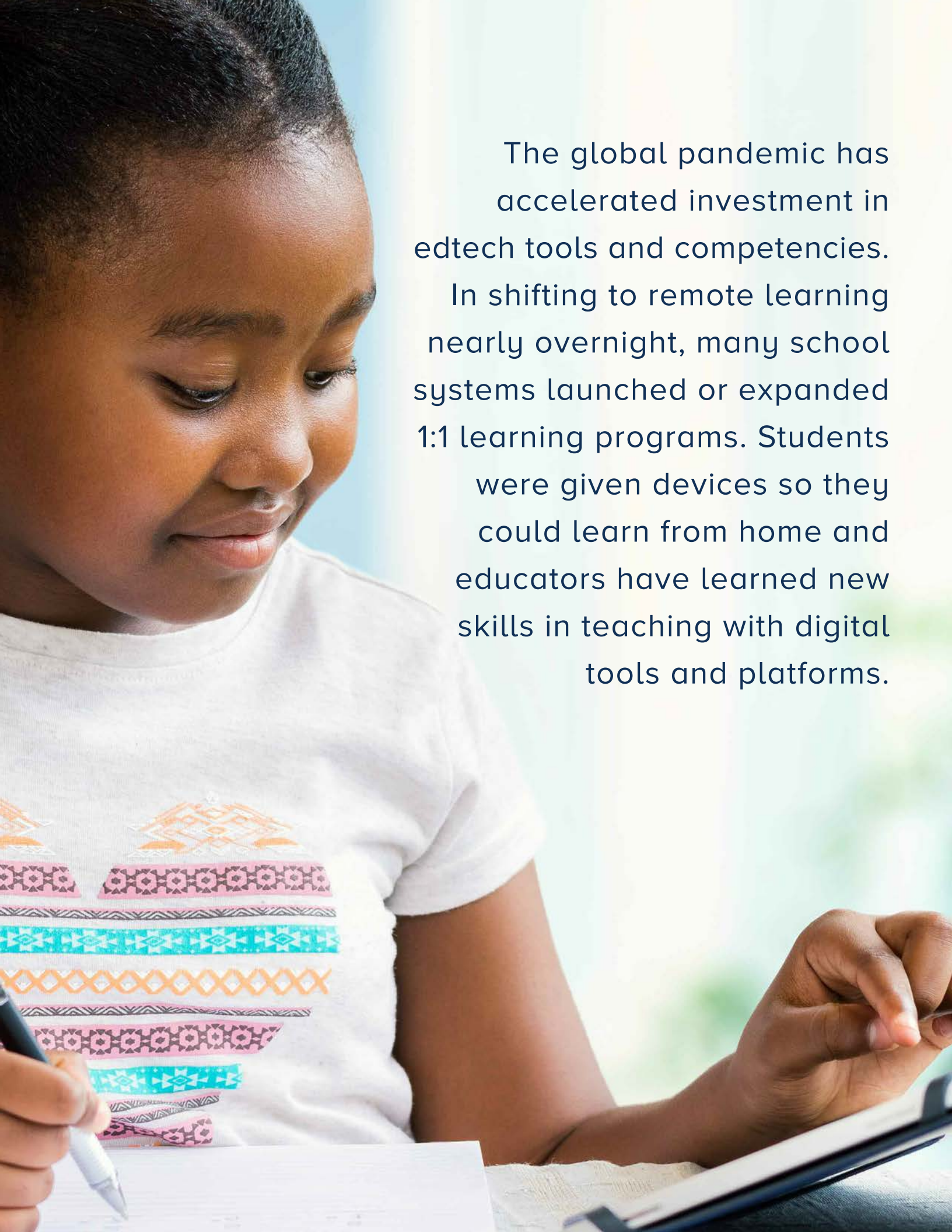


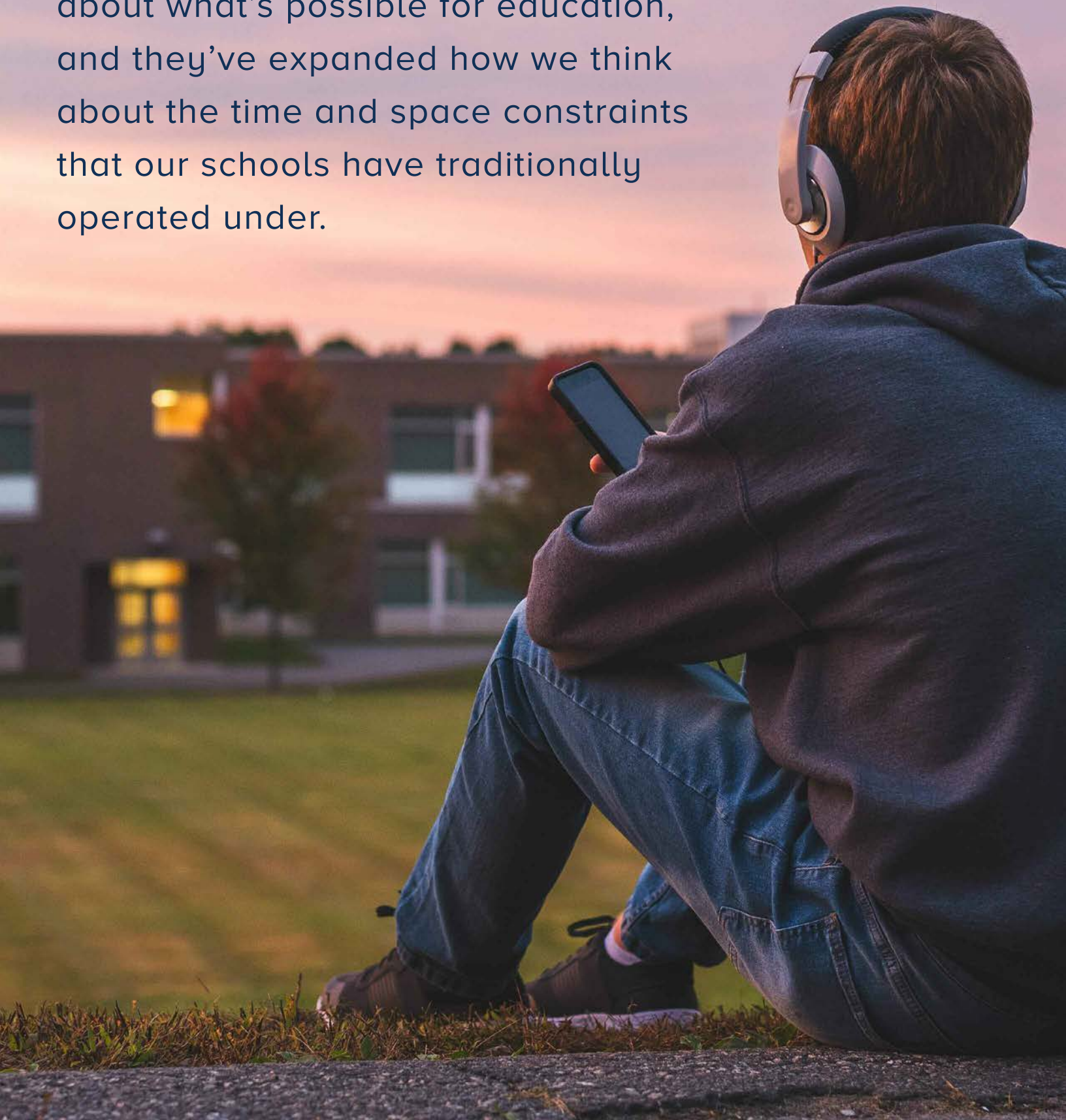
Reinventing K-12 education for the post-pandemic era





The global pandemic has accelerated investment in edtech tools and competencies. In shifting to remote learning nearly overnight, many school systems launched or expanded 1:1 learning programs. Students were given devices so they could learn from home and educators have learned new skills in teaching with digital tools and platforms.

Never before have educational structures experienced so much change, so quickly. These rapid adjustments have altered perceptions about what's possible for education, and they've expanded how we think about the time and space constraints that our schools have traditionally operated under.



Now, as K-12 leaders plan for the future, they have a key opportunity to leverage their investment in technology and build on these new skills to transform teaching and learning for a new era. This will require IT and instructional leaders to work together in assessing the shift to remote learning, considering what worked well and what didn't and creating a vision for moving digital learning forward.



For this special report, we assembled a panel of stakeholders to reflect on their experiences over the last year and a half and share their thoughts about what the future holds for schools. Participants in the conversation included:

Keith Krueger, CEO of the Consortium for School Networking (CoSN), a nonprofit organization that serves as the voice of K-12 technology leaders nationwide.

