EXECUTIVE SUMMARY

Schools across America are at a crossroads as personal devices and technological advancements have proliferated classrooms. Technology is increasingly a significant part of everyday learning, and connectivity has transformed the way students interact with teachers, peers, and curriculum. Education Dive surveyed 173 district officials, principals, and teachers to examine the current state of K-12 education technology, as well as its trajectory as a mainstay in classrooms.

KEY FINDINGS

- Of those surveyed, **75%** listed budget limits chief among the three greatest challenges their districts face in providing access to education technology. The second biggest hurdle, for **54%** of respondents: inadequate training available for teachers and staff.

- Nearly **59%** said their districts use education technology — that isn’t laptops or desktops — daily.

- While adjusting to technology in the classroom might be an obvious issue, **three-quarters of those surveyed** said professional development in education technology is a top priority this year. Nearly half said overcoming teacher resistance will be key, as well.

- Name, age, and gender are the most common pieces of student information provided to ed tech vendors, but **2.3%** of respondents also said student social security numbers are supplied.

- When asked for the top three ed tech tools they found most beneficial to teaching and student learning outcomes, **62%** of respondents unsurprisingly listed laptops. The second-most successful, however, wasn’t the tablets or personal devices that blended learning advocates have touted, but the interactive/smart white board at **55%**.

- Slightly over **86%** of respondents said they agreed that teachers in their district need more training in education technology. About **41%** said they don’t believe their districts have an explicit plan that lays out for teachers how education technology is most effectively used in lessons and curriculum.

- Nearly three quarters (**71%**) said their districts need an office or department dedicated solely to technology in classrooms. Just **18%** disagreed that technology has enabled their district to better assess student learning outcomes.
Laptops, tablets, smartboards, and other tech tools are becoming increasingly commonplace across America’s K-12 schools. As classrooms shift from models with remote computer labs to fluid and innovative applications of technology, how are the devices being utilized — and are they effective?

This summer, Education Dive sought to answer those questions with a survey sponsored by Sprint. And while some findings highlight and support existing notions about education technology, others are sure to raise eyebrows. The survey questioned 173 district officials, school principals, and teachers, among others, across the nation’s traditional public and charter schools.

Some results of the survey reiterate clear, growing trends in the use of technology for education. But others — particularly those pointing to student data privacy, teacher training, and teacher attitudes toward implementing technology in the classroom — are illuminating.

Education technology appears to be permeating classrooms even more rapidly than perceived. Nearly 60% of respondents said schools are using devices other than laptops and desktops in classrooms every single day. That’s compounded with the same proportion of respondents who said their classrooms use computers every day, as well.

On average, how often does your district use education technology in the classroom (not including laptops/desktops)?

- Every day 58.7%
- Twice a week 13.3%
- Once a week 11.2%
- Rarely or never 10.5%
- 1-3 times a month 6.3%

On average, how often does your district use laptops/desktops in the classroom?

- Every day 60.0%
- Twice a week 13.8%
- 1-3 times a month 9.7%
- Once a week 9.0%
- Rarely or never 7.6%
With the majority of states still funding public schools at levels lower than before the recession,\textsuperscript{1} it’s not surprising that budget constraints rank as the top limiting factor to ed tech access. More notable, however, are the second and third most common reasons: lack of training for teachers and staff, and teachers who are resistant to change. Adapting to entirely new devices and methods of teaching isn’t easy for a generation of teachers who aren’t digital natives, especially when structures are lacking to ease that transition. (But here’s one 71-year-old teacher in Los Angeles who’s succeeded.)\textsuperscript{2}

Some write-in responses also noted parent resistance to ed tech programming, as well as lack of information technology staffing support.

A close, and notable, fourth reason here is inadequate network infrastructure. Even if budgets allowed, or teachers were comfortable and capable, more than a third of those surveyed cited lack of network access as a reason for limited use of ed tech in the classroom. Nearly 7\% of those surveyed said their district doesn’t have regular access to wireless or broadband Internet for students. That parallels with a nationwide campaign to close a “connectivity gap,”\textsuperscript{3} and the Federal Communications Commission has launched a huge initiative\textsuperscript{4} to get more rural and small districts online.

### What are the three greatest challenges to providing access to education technology for students in your district?

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Budget Limits</td>
<td>75.9%</td>
</tr>
<tr>
<td>Inadequate training available for teachers and staff</td>
<td>53.9%</td>
</tr>
<tr>
<td>Teachers resistant to change</td>
<td>41.4%</td>
</tr>
<tr>
<td>Inadequate network infrastructure</td>
<td>38.2%</td>
</tr>
<tr>
<td>Unreliable device/software options</td>
<td>30.9%</td>
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<tr>
<td>No systems in place for utilizing technology as part of the curriculum</td>
<td>29.6%</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>17.8%</td>
</tr>
<tr>
<td>District doesn’t see an immediate need for more technology</td>
<td>13.2%</td>
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Between improving infrastructure and creating training and support systems for educators, it’s clear there’s work to be done among the nation’s school districts and governing bodies. But between the FCC’s eRate program adding an additional $1.5 billion in funding for schools and President Barack Obama’s ConnectED initiative aiming to get 99% of America’s schools connected to reliable broadband by 2018, there are plenty of opportunities available for schools looking to improve their infrastructure. If you’re lagging, there’s no better time than now to get connected — especially with further digital issues, like what FCC Commissioner Jessica Rosenworcel describes as the “homework gap,” gaining prominence.

