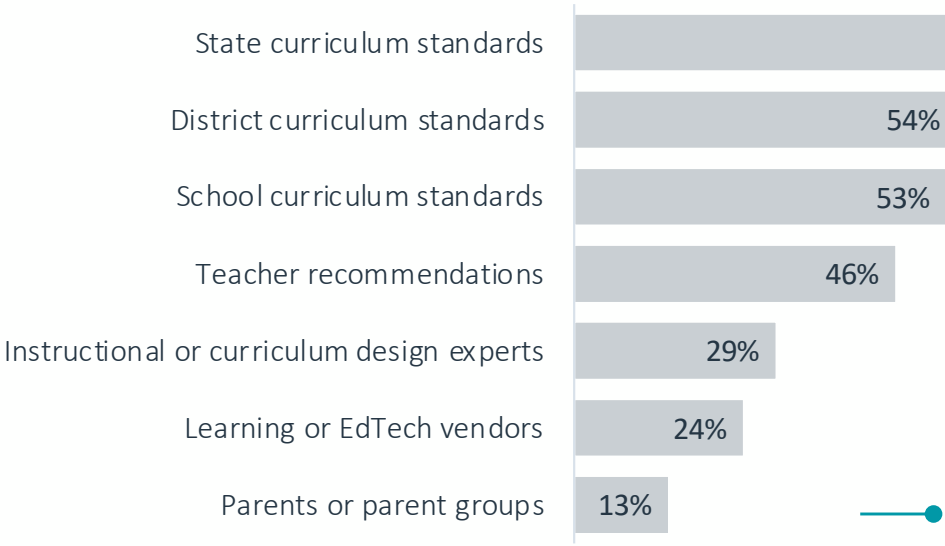
As expected, familiarity rates are highest among the teachers closest to technology education

Dedicated technology or digital literacy teachers report the highest rates of familiarity with technology certifications (89% vs. 71% for teachers indirectly involved). School administrators self-report a higher rate of familiarity than teachers (85% vs. 72%).

Perceived ease or difficulty in changing tech ed and digital literacy curriculum

Perception rating	Overall	High School	Middle School	Full-Time Teacher	Admin-istrator	Other Ed Prof.
Generally straight-forward and doable	50%	47%	55%	47%	59%	63%
Generally time-consuming and difficult	40%	42%	37%	43%	33%	26%
Unsure	10%	12%	8%	10%	8%	11%

Stakeholders and influences that affect technology education curriculum decision-making



The data confirms public schools are more likely to cite state or district standards as a factor vs. private schools.

Certification requirement for technology or digital literacy classes

38% Typically required for students
33% Typically optional for students
17% Typically not used
11% Unsure

Note: while definitions were included in the survey, there is the possibility of confusion between high-stakes industry-recognized certifications and other forms of certificates of completion or credentials.

Profiling and Methodology

Respondent job role

69%	Regular full-time teacher
7%	Principal / Vice / Superintendent / Administrator
6%	Substitute teacher
5%	Teacher aide
4%	Regular part-time teacher
3%	Academic or career advisor / Guidance counselor
2%	Student teacher
1%	CTE director / coordinator
1%	Curriculum dev. / Learning content procurement

School characteristics (could have more than one)

75%	Public school
9%	Charter school
5%	Vocational school
3%	Magnet school
5%	Alternative school
15%	Private independent school
5%	Private religiously affiliated school
3%	Online only school

School offerings of support services

66%	Title I services
65%	National School Lunch Program
60%	English Language Learners (ELL) or Limited-English Proficient (LEP)

High school size based on enrollment

22%	Less than 500 students
25%	500 to 999 students
30%	1,000 to 1,499 students
22%	1,500 or more students

Size of city where school located

21%	Very large city / metro area (1 million residents or more)
25%	Large city / metro area (250,000 to < 1 million residents)
27%	Medium-size city / metro area (50,000 to < 250,000 residents)
16%	Small city / metro area (10,000 to < 50,000 residents)
10%	Town / village / rural (less than 10,000 residents)

Teaching, curriculum, etc. involvement

23%	Teach dedicated technology/digital literacy classes
28%	Teach classes in other subjects with a tech/digital literacy component
29%	Don't teach, but familiar with technology/digital literacy classes
39%	Involved in setting curriculum
55%	Involved in educational content / material purchase decisions
36%	Involved in academic or career advising / counseling

Methodology

This market evaluation was conducted via a quantitative survey fielded online during September 2021. The target sample consisted of U.S. teachers, administrators and other education professionals. Sample quotas approximate national characteristics for middle schools and high schools.

Results from the full survey with n=1,511 have an approximate margin of error of +/- 2.6 percentage points. Sampling error is only one source of error and other factors may skew the results. Niche audiences such as teachers and administrators are an especially difficulty audience to reach.

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