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Anywhere, Anytime Learning

EDITOR'S NOTE

Learning should happen anywhere. This Spotlight will help you review key lessons from virtual learning; discover how to improve remote options your district offers; increase parent involvement; assess research on quality gaps; evaluate a West Point study on flipped classrooms; and learn about a high school model helping students earn credits anywhere.

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Kareem Neal leads a class at Maryvale High School in Phoenix, Ariz., earlier this week.

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Virtual Learning Was Better for Some Kids. Here's What Teachers Learned From Them

By Alyson Klein

Kareem Neal, a 24-year veteran educator, noticed something surprising when his school went all virtual: Not only did most of the students in his self-contained, special education class navigate the change better than he expected, three of them blossomed academically.

All three are on the autism spectrum and have a tough time navigating the social aspects of school. But during virtual instruction, “they were fine with just hours of academic instruction happening at home,” said Neal, who works at Maryvale High School in Phoenix and was an Arizona teacher of the year in 2019. “All of those other things were off their plates, and there was just their work, and they loved it.”

Most students didn’t make much progress—or flailed—in online learning during the pandemic. But a subset who may have struggled with in-person learning in the past—like Neal’s trio of kids—actually thrived. Now many of those students, some of whom have learning and thinking differences or mental health con-

ditions like social anxiety, must return to the traditional classroom, an environment that did not work for them before COVID.

So Neal and other educators around the country are thinking about how they can adjust their practice, or their approach with individual kids, to help these students retain the success they experienced online now that they are back in school.

As educators and parents think through how to best serve students who thrived in virtual learning, they should turn to the obvious experts: the kids themselves, said Claire Schu, the manager of implementation support at the Collaborative for Academic, Social, and Emotional Learning, a nonprofit that supports educators in social-and-emotional learning.

“That’s where a district or school should start this, by actually asking students what worked for them,” she said. Schools could either survey all students, or target kids who did demonstratively better during virtual learning, she added.

“You might find they really benefited from the freedom to use their time more flexibly or focus without interruption,” Schu said. “If

that’s what you’re hearing, you might consider changing up the way that the in-person class period is structured, [or] giving options for how and even where students can learn within the school.”

Teachers can keep up with what worked

Neal, for one, is giving the three students who seemed to relish the solitude of online instruction the option of spending lunch and other free time in the classroom doing some enrichment work, rather than having to face unstructured social time.

Neal also noticed that many of his students, who are typically on the autism spectrum, have Down syndrome, or have other significant cognitive differences, liked that he tended to structure his online lessons more or less the same way every day, kicking off with a video, moving onto some teaching, then a writing activity.

He’s hoping to find ways to offer “rich and varied lessons, but still give [students] the kind of consistency that they want in class,” said Neal, who is also a teaching fellow at Understood, an organization that works on behalf of students with learning and thinking differences.

And Neal is planning to offer his students more opportunities for one-on-one teaching, something that many of them seemed to embrace online.

Technology may have motivated students

Some students who thrived in a virtual setting appreciated the autonomy they had, said Amanda Morin, the director of thought leadership and expertise at Understood. They liked the ability to choose their own schedule, go back over lessons at their own pace, or take a break when they needed one.

They also liked being able to prioritize their list of tasks—perhaps getting difficult work out of the way early, or saving it for later in the day, Morin said.

What’s more, many kids had the opportunity to take in content in whatever way worked best for them. In a traditional setting, “it’s really easy [for teachers to forget to provide multiple means of access, to provide visuals, to provide, videos, to provide written instructions,” Morin said. “If you’re in a classroom, we often just default to talking.”

Online learning also allowed for more personalized interaction. Students, particularly

—Ash Ponders for Education Week

those with learning differences, appreciated the opportunity to get some individualized attention, either through breakout rooms or one-on-one Zoom meetings, said Julian Saavedra, who worked as an 11th grade history teacher and is an assistant principal at Roxborough High School in Philadelphia.

As an administrator, Saavedra is encouraging his teachers to reflect on what went right for their students during the pandemic. His school has gone 1-to-1 with tech devices—which was seen as a necessity, thanks to COVID—and he’s hoping teachers will embrace technology as a student engagement tool.

“You have your quizzes and your Kahoot ... everybody’s using these gamified ways of producing lessons,” said Saavedra, who is also an Understood teaching fellow. Those types of activities can be “more intuitive to a lot of our kids, especially our boys, because so many of them are gamers anyway. Traditionally a lesson that would be in a classroom setting might not speak to as many of them, but having this gamified format helped them a lot.”

Some kids also relished the fact that they were able to be around their family and that virtual learning was “just a slower pace of life,” said Ellen Braaten, the director of the



—Ash Ponders for Education Week

Arizona teacher Kareem Neal adjusted his teaching this year to help students who thrived in online learning achieve the same success when they’re return to in-person classes.

learning and assessment program at Boston’s Massachusetts General Hospital.

She suggested teachers try to replicate that environment as much as possible, by asking students to do a couple of minutes of meditative breathing, or just by taking a bit more time with each lesson. “I know that’s going to be hard for

many teachers,” she said, “Knowing there are lot of kids who need to catch up” academically.

‘Everybody’s coming back a little awkward’

Even the most extroverted kids may need help getting back into the swing of things socially after an extended period of relative isolation at home. Schools could help by reviewing some social skills with all students.

“Everybody’s coming back a little awkward,” Morin said. “It may level the playing field and give an opportunity to really reteach those skills to the entire group of students.”

School districts may also want to consider just how much social interaction kids need in order to learn. Do introverted students really need to face an awkward lunchroom or playground, or should they be given alternatives?

