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Virtual Learning, Now and Beyond



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The following participants attended our roundtable discussion in summer 2021. The roundtable discussion included a series of conversations about how the US can build a path forward for virtual learning post-COVID. Their reflections and contributions are reflected throughout the brief.

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Executive Summary

The pandemic-fueled expansion of online learning will certainly persist beyond the pandemic, and schools must ensure that the transition creates accessible, high-quality options for all students. Most recently, the surge in COVID-19 Omicron variant cases and persistent ambiguity around whether and how to close schools reinforces the fact that we have failed to build intentional on-ramps to virtual education. State and local leaders can employ evidence from past online learning efforts, emerging best practices, and data from the pandemic to understand how to build a path forward that capitalizes on the potential of online learning, while avoiding the pitfalls.

For example, recent research on the relationship between learning mode and student achievement during COVID indicates that the shift to online education had negative effects on learning outcomes. These findings illustrate a concerning relationship between emergency remote learning and decreased academic achievement. However, many educators, students, and families embraced digitalization during school closures. Without the bounds of four school walls, how can school systems rearrange resources to embrace increased flexibility to let students determine where, when, and on what schedule learning happens? How can the very best teachers reach more students? How can the potential of online learning inspire other educators to improve their pedagogy?

Virtual learning is not going away, but it must improve, especially for students of color and those facing economic insecurity. The bottom line is that we cannot repeat the emergency distance learning that took place in 2020 and 2021, and we remain unprepared to implement online learning when the need arises. This brief provides a guide for education leaders and policymakers building a path to sustainable and quality virtual learning.

Background

The COVID-19 pandemic ignited a [rapid move to online learning](#) and at-home offices. And, regardless of the rocky experiences in remote learning, [some students benefited](#) from the expansive nature of digital options. We know that remote learning will [persist beyond the pandemic](#). Educators, schools and policymakers must prepare for a transition to digital models in which students mix in-person and virtual classes based on their needs, and instruction can shift seamlessly between the classroom and the cloud. This transition should result in accessible, high-quality remote learning options for all students, and give school systems more flexibility to determine where and when learning happens based on students' needs.

Some parents remain ambivalent about their support of remote learning, and feel it may be better suited to some groups, such as older students, than others. The 2021 [Education Next](#) poll reported that 48% of parents said elementary students should have remote learning options; 64% said the same for high school students. It is not surprising that parents have mixed feelings. Many parents and schools had tumultuous experiences with remote, hybrid and simulcast learning models, and the pandemic's emotional toll on students grew worse the longer their schools stayed remote. At the same time, many parents, students and educators discovered benefits in the flexibility online learning affords. The path forward must include plans that engage families and the research to date. The bottom line is that students cannot afford to repeat the emergency distance learning that took place in 2020 and 2021.

Remote Learning Research Provides Little Guidance

Prior to the pandemic, most research on virtual learning occurred in global or higher education settings. Research on K-12 online learning painted a [mixed picture](#) but showed cause for concern. Studies [found full-time online charter schools](#) offered little live instruction, struggled to keep students engaged, shifted much of the work of supporting learning onto parents, and [hurt students' academic outcomes](#). However, evaluations of other online schools found [more positive academic effects](#).

The rapid move to emergency remote learning when schools closed across the globe created a large-scale, unplanned experiment that with new opportunities for researchers to study how achievement and well-being differed between students learning from home and those who re-entered schools.

Emerging research on the relationship between learning mode and student achievement during COVID indicates that the shift to online education had negative effects on learning outcomes. In an extensive review of the studies released on student achievement during the pandemic, the [Center on Reinventing Public Education](#) found students tended to lose more academic ground the longer their schools stayed remote. Studies of student test results from [Ohio](#) and [Atlanta](#) affirmed this conclusion, illustrating that remote learning exacerbated the pandemic's negative impact on student achievement compared to learning in-person. Similarly, in higher education, a randomized [study](#) of West Point students assigned to online or in-person instruction found

online students had lower class grades and exam scores than their in-person peers, but the gap narrowed over time. These findings illustrate a concerning relationship between emergency remote learning and decreased academic achievement.