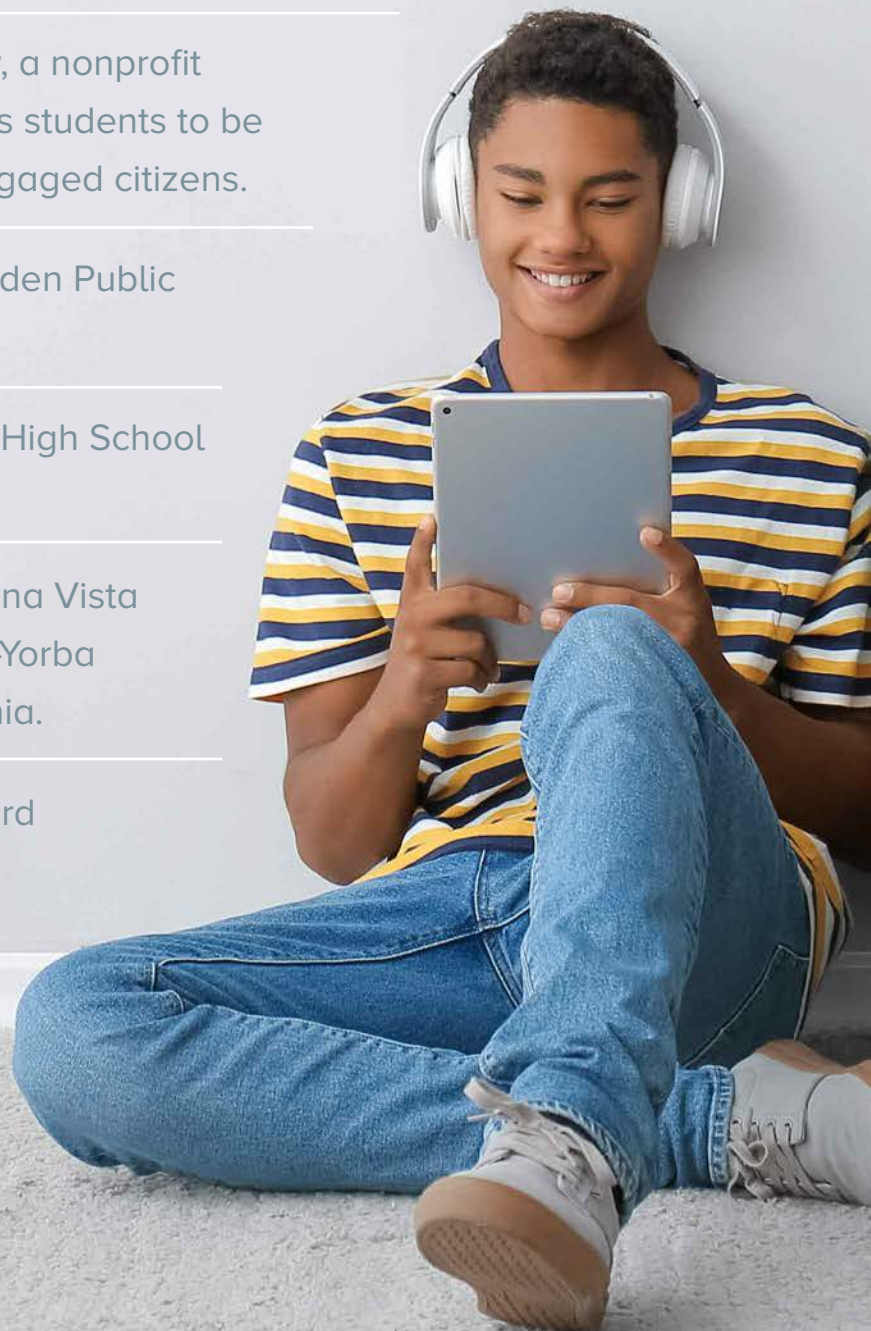
Julie Evans, CEO of Project Tomorrow, a nonprofit organization that helps prepare today's students to be tomorrow's innovators, leaders and engaged citizens.

Mark Begnini, Superintendent of Meriden Public Schools in Connecticut.

Jeremy Roach, Principal of Fitchburg High School in Massachusetts.

Kimberly Voge, Lead Teacher for Buena Vista Virtual Academy, part of the Placentia-Yorba Linda Unified School District in California.

Grace Wilde, a rising senior at Maynard High School in Massachusetts.



Beyond the obvious shift to remote instruction, how did education change during the pandemic? How did technology play a key role in driving these changes?

Krueger: Teachers' self-assessment of their skill level in using technology dramatically changed. According to an Education Week survey of teachers, 46 percent said their skill set had significantly increased even just three months into the pandemic.¹

Evans: Most adults think about technology in terms of student engagement. In what was a fundamental shift, teachers came to understand that technology can be used for more than just engagement. It can be a vehicle for many things, such as personalized learning and preparing students for the future.

Students don't think of these devices as engagement tools, they think of them as productivity tools. We've always had this mismatch between how adults and kids perceive technology's value. The fact that teachers' eyes have been opened to technology's full potential has led them to think differently about how they're using these tools in their instruction.