“Are we really putting kids in a situation where they are expected to socialize when some kids maybe just don’t feel comfortable doing it?” she said. “We need to ask kids those questions, about how social they want to be. I think that for some people, being alone is their comfort place. And acknowledging that is important, too.” ■

Published January 31, 2022

Is Remote Learning Here to Stay? Yes, But It Needs to Get Better

By Alyson Klein

Most educators and parents would agree that the sweeping virtual instruction thrown together overnight at the beginning of the pandemic wasn’t nearly as effective as in-person learning for most students.

So, does that mean K-12 educators and policymakers should write off remote learning as a failed experiment to avoid at all costs?

Or, on the other hand, would it be better to ask questions, such as: When should schools use virtual learning and for what types of students? What lessons can be learned during the pandemic about what does and does not work in remote learning environments? And what do those lessons tell us about what this approach should look like in the future?



Alix
Gallagher



Ben
Cottingham

Two researchers, the authors of a report about online instruction, collaborated together on joint answers to those questions from Assistant Editor Alyson Klein. Alix Gallagher and Ben Cottingham, the director and associate director, respectively, for strategic partnerships at Policy Analysis for California Education, responded via email. The nonprofit group

is led by faculty directors at Stanford University, the University of Southern California, the University of California Davis, the University of California Los Angeles, and the University of California Berkeley.

Many educators see virtual learning as inferior to in-person learning or totally ineffective. Others, though, see it as a great new path forward. What does the research say about the quality of virtual learning? Is the truth somewhere in between?

Looking Back: The field has developed wisdom over many years about how to provide effective in-person instruction. However, virtual learning had not been implemented on a broad scale prior to March of 2020. Initially, many students struggled to access a full instructional program and even as schools’ efforts to provide students technology access succeeded in many places, teachers were trying unfamiliar pedagogies and the results were generally inferior.

Humans are social creatures and schooling is a social enterprise and learning quality decreases when instruction occurs only through



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a screen. The quality of virtual learning improved with increased touch points between teacher and student and between peers (e.g. phone calls, small group instruction, and targeted feedback), but few teachers have learned how to facilitate vibrant interactions in their classes. That means, for many students, virtual learning remains a second-best option to in-person instruction.

Looking Forward: Because most teachers were novice virtual teachers and few had the support or time to learn how to teach effectively online, our experience in COVID tells us nothing about the potential of widely available virtual learning as part of our educational landscape. We know that effective instruction—virtual and in-person alike—engages students in interaction with the teacher and each other around content. It is certainly possible for teachers to become highly effective at supporting high-quality interactions in a virtual environment and some educators' success during COVID paved the way for a future expansion of virtual options.

You talk about teaching quality a lot in your report. Do we have enough evidence to determine if it's better to have an effective virtual teacher rather than a less effective in-person one?

Looking back: Effective teaching is better than ineffective teaching. COVID overturned our school systems almost literally overnight and because our understandings of how best to mitigate COVID risks continually shifted, it was difficult for districts to allocate resources such as money and time toward a long-term plan that sufficiently invested in building teachers' skills in teaching online. Almost every teacher was in their first year of online teaching, and the results were that many teachers worked harder than they ever had and yet most students had a less effective teacher than they would have had in-person.

Looking forward: Many teachers got better at taking advantage of technology for teaching during the pandemic. They learned to maximize student engagement and collaboration and to use a range of innovative technologies (e.g. Zoom polls to rapidly check student understanding, Desmos for mathematical simulations,) to create a good learning experience. Many will retain some of those approaches as part of their instruction, whether in-person, hybrid, or virtual.

“

The keys to providing equitable access to high-quality virtual instruction are to ensure that all students have the opportunity to have positive interactions with teachers and other students around rigorous content.”

Who are the kids who benefit most from virtual instruction? And the ones who lose out most? How can schools remake virtual learning to help the students who struggle with it?

Looking back: One critical societal benefit of in-person schooling is that students are supervised by trained adults who are charged with their care during the school day. When that care vanished, it left many families scrambling to figure out how their student would be cared for while adults worked and many did not have adequate supervision and support with schoolwork. Students who did not have access to an academically supportive environment were most likely to struggle in distance learning, as were younger students who need more frequent support to stay focused, and low-income communities were disproportionately impacted by virtual learning.

The kids who benefited most were students who had the support and skills to fully engage in the instruction teachers were providing—generally older students, those who were already overperforming prior to the pandemic, and students with in-person support at home. Also, some students who struggled socially or were bullied in in-person school preferred and thrived in virtual schooling.

Looking forward: The keys to providing equitable access to high-quality virtual instruction are to ensure that all students have the opportunity to have positive interactions with teachers and other students around rigorous content.

That means training teachers in pedagogies that support engaging virtual instruction, making technology widely available, and ensuring students who need it have supplemental supports to productively engage in virtual learning.

You say in your report that one of the biggest problems with remote instruction is that students miss important, face-to-face “social learning.” How can teachers help address this challenge?

Looking back: Unfortunately, in the rush to implement distance learning, districts gave teachers broad guidance about how to engage students virtually—for example, suggesting that Breakout Rooms “worked,” when in fact, if implemented poorly, they can be a disaster. Because teachers received little support for understanding how to best support interaction as part of learning, virtual school rarely met students' basic social needs.

Looking forward: Educators need to consider how to create spaces that facilitate more interactions with students and between students online. Virtual learning environments should not be structured in the same way as in-person learning; students shouldn't watch a teacher on video all day. Schooling models such as “personalized learning” or the “flipped classroom” both have features that could effectively be applied to an online environment. They are among the approaches that create opportunities for individualized instruction or small-group interaction, as well as targeted feedback and support from the teacher. Substantial support for teachers' professional learning would be critical to achieve the potential benefits.