These negative effects are not surprising, and have the potential to exacerbate existing inequities. Reports on learning modes during the pandemic reveal variations for different student groups. The [Educational Policy Innovation Collaborative](#) reported that districts across Michigan serving high proportions of Black and economically disadvantaged students were less likely to offer full-in person learning. A fall 2021 poll from [Education Next](#) found that parents of low-income, Black, and Hispanic students were more likely to report their children learned completely online in 2020-21. Underserved students were more likely to receive instruction remotely and [only 15% of teachers](#) who taught remotely during 2020-21 reported covering all or most of the content from a typical year. A host of [evidence](#) mirrors these findings: economically disadvantaged, Black, and Hispanic students and English learning students showed less academic growth in 2020-21 when compared with their white and more advantaged peers. Students' learning modes (e.g., remote, hybrid, or in-person) added to pre-pandemic disparities in educational opportunity.

Not If, But How

Despite the many challenges with remote learning, school districts discovered potential that they hope to continue exploring. Of the nation's school districts, [85 percent](#) delivered a remote option during the 2020-21 school year. [More than one in four](#) plan to continue offering virtual schools in the future—a more than ninefold increase from before the pandemic.

One district leader envisioned a future in which snow days became a thing of the past, saying: “We have a flexible model where students can learn synchronously from home or from school. We will continue to expand this process to make anywhere learning a reality.” Pre-existing virtual schools [saw a jump in enrollment during the pandemic](#), adding competitive pressure for school districts to expand online offerings or risk losing more students and the funding that comes with them.

Virtual learning is not going away, but it must improve for both emergency online learning students received during the pandemic, and pre-pandemic online schools that often operated in [policy environments](#) that weren't up to the task of ensuring quality learning opportunities for all students.

The [hastily assembled state and local plans for remote learning options](#) districts created for the 2021-22 school year may be too little, too late, or too rushed. The Center on Reinventing Public Education [reported](#) a rapid proliferation of online learning options in its analysis of 100 large and urban school districts between late July and early September 2021, the number of districts offering remote learning options more than doubled from 41 to 94. Further, it is unclear how students' choices to avail themselves of these options will impact enrollment, instructional quality, and short term needs for quarantine or sick-day policies. For example, few districts have announced plans to offer their remote learning programs to students who have to stay

home due to quarantine requirements. And while existing data raise cause for concern about the effectiveness of remote learning students received at the height of the pandemic, it does not illuminate a clear path to help school system leaders design effective online learning options and ensure students have the support they need to succeed in them.

In sum, the pandemic has revealed both the clear need for high quality online instruction and the dearth of opportunity and evidence to design a path forward to meet that need. This brief provides a guide for education leaders and policymakers building a path forward for virtual learning.

A Guide to Virtual Learning Post-COVID

Parents, students, and educators share in a resounding agreement that nobody wants to go back to business-as-usual. The evidence on student well-being and what we are hearing from the most innovative leaders is that now is the time to choose courage over comfort. Unfortunately, our schools are more likely to default to “pre-pandemic normal” that is hardwired into our systems and reinforces inequities.

Some versions of digital learning failed families and students during emergency school closures. For example, simulcast or concurrent learning, in which teachers broadcast lessons to students at home over live video feeds, overwhelmed teachers and left the students viewing instruction online disengaged. But that does not mean remote learning is worse than in-person learning in all cases. Some students found a safe harbor from bullying or discrimination in at-home learning, and some families and communities developed ways to provide in-person to students learning remotely, for example, by creating learning pods operated in living rooms, museums, community centers and other locations.

Many educators, students, and families embraced digitalization during school closures. The furniture, supplies, manipulatives, and paper copies they’d relied on for so long were no longer central to teaching and learning. More profoundly, they discovered learning can happen any time, from anywhere, on any schedule. How are school systems embracing these new insights? When we are no longer constrained by four classroom walls, how can schools use their very best teachers to reach more students—or provide coaching and mentorship to colleagues that vastly improves on existing professional development?

Here are four steps school system leaders can take to harness the potential of online learning, avoid pitfalls that made it ineffective, and ensure students have equitable access to high-quality learning opportunities that meet their needs.

Step 1 | Permanently close the digital divide

In March 2020, districts distributed devices to families as quickly and equitably as possible to ensure they stayed connected to schools regardless of distance learning. Just like that, some districts had achieved an outcome that eluded them for decades: 1:1 devices. Yet, students across the country still lack the devices and access to the internet necessary to participate in online learning.

At the start of the pandemic 16.9 million US students did not have access to high-speed internet and 7.3 million did not have an at-home device, resulting in [one in three](#) Black, Latino, and Indigenous households lacking the internet access necessary to engage in remote learning. Considering students of color were more likely to be offered remote learning options, which meant disproportionate lack of access to devices and internet connections left them more likely to be disconnected from school.