Another thing we've seen is much more two-way communication happening between students and teachers. Before, teachers were mostly communicating on a one-way basis with their students: "Don't forget the test is on Tuesday. You've got a project due next week. Here are your grades..." The use of text messaging and email for communication has facilitated more personalized, two-way communications. I think that's a big takeaway from the pandemic.

Parents have also had more transparency and visibility into their child's learning than they've ever had before. Most parents didn't understand

how technology was being used in the learning process before. They thought of their child sitting in front of a computer and learning from a software program. They didn't know about any of the interactive components, the student collaboration and content creation.

Begnini: The pandemic showed us how educational technology can support the core curriculum. Also, it magnified the importance of high-quality digital content and how it can personalize learning, while freeing teachers to work with small groups of students.

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Digital content was no longer a supplemental resource, it was instrumental in student skill development. It was the "extra teacher in the room" so the classroom teacher could meet the needs of individual kids and small groups of students. Connectivity and a device in the hand of every student is no longer a luxury, it's a learning necessity — the new norm.

Roach: The most obvious shifts related to the manner in which students and teachers used multiple platforms at the same time during the instructional period. For example, a math class might open with a Google Classroom link that



engaged students in an activating exercise and review of the daily lesson. The teacher then might use multiple tools to stream live instruction while simultaneously checking for understanding with a Google Form or some other embedded tool that gauged student comprehension of the concept. Next, the teacher would often have students log into a learning platform to have students practice the skills they just learned.

The use of multiple platforms and live streaming opened our eyes to other methods of instruction that could provide a blueprint for how we maximize classroom instructional time.

Voge: Developing relationships with and among students is always a best practice in the classroom, but we had to create new or more effective ways to do this from a distance. Conversations had to be scaffolded as we all learned how to interact from behind a camera.

Multiple opportunities were provided for interaction, using multiple platforms, and some allowed students to share with or without a camera on. This was key in allowing students to build a level of comfort in an awkward year.

This year became a time of great experimenting with what apps and lessons worked. We had an opportunity to try different ways to meet the needs of students and hone our skills in the art and craft of teaching. I think it's an asset for students to see teachers learn, struggle and adapt — truly modeling a growth mindset.

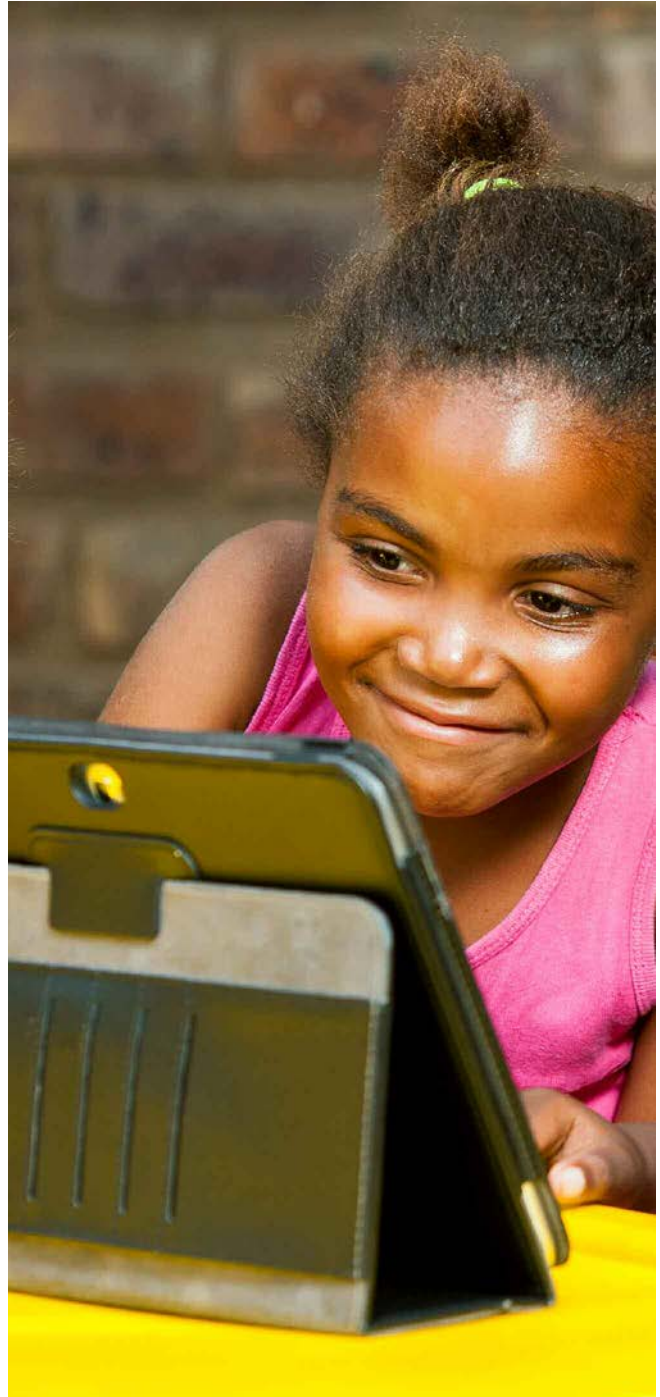
Wilde: Learning changed dramatically for many students during the pandemic. Because it was not as easy to ask questions in class, many students found themselves figuring things out on their own, or partially teaching themselves. This was helpful for some students and really challenging for other students, based on the student's learning style.