Due to the pandemic, some districts are offering remote instruction as a full-time option for students who prefer to learn this way. In your opinion, is virtual learning here to stay? If so, what's your best guess as to what it will look like a decade from now?

Looking back: The type of remote instruction we saw in the wake of the pandemic is one that was rapidly implemented when our entire society was experiencing a massive crisis. Many educators are feeling burnout associated with rapid adaptations and high stress created by COVID and COVID schooling. No one wants to repeat the schooling experiences of the pandemic and luckily we do not expect to.

Looking forward: Virtual instruction is here to stay, but generally as a supplement to in-person schooling. The strain remote learning has put on younger students and parents to facilitate learning combined with the centrality of social development in education of young learners makes it untenable as the main elementary school option under most circumstances. However, added flexibility makes virtual school an appealing option for high school students in smaller communities to expand access to a wide range of courses, accelerate learning for students that can manage their own learning experience, or create more options for credit recovery for students who have fallen behind. In fact, the American School District Panel found that nearly 20 percent of districts were considering offering a virtual

school option after the pandemic has passed. Additionally, the pandemic forced all teachers to use technology as part of their teaching, and many teachers are retaining some of the digital tools they were forced to use during the pandemic because they provide diverse ways for students to engage in content and offer easy access to remediation. Finally, virtual learning environments provide a means to mitigate school interruptions due to weather or other factors that prevent students from being physically in school.

There is a potential for virtual learning technologies to create more pathways for students to interact and learn material in diverse ways. However, providing high-quality virtual education at scale would necessitate transforming educational systems on multiple di-

mensions, from rethinking teachers' roles as the main source of content knowledge to one as facilitator of students' learning and revising traditional school policies and structures.

Given how extensive these shifts would be, it is unlikely that many school systems will undertake the necessary changes in the near future. We can, however, imagine a scenario where some communities (e.g. low-density rural communities with WiFi access) might find it beneficial to create a stable remote schooling option for a large portion of the population they serve or where many of the students whose needs are best-served by remote learning options—such as high school students who need to enter the workforce for financial reasons—have access to remote learning. ■

Published July 27, 2021

Want to Make Virtual Learning Work? Get Parents Involved in Meaningful Ways

By Alyson Klein

For years, the biggest players in teaching and learning were students, teachers, and instructional materials. But with the pandemic and the resulting explosion in online learning, another key group has emerged: Parents.

In fact, students can learn just as much virtually—if not more—than they would have in a typical, in-person school year, if they are given access to high-quality content and have support from a parent or caregiver, according to a report released July 27, 2021 by the Center for Public Research and Leadership at Columbia University.

Those conclusions were based on nearly 300 interviews with students, families, and educators from nine school districts and charter school organizations across seven states during the 2020-21 school year.

“We heard teachers speak at length about how having curriculum that helps coordinate the collaboration between teachers and families actually helps teachers do their jobs better and connect better with kids,” said Elizabeth Chu, the executive director of the Center for Public Research and Leadership, and an author of the report, in an interview.

Districts should make it a priority to find



—Sara Cline/AP

instructional materials that are driven by technology, responsive to students' cultural contexts, and designed to help families support curriculum and instruction, the researchers suggest.

For instance, at least one site included in the study provided families with “Homework Helpers,” short informational summaries that helped families assist their children with

Student Maddi Dale focuses on her remote French class in her bedroom in Lake Oswego, Ore., Oct. 30, 2020.

schoolwork. Video-recorded lessons were another useful feature.

Other good tools and approaches, the report noted, included programs that allowed

educators and students to set weekly goals and provided regular reports, so that families and teachers could monitor students' progress; and tech tools with features that pinged families with information about where their students were excelling or struggling.

What about children whose parents or guardians don't have the time or inclination to help with schoolwork, or those who come from non-English speaking households? Chu emphasized that the term "family member" referenced in the report was a broad one and could include older siblings, aunts and uncles, neighbors, and more. And in some cases technology can help overcome barriers, such as when materials are translated into students' home languages, she said.

The findings jibe with those of a survey released by Rutgers University in summer 2021, which found a major uptick during the pandemic in parents' involvement in their children's education, likely because so many parents and guardians helped with online learning. The survey was based on interviews with 1,000 parents of children age 3 to 13, all with household incomes below the national median for families in the United States. (That's about \$75,000 a year.)

Two-thirds of parents reported that they now know more about their child's strengths and weaknesses when it comes to learning than they did before the pandemic. And 43 percent said they were more confident in communicating with their child's teachers than they were before the crisis.

Chu, the Columbia University researcher, said her report underscores the importance of making sure there's "cross functional collaboration" between families and schools. "One of the things that became really, really clear over the course of this study is just the extent to which family engagement has historically been siloed from teaching and learning," she said in an interview. ■



—Shafkat Anwar/AP

Veronica Esquivel, 10, finishes her homework after virtual school, while her brother Isias Esquivel sits in front of his computer in their Chicago home in February. Their mother worried that sending them back to in-person learning would put her and her husband at risk for getting COVID-19.

Published May 4, 2021

Remote Learning Isn't Going Away. Will It Create Separate—and Unequal—School Systems?

By Catherine Gewertz

Schools are stumbling out of the pandemic's shadow transfigured, cleaved in two as they teach some children in classrooms and others at home, remotely. Originally imagined as a time-limited response, that duality is reshaping schools, prompting questions about how separate—and how equal—remote learners' educational experiences will be.

If even 20 percent of students learn virtually, that would create "a whole new parallel track for schools," said Heather Schwartz, a RAND Corp. researcher who led a recent study showing that 1 in 5 districts were planning or considering a fully remote learning option for 2021-22. Before the pandemic, less than half of 1 percent of U.S. K-12 students studied virtually, according to 2018-19 federal data.