Despite valiant efforts to close the digital divide, 12 million students remained disconnected going into the 2020-21 school year:

- Some students received discounted emergency broadband services or other resources due to early efforts to use COVID relief funds from the federal CARES Act of March 2020.
- As part of the American Rescue Plan Act of 2021, the [Federal Communications Commission released a \\$7.17 billion program](#) to help schools support remote learning.
- The [Emergency Broadband Benefit Program](#), a temporary program for low-income students and families, provided a discount for broadband service and devices for each household.

While helpful, these are short-term stop-gap measures that will not fully address long-term needs. [Estimates indicate](#) that it will cost between \$6 to \$11 billion to begin closing the digital divide, with an ongoing annual investment of \$280 to \$500 per student to keep it permanently closed. One promising investment is the infrastructure spending package recently approved by Congress, including \$42.5 billion to deploy grants that will expand broadband infrastructure for hard-to-reach places and \$14 billion to help low-income households connect to broadband.

This investment in digital infrastructure can [extend and make permanent short-term funding programs](#) with a focus on students and schools. The E-rate and Lifeline programs provide durable funding to ensure schools, communities and low-income households have equitable access to essential communications technology, and offer potential models for long-term initiatives that ensure all students can participate in online learning.

The most immediate first step is for state and local governments to [evaluate their own preparedness](#) and local need to design an intentional, “future-proof” plan for closing the digital divide. States can work with school districts and community organizations to [collect data](#) and understand the need for at-home access to broadband and devices. These data will inform state legislation and local policies that can procure devices at discount, bridge school-to-home information gaps, and develop long term intergovernmental and public-private partnerships to support sustainable options for families.

The Wisconsin Department of Public Instruction created a standard [Data Use Agreement](#) to facilitate districts sharing students’ home addresses with the Department so that schools could provide internet access at home.

Why it’s important: State education agencies are obligated to protect identifiable student data and must ensure that any information they share in efforts to expand online access does not compromise their privacy or safety.

Step 2 | Guarantee high-quality virtual learning

Remote learning from last year does not define virtual instruction writ-large. States must work with school systems to establish and maintain high-quality remote options that serve students effectively in a post-COVID world.

A critical first step is for schools and families to engage in deep reflection about the parts of remote learning that did not work for students or teachers during COVID. This process should include community-based organizations who may have supported learning pods, principals, families, parent organizations, and students. Districts can kick start this process by sharing data from 2020-21 [climate surveys of school staff, families, and students](#). The goal should be to establish some agreements for future virtual learning design: what must stop, what must continue, and what are the critical factors for success?

The Colorado Department of Education developed a [common rubric](#) for multi-district virtual learning options or collaboratives across the state. While [other states](#) have taken similar approaches to multi-district models, few have developed a similar focus on standards and accountability.

Why it's important: States that don't develop statewide online schools should help district-led virtual learning options reach an economy of scale. Colorado achieved this by developing shared infrastructure and regulations for local collaboratives that provide remote learning. And crucially, the state set clear expectations for academic quality.

One agreement that educators and parents can make is to abandon the temptation to replicate in-person instruction in virtual settings, and should set clear expectations for quality online instruction that are tailored to the realities of teaching and learning online. For example, schools and districts should work with [stakeholders to develop clear expectations](#) like the amount of live instruction, strategies for maximizing student engagement, and providing plenty of opportunities for discussion and collaboration.

Parents who seek online learning options for their children should know what level of support schools will expect of them, what kind of instruction their student will receive, and what level of independent work will be required. And online learning programs should be held to high standards for student results.

There is a dearth of evidence documenting any relationship between remote learning and student success. Therefore, school systems should design online learning programs with data and evidence in mind. Leaders can ask, "How will we know that our remote learning program is successful? What leading indicators will we see early on? What are the long-term goals we aim to achieve? What are the contexts that we should put in place and for which students?" For example, remote learning options should consider how child-directed technology platforms are orienting learning with families in mind or whether they are developmentally appropriate for the targeted age group. Building [effective data systems](#) into online learning software can help educators access a nuanced picture of student learning and engagement.

Step 3 | Design ways for learning to take place everywhere

One silver lining of school closures and distance learning was that parents were closer than ever to the teaching and learning process. Educators and leaders facilitating virtual learning should embrace parents as full partners, and intentionally build their capacity to support students learning in the home or outside of school.