Dovetailing with educators’ answers that their schools and districts lack adequate training for education technology, respondents noted that, by far, their greatest ed tech priority this year is seeking professional development. It’s easier said than done: Even teacher colleges, which are educating a generation of digitally fluent future teachers, are struggling to meld technology with teacher-training lesson plans.

With proliferating classroom technology comes growing concern over student data privacy. While some software and service providers assure student anonymity, respondents said vendors are still provided with information like student names, gender, and age. Perhaps most alarming among the responses: 2.3% of those surveyed said students’ social security numbers are disclosed as well. Some educators also noted disclosure of student ID numbers and email addresses, though most schools no longer use SSN for student IDs and its unclear whether those email addresses were district-based or private.

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**Does your district have regular access to wireless/broadband Internet for students?**

- **83.6%**
  - Yes, for the majority of my district

- **9.6%**
  - Yes, for the minority of my district

- **6.8%**
  - No

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**What are your three greatest education technology priorities next year?**

1. **74.3%**
   - Professional Development

2. **43.4%**
   - Overcoming teacher resistance

3. **38.8%**
   - Online assessments
Further, 14% said parents aren’t informed at all of student information being provided to vendors. And more than 4% of those surveyed said they don’t know or weren’t sure what student data is shared.

This is all at a time when lawmakers are working to create federal policies that protect students by requiring companies to meet security standards regarding the handling of student information.

The data highlights a clear need for schools and districts to proactively seek clarity on what information is supplied to third parties via the use of education technology. It isn’t enough to wait for lawmakers to craft updated privacy laws for student data use — schools and districts must be able to ensure compliance both with existing laws and the wishes of parents. The existing Federal Education Records and Privacy Act (FERPA), for example, has very specific instances in which sharing a student’s social security number with a third party is permitted. And even if doing so may be permitted in some instances, it’s still likely to make many parents uncomfortable.
News of major disruptions to inaugural tests aligned to the Common Core “stormed out of states” like California, Colorado, Montana, and Rhode Island this spring. Technical glitches prevented many students from completing the first year of testing altogether, to the point that Montana made the mandatory tests optional. Nevada recently settled with testmaker Measured Progress for $1.3 million and has moved on to a new deal with CTB/McGraw-Hill instead.

Still, with the national news frenzy and subsequent outcry from anti-Common-Core activists, the technical issues on computerized tests seemed to be limited to pockets — at least based on those surveyed. Of the 13% who said the technology didn’t perform properly, respondents pointed to interrupted connections, students being logged out repeatedly, trouble accessing tests, school bandwidth that couldn’t meet demand, and low teacher comfort level administering online exams.

For states like Indiana, where connectivity issues were to blame, the problems further underscore the need for schools in underserved rural and urban communities to take advantage of program’s like the FCC’s eRate. Equally important, companies winning testing contracts should be able to demonstrate that they can handle the demands of hundreds of students accessing exams simultaneously.

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During computerized state tests this year the technology performed its function adequately.

<table>
<thead>
<tr>
<th>Agree</th>
<th>41.6%</th>
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<tr>
<td>N/A</td>
<td>19.7%</td>
</tr>
<tr>
<td>Neutral</td>
<td>16.1%</td>
</tr>
<tr>
<td>Disagree</td>
<td>10.9%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>9.5%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>2.2%</td>
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While some reports note that technology isn’t changing the way that teachers teach, the piece of technology that most respondents selected as among their top three beneficial gadgets is one used directly by educators: interactive/smart white boards. Laptops and tablets closed out the top three most useful to teaching and student learning outcomes.

Consistent with growing pains associated with a new era of blended learning, slightly over 86% of respondents said they either agree or strongly agree that teachers in their district need more training in education technology — showing that while devices are quick to arrive in the classroom, the curricular support systems and technical infrastructure have yet to catch up. About 41% said they either disagree or strongly disagree that their districts have an explicit plan that lays out for teachers how education technology is most effectively used in lessons and curriculum.

Nearly three quarters (71%) said their districts need an office or department that is dedicated only to technology in classrooms. Further, the majority of respondents reveal they think that technology has either seen no change or seen improved assessment ability: Just 18% disagreed that technology has enabled their district to better assess student learning outcomes.

This is a lesson in budgeting priorities for districts grappling with how to best allocate resources in technology for the coming year.

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**CONCLUSION**

While the digital future for schools is bright, educators still face a number of challenges when it comes to effectively implementing innovative solutions. While legislative processes needed to mitigate issues surrounding the use of student data are a critical component in this process, they take time. It's imperative that schools and districts verify their compliance with existing laws on third-party access in the meantime.

As the results show, it's also not enough to place tech in the classroom and expect transformational change without first training teachers on best practices. School districts and education boards must provide resources for IT specialists and collaborate with educators to design systems that offer training and support to peers who are still adapting to increasingly digital classrooms. Those same governing bodies must also design methods of assessment to definitively measure how student outcomes are affected by the use of technology in the classroom.

There's no doubt that schools will strive to stay in-step with technological innovation and changes in use. Now the challenge is upon educators, parents, and governing bodies to come to terms with budgets and regulations, ensuring that inviting new techniques into schools furthers the ultimate mission of better educating America's children.
NOTES


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