A February 2021 survey by the EdWeek

Research Center found that 7 in 10 districts plan to offer a "much wider array" of remote options. And polls of parents show strong interest in remote learning options.

"If they were of equal quality, offering equal services, maybe that's neutral or even potentially positive," Schwartz said. But given the uneven instructional quality documented in some online schools, "it's a big red flag."

Parents are keeping their children home for a variety of reasons. Some, particularly in working-class Black and brown communities hit hard by COVID-19, don't yet trust their children will be safe in school. Others have found remote learning to be a haven for students who are harassed or bullied, who suffer social anxiety, struggle with school's endless distractions, or simply learn better via their computers.

Tiffany Newton won't send her two daughters back to their charter schools in Newark, N.J., spring of 2021 or fall 2022. Laid off from her job at a nonprofit, she's home to support

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her 3rd and 6th graders, and they're thriving, she said. Newton doesn't trust that their schools' aging, poorly ventilated buildings will protect them sufficiently against COVID-19. And she doesn't trust the brand-new vaccines enough to get herself or her daughters inoculated.

"My children will not be used as guinea pigs," she said. "I'm not willing to put my children in jeopardy."

Newton does worry about the social interactions and enrichment her daughters will miss out on. But she's confident she can provide those experiences through other channels.

Across the country in Berkeley, Calif., Brett Cook says his 15-year-old son has found his happy place learning via computer screen at home. He's a good student and a "homebody" who loves the quiet—and the snacks—at home, and he stays connected with his friends through digital tools like Discord. If his high school offers a remote option fall 2021, Cook would let his son opt in. "For him, it's been successful," Cook said.

Demand for virtual learning likely to remain strong

School districts are seeing the writing on the wall. Parent surveys and emerging patterns in how families have opted to return to school suggest that hefty proportions of students—tilting toward students of color and those from low-income families—could choose to stay remote.

In a national poll of 1,150 parents in April 2021, 58 percent said schools should offer both remote and in-person options next year and let parents choose. Another 12 percent said schools should be remote-only. In the Los Angeles Unified School District in spring of 2021, more than half of the parents in whiter, wealthier neighborhoods like West Los Angeles chose to send their kids back to school, while in neighborhoods with large numbers of lower-income Latino and Black families, that number was as low as 30 percent.

When the Chicago district polled its parents in December 2020 about the semester, only 37 percent said they were ready to bring their kids back to school. Nearly half the parents in the District of Columbia schools and two-thirds of those in Shelby County, Tenn., said the same.

But that was when COVID-19 case counts were much higher. With the public health picture improving in most places, parents might feel more comfortable opting for face-to-face instruction. But few districts have started polling parents about that yet, and virus patterns could shift. New variants are gaining ground.

Districts are figuring out their options. With

more confidence that schools can operate safely and the conviction that there's no substitute for face-to-face school, some districts are shutting down their remote-learning options.

The superintendent of schools in Chapel Hill-Carrboro, N.C., told families in April 2021 that the district has no plans to offer remote or hybrid options if coronavirus case trends remain positive. But it's surveying high school students to see if there is enough interest for a virtual academy.

The superintendent of the South Washington school district in Cottage Grove, Minn., said the district wouldn't offer virtual learning options fall 2021 due to "low interest." New Jersey Gov. Phil Murphy has barred districts from offering remote learning for fall 2021.

Will quality of curricula, teaching, and social opportunities be as rich in remote programs?

But districts want to hang onto their students and the funding that goes with them. From Riverside, Calif., to Bibb County, Ga., they're figuring out how they can provide what many parents want: a virtual option.

Some districts will have their own teachers teach remote learning students, but others, like the Albemarle County, Va., school system, are creating virtual academies with separate teaching and administrative staffs. Still others, like the Dayton, Ohio, public schools, have outsourced their entire remote learning operation, turning over instruction to outside companies.

Activists and scholars who follow what happens when school districts create separate tracks for some children are watching these developments with cautious eyes. They wonder about the quality of curriculum and teachers that remote learners will get, and how they'll fare without the socialization schools offer. Will children get equal access to sports, music, counselors, reading specialists?

History shows that there's good reason to fear someone will end up with a "watered down" version of education when there are separate tracks for students, said Pedro Noguera, who has studied equity in education for decades, and is now the dean of the Rossier School of Education at the University of Southern California.

Because low-income families and families of color disproportionately chose remote learning during the pandemic, "there is a huge question about whether we'll have two different school systems," said Bree Dusseault, an educator who has been tracking school districts' responses to the pandemic as part of a

project by the University of Washington's Center on Reinventing Public Education. "There is a real potential for segregative learning environments."

The large proportion of students still opting for remote learning and the likely overrepresentation of historically marginalized students in that world make it more important than ever for districts to provide strong instruction and high-quality curriculum designed for online learning, experts said. Without them, the children most harmed by the pandemic risk being set back even further.

"So much online learning has not been working well, particularly for underserved students," said John Bailey, an educational technology expert and visiting scholar at the American Enterprise Institute. "The fear is that the longer those students stay in online learning, the further behind they will fall. It's important to make sure online learning is a much better experience than what we put kids through this year."

Who opts for online school could become an equity issue

The superintendents in Albemarle County and Dayton are grappling with these and other questions as they look ahead to their virtual options for fall of 2021. The answers aren't entirely clear yet.

Matthew Haas, who runs the Albemarle County district, said that 8 percent of his 14,000 students want a remote option for fall of 2021, so he and his team are creating a new, full-time virtual school to serve them. The district will hire a principal, who will then hire staff to work at the new school, he said. Students will follow a regular school schedule, with their cameras on all day for synchronous learning, and will follow the state curriculum like other schools in the district do, Haas said.