Online learning can enable flexible approaches to common school-based challenges like creating authentic partnerships with families, staffing a wider variety of classes tailored to students' interests, and offering a variety of work- or community-based learning opportunities.

Future virtual learning programs can leverage these flexibilities to [modernize a student- and family-centric approach to school](#). For example, schools can provide students virtual day passes that allow them to keep learning when they cannot attend in person. But districts can also go further. [Surveys by EdChoice and Morning Consult](#) find that while a clear plurality of parents would prefer for their kids to spend five days a week at school, the majority would like their kids to spend one or more days a week at home. Districts can cater to these parents by creating [hybrid homeschools](#) that allow students to sign up for online classes, but come to school part-time to work with teachers and interact with friends face-to-face.

Online learning options can open up where and when teaching takes place and enable new community-led models, either inside or outside of school buildings. [Learning hubs or learning centers](#) can provide in-person engagement to students receiving online instruction, and unlock learning opportunities through museums, parks, local businesses, and community centers.

During the pandemic, these learning centers were often operated by organizations that previously provided after school or out-of-school programming. Their employees are often more likely to share the language backgrounds and life experiences of students they work with, particularly students of color. They may be [better positioned to build authentic relationships](#) with students and families and support engagement and learning. School systems should look for ways to better integrate these community educators into teams alongside traditional classroom teachers—and to support new credentialing approaches that allow these adults to pursue new pathways into the teaching profession.

Online courses with flexible schedules can also pair readily with internships, apprenticeships, and other work-based learning opportunities that may be [incompatible with a traditional high school schedule](#). During the pandemic, districts like Edgecombe County Public Schools in North Carolina began capitalizing on the flexibility of online learning, creating a “spoke-and-hub” model that allows students to spend part of their day receiving tutoring, doing projects with students who share similar interests, or working at paid positions.

In online learning, where students and teachers don’t interact face-to-face or see each other in class each day, it’s critical to support authentic relationships and effective communication. Educators should ensure students, families, and community partners are invited to engage in one-on-one interactions and collaborative group discussions.

Some practices adopted during remote learning can also improve the school experience for all students and families, whether they attend school virtually or in-person. For example, some parents of students with disabilities were able to have [weekly parent meetings](#) on individualized education plans in virtual settings, compared to only one or two per year in a traditional school model.

The Oakland REACH launched the [Virtual Family Hub](#) in June 2020 to address the impact of the pandemic while increasing educational opportunities for low-income families and families of color. Children get access to high quality virtual instruction and enrichment programming while their families can attend workshops, work directly with a family liaison or case manager, or get access to financial relief funds. Based on its success to date, including substantial gains for students participating in virtual literacy instruction, the REACH is working with OUSD and nonprofits in other cities around the country to support expanded access to hub-like supports.

Why it’s important: The Oakland REACH is taking a unique approach to scaling their hub by working within the school district to expand the number of students they serve through the hub.

Step 4 | Empower educators as instructional leaders in virtual pedagogy

In school systems across the country, leaders discovered new ways to support teachers or maximize their impact. In Baltimore City, administrators noted how remote learning allowed instructional leaders to observe teachers in different schools across the district much more efficiently than they could in brick-and-mortar classrooms. They also [began exploring the possibility](#) that the district's strongest lecturers could broadcast their lessons to hundreds, or even thousands of students at a time. Other district leaders [reported similar revelations](#): Once they embraced the attributes of virtual schooling, it became possible to “multiply” the impact of teachers and support staff.

Cadence Learning provides teachers with real-time, relevant, on-the-job coaching at scale. It designates seasoned educators as mentor teachers, who record their lessons and then review the recordings in remote videoconferences with colleagues across the country. The mentor teachers narrate their “moves” for engaging students, and talk through what worked, why, and what might have worked better.

Why it's important: Professional learning, especially regarding online instruction, is often abstract and detached from individual teachers' day-to-day classroom realities. In addition, there are few opportunities for teachers to watch other teachers (including professional) mentors teach real students in live classrooms. However, without the bounds of the four physical walls, Cadence overcame existing barriers to give partner teachers a front-row seat to learn from some of the best educators in the nation.