What worked well in shifting to remote and hybrid learning? What didn't work well? What can K-12 leaders learn from this experience?

Wilde: Something that worked well in the shift to remote learning was that everyone — students and teachers alike — had to expand their knowledge of technology. Whether it was something simple like writing essays in Google Docs or submitting homework in Google Classroom, or something more advanced like recording entire chorus concerts or designing a website to hold an activity fair on, everyone was challenged to adapt and learn skills that will likely be useful in the future as more and more things become virtual.

Roach: For us, the teachers meaningfully collaborated more this year than in the previous 10 years combined. The schedule that we developed provided daily planning time, and the teachers used it out of necessity at first because they needed to align strategies where there were no strategies that had always worked in years past. This professional collaboration is something we are working to maintain in the next collective bargaining agreement, as it has the power to make more transformative and lasting changes to instruction and ultimately to learning.

What didn't work well for many students was the general remote dynamic because of two key missing ingredients — structures and relationships. For many students, the positive and specific structures of the school day are important in their development and help to minimize distractions. Similarly, learning is a social dynamic and the student-student and student-faculty relationships just were not happening online. This was devastating for many, to the point where we saw students who were



failing in the remote environment jump to honor roll in a matter of weeks once the hybrid schedule began.

Begnini: What worked well in our district was students connecting and virtually participating in class, completing assignments collaboratively, and group discussions. Digital content assignments were well-paced and engaging, and teachers were consistently posting assignments and keeping parents better informed.

Engaging some of the most disengaged students was challenging. We were reminded that for many students, school and their teachers are their major source of comfort and a place to feel safe. As we return to full in-person instruction next year, there will be a greater emphasis on social-emotional learning and the need for more psychologists, counselors and social workers to help students cope with the stresses they have experienced.

Evans: Initially, school districts thought they could replicate the traditional school experience online. Over and over again, you'd see teachers standing in their kitchen in front of a flip chart of paper. They were pretending to be in front of the chalkboard in their classroom, but they were doing that over Zoom.

I think we've learned that we can't replicate that experience in an online environment. Wanting

remote learning to look and feel like school was the wrong approach. The most effective teachers put aside what they were doing previously and reimagined their instruction.

That worked better for some than others. Those who struggled typically were trying to hold on to what worked for them previously when they were in a face-to-face classroom. Teachers who were able to get beyond that more quickly were able to learn new skills, techniques and strategies that in many ways were actually more effective than before.

Krueger: Using video conferencing for parent-teacher meetings and communications has shifted parent engagement. Particularly by middle and high school, very few parents show up to in-person meetings. Doing them virtually is a better way to engage with more parents.

Districts have also realized that they don't need to bring all teachers together at the same time for professional development. It can be done asynchronously, in a more personalized way. Teachers want professional development, they just don't want it done in a top-down way, where they learn how to use a tool in abstract. They want to connect with other peers when they're facing real-time needs and plan lessons they can implement in their classrooms.

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What changes do you think will continue when the pandemic is over? What changes would you *like* to see continue and why?

Krueger: A *New York Times* op-ed writer noted her child was up at 6:30 or 7:00 a.m. and was done with all his work by 9:30 a.m. It got her thinking, if we go back to the old system from 8 a.m. to 3 p.m., how are we actually using that time — and are there better ways to let kids self-pace and go deeper in their learning?

I think those are big, big questions that we need to address. Yes, there are socialization benefits when students come to school, but how can we better use that time, and can we use some of it to allow students to do self-paced work, where they have some autonomy and can go deeper? Or, does the elastic band of learning just snap back to what we've always done before?

There is a desire to return to the comforts of the past, but I'm not sure it was working for many students. So, how do we use the experience we've had for the last 15 months to come up with something better? That should be the focus of every superintendent, chief technology officer, principal and teacher.

Evans: I think we'll continue to see two-way, personalized communication between students and teachers, and also more parent visibility into their child's education. I don't think we can put that genie back in the bottle.