In addition to providing an instructional mode that families want, Haas said, the new school will also eliminate a hardship many students endure in this 726-square-mile, largely rural district: long bus rides.

But he is keeping his eye on a pattern that concerns him: Families opting for remote learning right now are disproportionately Black and Latino. He doesn't see that disproportionality based on income level; the proportion of students who qualify for free or reduced-priced meals is about the same in remote and in-person modes. But racially, he sees the disparity, and wonders if it will hold true in fall 2021.

"I'd like to see the same representation of all groups across the board," he said. "It's a measure of equity."



Keeping schools connected during Covid-19 and beyond

How one organization's embrace of the cloud led to short and long-term solutions in education.

When schools throughout the country transitioned to online learning in March 2020, they had to quickly address two challenges. First, they had to rapidly provision devices to students, teachers, and staff and make sure the entire school population was connected to the internet. After deploying these devices, they needed to ensure employees had access to the school's network so they could access files and applications and continue to collaborate with one another from home.

The South Central Regional Information Center (SCRIC) had to address both of these challenges on an extremely large scale. SCRIC provides technology to 50 school districts across three Boards of Cooperative Educational Services (BOCES) in the south-central region of New York State. Twenty-seven of those school districts are supported by a Managed Information Technology Support (MITS) model in which SCRIC collaborates with one of the BOCES, Broome-Tioga (BT) BOCES, to handle all Information Technology (IT) administration and management decisions, allowing district leaders to focus on their primary task: educating students.

To support this network of students, teachers, and administrators, SCRIC and the SCRIC/BT BOCES teams needed to immediately provide desktop access for remote work. One of their priorities was getting all administrative employees access to the network as soon as possible. At the start of

the pandemic, network access was particularly important for finance staff.

"It just so happened that COVID-19 lined up with the end of our fiscal year," says Philip Sage, manager of project design and development for SCRIC. "April is a busy time of year for our business office. They needed access to our financial systems to issue purchase orders and do billing. Getting them onto our machines was really important."

SCRIC had used other network solutions, including virtual private network (VPN) accounts, when dealing with desktop access on a smaller scale in the past.

"Typically, there were a few users in each district who needed remote access," Sage says. "It might have been an operations person who needed to get on the network to look into an HVAC system, or a superintendent who needed to go in and get some files."

However, VPN accounts would not work for the unique situation of the COVID-19 pandemic.

"It takes time to set up hundreds of VPN accounts, and

"We seek to adopt the native, cloud way of doing things, rather than pushing everything we already have on premises here, as it is, into the cloud. For every project we do, we first consider how we can do it more effectively in the cloud."

Philip Sage, Manager of Project Design and Development, SCRIC

there is more risk involved by setting up a VPN from a home machine into our network,” says Sage.

SCRIC also didn’t want a solution that would require extra hardware, which would take time to procure. With pressure mounting to quickly solve this issue of network access, SCRIC needed a turnkey solution.

Turning to the cloud

SCRIC decided to turn to a cloud-based solution, Amazon WorkSpaces, to provide staff with desktop access. Amazon WorkSpaces is a desktop-as-a-service (DaaS) solution that provides users with virtual desktops, or WorkSpaces, they can access from any supported device — anywhere, anytime.

Amazon WorkSpaces was the ideal choice for SCRIC because it fit into the organization’s cloud-first approach to education.

“We seek to adopt the native, cloud way of doing things, rather than pushing everything we already have on premises here, as it is, into the cloud,” says Sage. “For every project we do we first consider how we can do it more effectively in the cloud.”

Security was also a key factor in SCRIC’s decision. Unlike VPN accounts, Amazon WorkSpaces allowed SCRIC to control the access that administrators had to the network, removing the risk of setting up hundreds of VPN accounts on home devices. Amazon WorkSpaces gives employees a true in-office experience from home, complete with the security and the capabilities they would find in the office.

Without the need to purchase and install hardware or deploy complex virtual desktop infrastructure, SCRIC could install DaaS solutions quickly, which was critical during the rapid transition to working from home in March. SCRIC/BT BOCES deployed 270 Amazon WorkSpaces in a single weekend, providing 10 Amazon WorkSpaces for each of the 27 school districts in their MITS model. SCRIC had a total capacity of 530 Amazon WorkSpaces — 10 for each of the 50 districts.

“The ability to just flick a switch and have all that in place to support staff was really great,” says Sage.

Amazon WorkSpaces has helped SCRIC and its partner districts in both the short and long term.

“Amazon WorkSpaces ended up being a really good stopgap to help us get something out really fast, something that could be really useful,” says Sage. “It gave the organization time to understand who would be working from home for the long

term, who would be coming back into the office, and what kind of long-term supports they would need to put in place.”

From a tweet to a partnership

Another benefit

of turning to Amazon WorkSpaces was the responsive and thorough support from Amazon Web Services (AWS) during rapid deployment. The SCRIC/BT BOCES team recalls a moment early in the deployment of Amazon WorkSpaces when they wanted to increase the limit on the number of their virtual desktops. Needing a fast response, they turned to social media to contact AWS.

“We worried that we weren’t going to get approval for the limit increase on time. But we jumped on Twitter and reached out to AWS. Sure enough, we had a couple people respond right away,” Sage says.

Andrew Defoe, technical business development manager, end user computing for AWS, reached out to SCRIC on LinkedIn saying he heard they were looking for some support. According to Ben Kolb, network engineer at BT BOCES, Defoe’s response was swift: “He said, ‘I’m the right guy to talk to; let me put you in touch.’ That morning they had worked everything out for us.”

The result of this brief Twitter encounter was the development of a long-lasting, collaborative relationship between SCRIC and AWS. AWS works with various educational services agencies, and SCRIC has now joined the AWS Partner Network (APN), which helps companies successfully build AWS solutions through technical and business trainings, marketing support, and more.

As an APN Partner, SCRIC regularly collaborates with the AWS direct team and partner team to develop and deploy other cloud solutions to improve educational services for its partner districts.

“Going down the partner path with AWS has given us an opportunity to be a leader throughout New York state,” Sage says. “We are on the leading edge in our educational community, which is exciting.”

“Amazon WorkSpaces ended up being a really good stopgap to help us get something out really fast, something that could be really useful. It gave the organization time to understand who would be working from home for the long term, who would be coming back into the office, and what kind of long-term supports they would need to put in place.”

Philip Sage, Manager of Project Design and Development, SCRIC

Looking toward the future

As school districts look toward the fall and the start of a new school year, SCRIC is working with AWS to consider adopting cloud-based services that will support students, teachers, and staff in the long term, whether they are working from home, in a school, or in a hybrid setting.

When schools initially transitioned to online learning, students could not access certain applications on their Chromebooks. For example, south-central New York high school students supported by SCRIC have many science, technology, engineering, and math (STEM) applications they use for their career and technical education (CTE) courses, including Adobe Creative Cloud, AutoDesk AutoCAD, Revit, Inventor, SOLIDWORKS, and Unity3D.

These applications, which include computer-aided design (CAD), mechanical engineering, and electrical engineering apps, are often only available to students in a computer lab on school property.

"You simply cannot run those applications on Chromebooks, nor are the devices powerful enough to properly support the apps," Kolb says.

SCRIC is considering an application streaming service like Amazon AppStream 2.0, which would allow students working from home to access needed applications from any device. This way, students can get the tools they need for these specialized classes, regardless of whether they are in the classroom or at home.

Leveraging Amazon AppStream 2.0 can also help SCRIC evolve the way it approaches education beyond the pandemic. By providing students access to these applications anytime, anywhere, from any device, schools can save physical spaces like computer labs for other purposes. They can also save money on hardware costs. Students who might need extra time to complete assignments (whether due to absences or 504 accommodations) will be able to do this work from home, without relying on school labs that are only open during specified hours.

"AppStream 2.0 is the perfect solution to solving some of these scenarios," says Kolb.

Enriching education

For SCRIC, an accelerated move to the cloud and cloud-based solutions has been one positive that has come out of the

turmoil of the pandemic.

SCRIC sees a clear connection between its collaboration with AWS on various

solutions and achieving its mission of empowering schools by delivering innovative technology solutions and exceptional support.

With standardized solutions across its school districts, SCRIC can also put more energy into providing an even better learning experience for students.

"We are here to help our learners learn and our teachers teach," Sage says. "And that has been the mission of everything we are doing with AWS. How do we improve the ability for the teachers to get access to their materials easier, share their materials easier, have faster and better infrastructure? Everything we're doing behind the scenes is trying to position technology to make their lives a little easier."

This piece was developed and written by the Center for Digital Education Content Studio, with information and input from AWS.

"Going down the partner path with AWS has given us an opportunity to be a leader throughout New York state. We are on the leading edge in our educational community, which is exciting."

Philip Sage, Manager of Project Design and Development, SCRIC

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In the current remote mode, his schools are trying to provide the same kinds of access to academics, including math, reading, and ESOL specialists, that in-person students get. But it pains him that remote learners get less access to “specials” like art, music, and physical education. He’s working on how to improve that access.

In Dayton, Superintendent Elizabeth Lolli isn’t quite sure yet what remote-learning option, if any, she will offer in fall of 2021. The district contracted with two outside companies, SchoolSPLP and Apex Learning, to serve its remote learners spring of 2021. About one-quarter of Dayton’s 12,500 students made that choice.

Since Dayton teachers are all teaching in

person now, they don’t work with remote students. Instead, those students follow self-paced lessons based on Ohio’s state curriculum, checking in weekly with coaches from SchoolSPLP in K-8 and Apex Learning in high school, Lolli said. They can also request help from teachers at their brick-and-mortar schools.

As a group, the remote learners mirror the Dayton student demographics, Lolli said, except for English-learners, who opted disproportionately for in-person instruction.

The district is surveying families to see how many want a remote option in fall of 2021, and few, so far, have raised their hands. But the district also restricted who’s eligible. It extended

the option only to those with health conditions that put them at higher risk for COVID-19.

Even still, Lolli worries about the students who will opt for a fully remote experience.

“Will they really have the math and literacy they need?” she asked. “In some cases, like at good charter schools or in good home schooling, they will. In others, they won’t. It hurts my heart. And the interaction with their peers, the arts, phys ed, having access to counselors and social workers. All the guest speakers, the field trips, the concerts, that whole experience of understanding the world and what’s outside their backyards. That’s what’s missing. It concerns me.” ■

Published August 23, 2019

Flipped Classrooms May Exacerbate Student Achievement Gaps. Here’s How

By Sarah D. Sparks

Flipped classrooms have become a popular way for teachers to find more time for activities and individual support during the regular school day, but a study cautions that the model could trade short-term gains for wider achievement gaps.

The model “flips” the traditional rhythm of class time by introducing teacher lectures online so that students can view them at home, while using class time for projects and group activities that might traditionally be consigned to homework. An Annenberg working paper released found mixed, mostly short-term benefits from using the flipped-classroom approach.

Elizabeth Setren, an assistant economics professor at Tufts University, and math and economics colleagues at the United States Military Academy at West Point randomly assigned more than 1,300 West Point cadets to one of two different versions of their required introductory math and economics courses. In the flipped version, students were assigned a video lecture before each class and engaged in interactive problem-solving during the class. In the standard version, teachers gave a standardized lecture during class that covered the same material as the video, and assigned as homework the problems that the flipped-class students had worked on in class.