This latter change will be harder to manage going forward. Teachers have told me they felt like every day was back-to-school night. They had parents asking, "Why are you doing this? Explain this to me." I could see teachers and administrators trying to retreat on this issue, but parents won't want that. They like having a high level of visibility and transparency.

I think there needs to be a mindset change. Research tells us that when parents are engaged in their children's education, students do better. But parental engagement has been kept at arm's length for a long time. For teachers to open up the learning process and have parents become full partners in that process, teachers must be taught how to effectively embrace this shift. Teachers don't want their methods to be questioned. They're worried they'll lose control over the management of their classroom. That's a higher hurdle for schools to clear.

Begnini: Changes that will stay include connecting with parents and staff virtually. Virtual parent-teacher conferences had the best attendance in district history. Board meetings streamed virtually attracted larger audiences as well, and virtual staff meetings are a more efficient and better use of staff time. Teachers had the option to participate in professional learning in the comfort of their own homes or attend in person, giving them greater flexibility.

Devices will continue to go home with all students, so they can readily access all assignments and tasks on their devices. Students keeping their devices over the summer will allow us to offer online courses for credit. Climate survey tools to ensure student wellness will certainly continue as well.

Teachers will be able to teach AP courses virtually across high schools if in-person attendance is too small at one high school to offer the course. The district is offering IT help to parents, and many have become more tech-savvy. We have also made extensive use of a two-way communication tool for parents during the pandemic, and this will



continue as well. Our connectivity rate is 99.4 percent. Parents can select from 27 languages to receive their messages, and this helps engage our English Learner families with direct messaging, texts and emails.

Some students were very successful with distance learning. The student who is quiet and gets marked down because of poor classroom participation, the student who is easily distracted and does better working at home, the student who prefers to work alone. We will continue to offer some remote learning options so that we can meet these students' needs.

Roach: I believe that our structured collaboration time will continue. Both faculty and administration have noted the power of this, and we also know there are certain practices that we do not need to return to as they never worked well.

In addition, we experimented with flexible schedules for upperclassmen, which allowed more ownership so they could work or pursue other activities. We had far more students applying to colleges and completing scholarship applications, because they had more time and weren't stuck in a classroom for 55 minutes, six periods each day. We are attempting to allow that flexibility as we move forward.

Voge: Providing access, engagement and a variety of ways to express learning is key to student success and growth. Removing barriers for learning and not having a "one size fits all" plan will build engaged learners.

Wilde: I hope that, going forward, some extracurriculars and meetings can be held virtually. It's a lot easier to join a quick meeting from my house (or wherever I am) than to drive somewhere, especially when I am very booked with activities.

What new skills and proficiencies did teachers acquire in the shift to remote teaching and learning? What skills might they still be lacking?

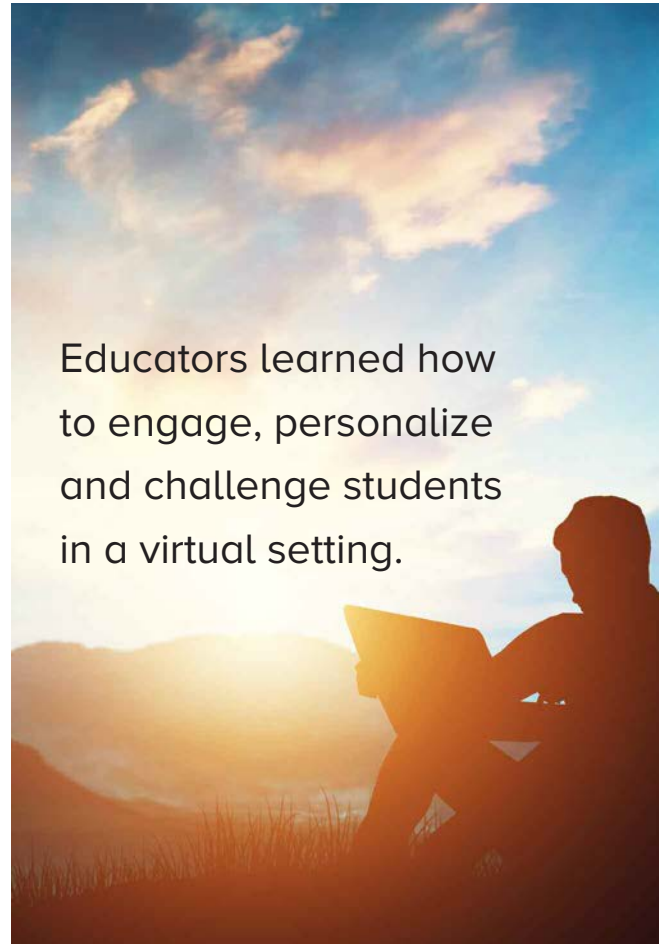
Evans: In our survey data from this year, teachers are saying they're much more proficient in the operation of different technologies. That's good, but it's not sufficient. We want teachers to have more than just the technical skills; we want them to be able to facilitate student creation and collaboration using technology. The professional development opportunities for the summer and next year should focus on this capacity building.