The researchers found no differences in



—Illustration Source: Marty West for Education Week

economics classes. In math classes, students in the flipped classes scored on average a third of a standard deviation better than those in the traditional classes on the unit quiz—but by the end-of-course test, both groups performed equally well.

“We can’t say for sure why we see effects for math and not economics, but perhaps the key part of this story is how motivated the individual instructors are,” Setren said.

Math instructors reported being more excited about flipping their classroom than economics teachers were. While in both subjects, flipped classes engaged in more group and interactive work than the traditional classrooms, the flipped math classes dedicated more time to these activities than flipped economics classes did.

West Point is a college-level school, but Setren argued the results would be relevant to high schools with flipped classes also. The students were first-year cadets learning subjects

similar to some upper-high school courses; vectors in math and personal finance in economics. She saw the military academy as potentially a best-case setting for flipping classes, because it has small classes of 16-18 students and cadets tend to be highly motivated to complete coursework. Yet even there, the study found, students in the flipped classes on average watched only about half of the content of each video, and spent no more time preparing for class than students in traditional classes did.

Benefits Concentrated on Male, White, High-Achieving

Moreover, the short-term math improvements were driven by white and male students and those who had scored in the top quarter of ACT math scores before entering the academy. Women, Black, and Hispanic students, as well as cadets who had performed in the bottom 25 percent of math scores at the start of school, saw no benefit from the flipped model. This led to a 69 percent wider racial gap between white and other students and a 23 percent wider gap between low- and high-performing students in flipped math classes than in traditional ones—and these gaps held steady through the remainder of the courses.

While the West Point study did not look at why students who were female, lower-achieving or from racial minorities did not benefit from the flipped classes, “one theory is that

maybe they feel less motivated or comfortable asking for the professor's time or seeking out that attention," Setren said. "I think higher-achieving students or certain groups of students might feel more comfortable or more entitled to seek out professors' time during an interactive workshop-type setting."

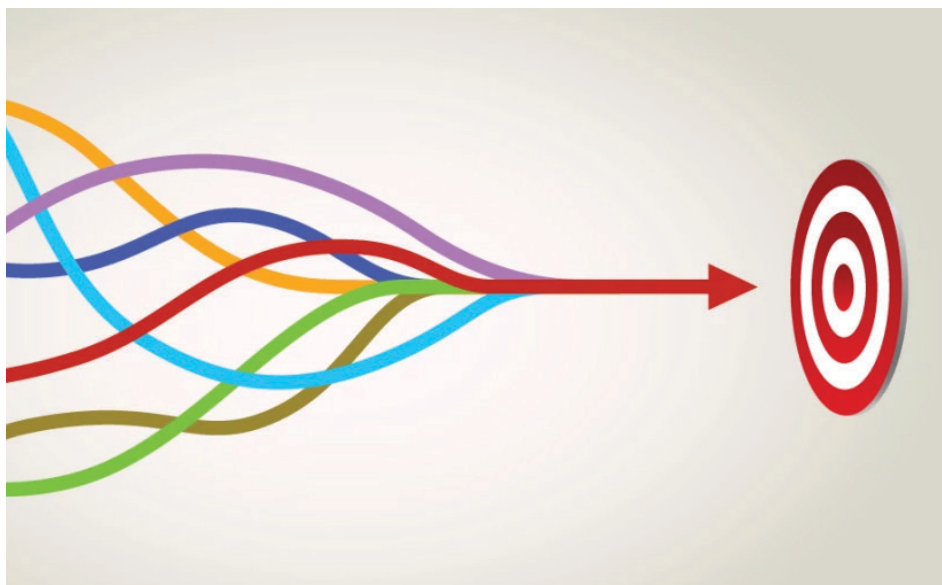
That would align with other studies which have found students' help-seeking behaviors matter a lot in the classroom. One study found

working-class students were more sensitive than middle-class students to teachers' moods and more likely to worry about "bothering" them when asking for help.

Setren suggested that even though flipped classes are intended to give teachers more class time for individual support, that didn't translate to equal support for all students. For example, math teachers in the West Point study spent more time answering individual questions in

flipped classes, and answering questions for the whole group in traditional classes.

"We see the potential of [flipping classrooms] to be beneficial," she said, but, "for educators who are working with a flipped-classroom model, I think this really highlights the importance of paying attention to not just how it's working overall, but also focusing on how educators can make sure they're meeting the needs of all students in class." ■



—DigitalVision Vectors/Getty

OPINION

Published January 27, 2022

How New Hampshire High Schoolers Can Earn Credits Essentially Anywhere

By Rick Hess

New Hampshire's Learn Everywhere program, adopted in 2020, offers one intriguing approach to rethinking high school. It creates a process through which any public or private organization in the state can apply to offer high school credits to students. I had the chance to talk with New Hampshire's education Commissioner Frank Edelblut, the architect of Learn Everywhere, about the program and how it works.

—Rick

Rick: What is Learn Everywhere?

Frank: Learn Everywhere is a program that allows students in New Hampshire to earn high school credit for learning that takes place outside of the school instructional environment. Often in education, programs begin with an idea. The program is then built around that idea and rolled out to students, schools, or whomever. Learn Everywhere is different, however, since it starts where children are already gathering, such as a sports program, science museum, or boys and girls club. We then look to see what is being learned in those settings and

find a way to make that count. This is a really important difference. This is not a "build it and they will come" approach. It is an approach that discovers what is interesting and engaging to students and then captures that as learning.

Rick: You're frequently credited as the creator of Learn Everywhere. What gave you the idea for this program?