It's a process. These things don't happen overnight. There's an arc of adoption. We had to get to a point where teachers had some comfort with the technology, and now that we're there, we can build sustainable capacity so that teachers can innovate with these tools.

Because teachers had so much more access to digital tools and content than they ever did before, they have actually become savvier about understanding what works in their classroom and what their students need. As teachers have become more familiar with these different tools, they are becoming more discriminating users of technology. That's also something we can build on.

Begnini: Educators learned how to engage, personalize and challenge students in a virtual setting. They continued to learn different tools and shared updates and effective strategies with their colleagues. They also became very effective in leveraging technology and digital content to free them up to meet the individual needs of students.

One thing we still need to work on is the ability to engage a split class, when some students are in front of teachers and others are learning at home.



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Voge: I already had a strong skill set in using technology for learning, as I was a technology instructional coach for 8 years. But there is always room for improvement. I definitely have no fear of creating a screencast at this point! I have also gotten over not liking the sound of my voice.

I think this year has allowed me to focus on the instruction rather than the tool or app. Teachers must keep the learning goal at the center of instruction and apply the technology that will best enhance the learning.

How can school systems apply the lessons learned during the pandemic and leverage the new tools and competencies they've acquired to meet the needs of students more effectively going forward? What will this require?

Wilde: As things return more to normal, I hope that my school continues to keep prioritizing the mental health of the students and staff. Throughout the pandemic, I noticed a lot of campaigns and promotions for people to stay mentally healthy, and I felt like a lot of teachers and students reached out to check on each other. Sometimes assignments and classwork loads would be adjusted so as to not overwhelm the students. I think that mental health is important for schools to consider whether during a pandemic or not, so hopefully this will prevail after COVID-19 is over.

Voge: We need to move from the surface-level learning and use of applications to the transformational level. Students need to know that their work can go beyond the four walls of the classroom.

Roach: Managing and manipulating the master schedule so the rigidity of collective bargaining agreements does not make change impossible is critical. We are currently working with the teachers' union to develop a new contract that allows for greater flexibility and more structured collaboration built into the school day. This is easier said than done; however, the faculty have experienced a year unlike any other, and they know we have to balance the structure and relationships with flexible and adaptable approaches that digital platforms can accommodate.

Begnini: Districts must support universal 1:1 learning, connectivity for everyone, and a single sign-on solution. Digital content must be embedded in the core curriculum; it can't be

optional. The Board of Education must support the funding and use of technology. Educators need continued support and professional learning at their level of need and keyed to specific skills they can use immediately in their classrooms. Districts must recognize that our staff is like our students — all at different levels of ability. Budgeting for technology and innovation must be a district priority. Board goals and budgets must support the digital transformation that our students deserve.

Evans: We have to take all of this new stimulus money that's coming into schools and use it effectively, in a way that not only addresses current needs like learning recovery and social and emotional learning, but also builds capacity for the future.

In addition to teacher professional development, we need to invest in leadership development for our school site administrators. Our principals and other leaders did heroic work to address the sudden shift to remote learning, but it wasn't necessarily the straightest path forward. In Kentucky, for instance, leaders relied on the playbook they would use to maintain continuity of learning if there's a sudden flu outbreak or a bad snowstorm. That playbook is OK if the disruption is limited in scope, but it wasn't designed for a months-long emergency.

One of the biggest takeaways from the pandemic is that the world is not static. And yet, we still aren't preparing our administrators with the skills they need to be effective agents of change — or how to be more adaptive in the moment.

Krueger: We saw in our annual leadership survey that school district CTOs recognized the importance of breaking down silos in responding quickly and effectively during the pandemic. We always assumed it would take years to make change happen; the pandemic proved that with the right political will, schools were able to do more in a matter of days than they ever thought possible.