Frank: One evening, around 8:30—still not sure why I was there so late—I was visiting Memorial High School in Manchester. When I arrived, I was greeted by a group of about 25 students all busily engaged in their FIRST Robotics Program. Some of the students were programming in JAVA to get their robot to navigate some obstacles. Others were in the shop working with two volunteer engineers from Bosche building a robot. Toward the end of my visit—it's now around 9:30—a young lady came up to me and said, "Commissioner, you've got to help us. The school closes at 10 p.m., and we need it open until 11 p.m." My first thought was, "Ding, I win." I have students begging me to keep the schools open longer. My second thought was that these poor children were going to return home at 10 or 11 at night and then do two hours of homework, because the learning they had just been engaged in for the last five hours would not count.

Rick: Is there a guiding philosophy behind the Learn Everywhere approach?

Frank: This effort is a reflection of our belief that children are inherently curious learning machines. Before our "littles" even show up for school, for the most part, they have mastered an oral language. There was no formal instruction or teacher that made that happen but rather the inherent curiosity of the child engaging the world around them. The same holds true for our secondary children. Imagine dropping three high school students off on a city street corner and telling them you will pick them up four hours later. They will not wait around for someone to give them an as-

signment or tell them what to do. I guarantee that they will start to explore the world around them. Somehow, we have reached a place where learning is expected to happen between 7:30 a.m. and 2:30 p.m. in a specific location. Learn Everywhere does not follow that belief.

Rick: How do students earn Learn Everywhere credits?

Frank: The mechanics of the program are pretty straightforward. The state board of education essentially credentials a course or a program. As students complete the program, they are awarded a “certificate of credit” that they can redeem at any New Hampshire high school for credit. The mechanics, however, do not tell the whole story. Learn Everywhere is not a zero sum game of “this or that” but an expanding universe of “both and” that creates more options for students and districts. Imagine that you have an aspiring cellist who, because of her love of music, is practicing after school for five hours a day to become the next Yo-Yo Ma and is earning a certificate of credit from a local music program that she can use to satisfy her music credit for graduation. That student may also want to participate in a band class in school with her friends, essentially earning another music credit. She may, however, want to use that band period as a study hall to do her homework so she can practice more at home. She may also want to use that band period to explore some other course of interest, like taking French, so she can speak with Yo-Yo Ma when she gets to meet him. The additional credits she earns from Learn Everywhere allow her this flexibility.

Rick: What’s the process for organizations that want to be approved to offer Learn Everywhere credits?

Frank: The Learn Everywhere application requires programs to identify the courses that they will be offering, how the program works, and how the students will be assessed to determine that they have met the New Hampshire competencies for that course. Because this is a competency-based program, credits are awarded based on mastery as opposed to seat time. One program that helps illustrate this concept is a book club offered by Signum University. In this program, students read books and then have Socratic-type conversations about those books led by a Signum professor. The professor keeps track of the various competencies that students must demonstrate mastery of, and when a student has mastered all of the required competencies for the course, they are awarded the certificate of credit. One student may reach mastery after

one novel, and another may participate for longer to get there. A key point I emphasize when speaking with the programs is, “Don’t ruin the magic.” Students are there because they want to be. Who would not want to read fantasy literature like *Harry Potter* or classics like *Pride and Prejudice* and discuss them with friends? We work with programs to understand what students are learning and how we can capture that learning. We work hard to avoid changing the program and making it more like school.

Rick: How do the Learn Everywhere finances work?

Frank: The Learn Everywhere program itself has not directly touched education funding. New Hampshire has an Education Freedom Account program, and Learn Everywhere programs can qualify as eligible providers. This allows participating parents to use state education funds to enroll in Learn Everywhere programs. As Learn Everywhere grows, we expect more and more districts to take advantage of the program. For example, one of our districts offers a computer programming course. It is only able to offer it to students every other year and it is the most failed course in the district, not because it is difficult, but because it is so unengaging that students simply check out. We are working with a local eSports program in this district to create a Learn Everywhere opportunity that will allow the district to offer students a computer programming class through an eSports program. And, through the state board of education approval process, the board looks closely to make sure that programs are accessible to as many students as possible. Many programs have no cost to students, like the Boys and Girls Club tech program or the First Robotics engineering program. The board looks for scholarship and other opportunities to make sure that we are not creating barriers to access.

Rick: Have you encountered much pushback to all this?

Frank: Of course, when we were developing the program, all of the usual suspects thought it was a terrible idea. Education is a sector that is particularly resistant to innovation or change. I think that is because those who chose the vocation generally liked the traditional instructional model and were successful in it. That makes it very hard to see it from another’s perspective. That is part of my job, to help people see the vision and help them to get there. And I see that happening, both in New Hampshire and across the country. Districts in New Hampshire are now seeing Learn Everywhere as a tool in their toolbox to offer to their students and families. I

have also heard that as many as 12 other states are looking at similar programs.

Rick: Do teachers benefit from Learn Everywhere?

Frank: Through Learn Everywhere, we have created an entrepreneurial ecosystem for our teachers. Often, teachers will express frustration. They entered teaching because they wanted to open up worlds to students. But the rules overly constrain them, and they are frustrated that they cannot achieve that goal inside the system. What I tell them now is that they can still teach physics from 7:30 a.m. to 2:30 p.m. inside the “box,” but from 3:00 p.m. to the late bus, they can run their own physics course and they can write the script for how that will work.

Rick: Are there any not-so-obvious ways in which Learn Everywhere changes schooling?

Frank: Learn Everywhere offers fertile ground for assessment innovation. These programs are not going to assess students using the typical and traditional approaches. For example, we have had discussions about a program with Fish & Game and the Turkey Hunters Association for a PE credit. It seems unlikely that the Turkey Hunters Association will be giving students a multiple-choice test to assess mastery of competencies. ■

Rick Hess is a resident scholar at the American Enterprise Institute and the director of the think tank’s Education Policy Studies.

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