From CoSN's perspective, we've been saying for as long as we've existed that a CTO is needed at the cabinet level. I think many superintendents and school boards have realized the value in having that. Not a wires-and-boxes kind of

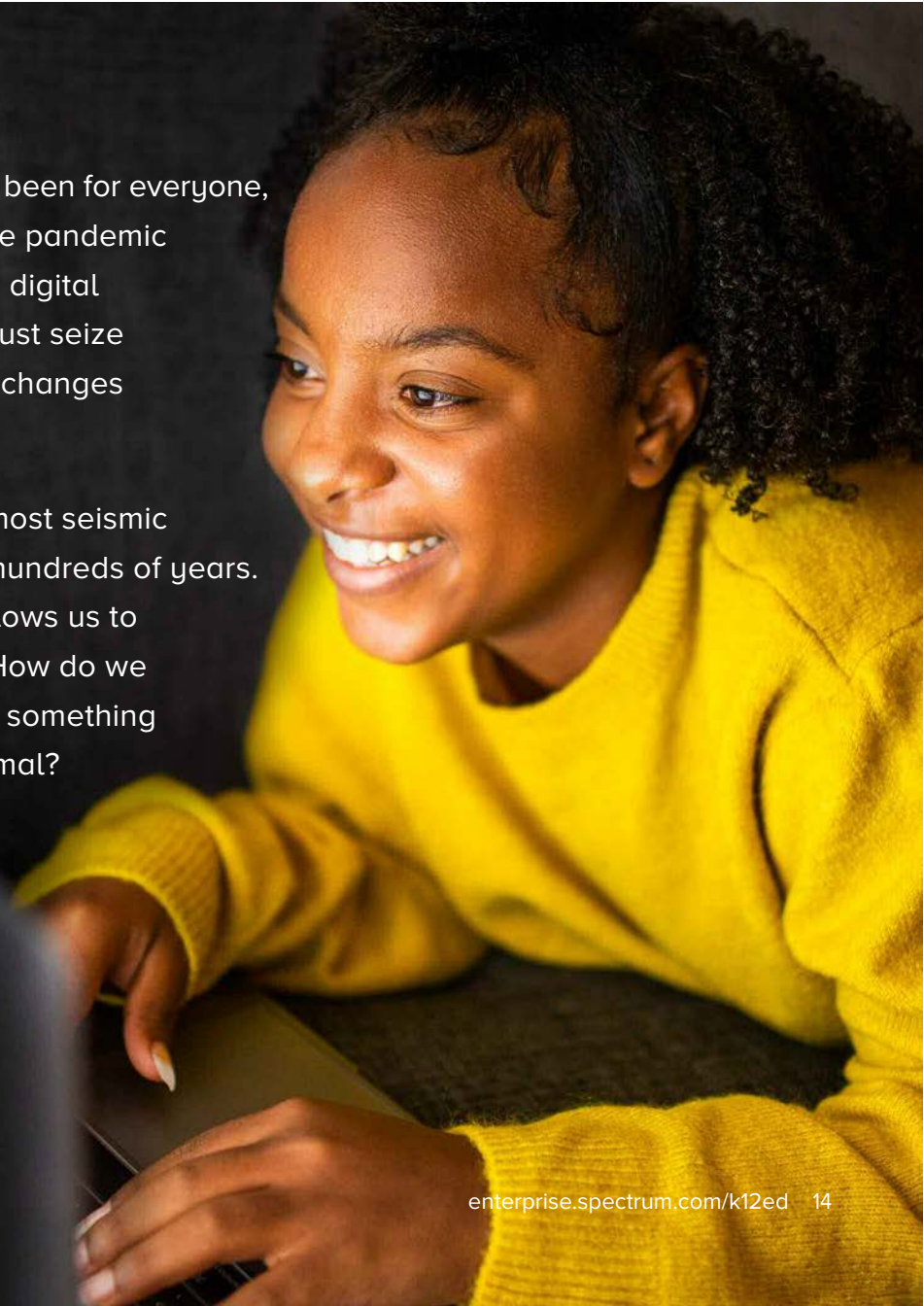
person, but someone with a strategic vision around what technology can do to support the future of learning.

It's time to step up and use what we've learned to make learning more personalized and student-driven. It can't just be one person leading the charge; this effort has to involve teachers, principals, school boards and others who don't have the word "technology" in their title. But fundamentally, the future of learning is going to be technology-enabled and we ought to talk about what this should look like and the tools that are needed to make it happen.

Seize the moment

As difficult as the last year-plus have been for everyone, the changes made in response to the pandemic have school systems poised for true digital transformation. Now, K-12 leaders must seize the moment by building upon these changes to reinvent education for a new era.

As Krueger concluded: "This is the most seismic change we've seen in education in hundreds of years. We're at a time when technology allows us to reimagine how learning can occur. How do we use this experience to come up with something better, to build back better than normal? Shame on us if we don't use this crisis to rethink what we're doing in our schools."



¹ Bushweller, Kevin. "How COVID-19 Is Shaping Tech Use. What That Means When Schools Reopen." Education Week, June 2, 2020. <https://www.edweek.org/technology/how-covid-19-is-shaping-tech-use-what-that-means-when-schools-reopen/2020/06>

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