Similarly, the New York-based charter school network Success Academy designed virtual classrooms around particular teachers' strengths. The best lecturer in a grade level or subject would deliver online lessons to large groups of students, while other teachers—those who excelled at the relational aspects of teaching—worked one-on-one with students who needed help, or helped field questions in online chats. This would have been hard to pull off in a giant lecture hall, but in a virtual classroom, it helped teachers find roles that matched their skillsets, and helped keep students engaged and supported.

During emergency remote learning, districts discovered that the curriculum and teaching approaches they used in their classrooms did not always translate seamlessly from physical classrooms to online learning environments. As they prepare to build quality remote learning programs for the long haul, districts should identify teachers who enjoy teaching online, designate them as virtual learning experts, empower them to help develop quality curricula that are well-suited to online instruction, and be open to the possibility that their [jobs might look different](#).

Recommendations

Policymakers and education leaders can take immediate and long-lasting steps to prioritize high-quality online learning options that provide families individualized and effective online instruction for long-term student success.

Education leaders and policymakers can consider the following short (by the end of the 2021-22 school year) and longer term (beyond 2022) steps to design a path forward for virtual learning post-COVID.

By the end of 2022	Beyond 2022
1 Permanently close the digital divide	
<p>School systems can complete a needs assessment by collecting quantitative and qualitative data to guide an evidence-based path forward.</p> <p>The federal government can ensure that telecom providers accurately map existing broadband coverage and release their data in an accessible public format for state and community-level analysis on connectivity.</p>	<p>Government agencies can work with local leaders (e.g., mayors, city councilors, or county commissioners) to ensure that the Universal Service Fund programs, like E-rate and Lifeline, include broadband services that meet local demands based on accurate broadband coverage mapping.</p>
2 Guarantee high-quality virtual learning	
<p>School districts can partner with families and community leaders to explore discussions about school climate data collected from school staff, families, and students. These conversations will help create shared ground about remote learning programs, like what worked or did not work for families during COVID-19. These reflections should inform what must change as school systems adapt their virtual learning programs for the long haul.</p> <p>State leaders can design and invest in clear standards for remote learning like the amount of direct instruction, expected student engagement levels with independent work, and providing plenty of opportunities for discussion and collaboration.</p>	<p>Researchers and policymakers need to establish a national research agenda to study what works for whom in virtual settings. Educators, innovators and school system leaders need more information about how to design online learning options that lead to better academic and social-emotional outcomes. Without more research, policy decisions may be driven by personal or financial interest—or hunches—instead of data or best practices.</p>

By the end of 2022

Beyond 2022

3 | Design ways for learning to take place everywhere

School districts and state leaders should embrace community-centered models that leverage virtual instruction, either inside or outside formal school settings. Districts can initiate changes within schools by affirming the expertise of parents, [community organizations](#), [learning hubs](#) or [learning centers](#) who can partner with teachers and provide in-person engagement to supplement online learning options.

State and local education agencies can pilot innovative initiatives like virtual day passes when students cannot attend in person or open up virtual micro-badging for teacher professional learning.

State licensing agencies can explore licensure processes that expand non-traditional teacher pathways that harness the passion of community educators who lack traditional teaching credentials but played an instrumental role in efforts to support COVID-19 remote learning. These educators may [be better positioned to build relationships with students and families](#) and develop engagement and learning as a safety net, especially for students of color.

State agencies should address the regulatory barriers to “anytime, anywhere” learning, such as creating alternatives to [outdated policies](#) that fund schools based on the amount of time students spend in class.

4 | Empower educators as instructional leaders for virtual pedagogy

School districts can leverage new agreements with bargaining teams established during the pandemic to underscore their respect for teacher time, expertise, and professional growth. These agreements can help state leaders define new roles for teacher leaders in virtual instruction. For example, teachers who were more successful navigating online teaching and learning should inform any statewide initiatives for establishing standards or expectations.

States can pilot statewide mentor teaching programs for virtual instruction by establishing new fellowships for teachers with high-quality online teaching performance or interest in improving virtual education. These new roles can provide teachers novel ways to advance their careers by delivering lectures to larger groups of students with other teachers providing support, or providing real-time modeling, coaching and mentorship to teams of teachers they connect with online.

Conclusion

Before the pandemic, online education was fraught with accessibility, regulatory, quality, and buy-in challenges. During the pandemic, remote learning failed to meet the needs of many students, and proved draining for many parents and educators. When data revealed over and over that emergency remote learning negatively influenced students' social, emotional, and academic well-being, many states enacted laws and regulations to restrict or prohibit some, if not all, virtual learning options.

In light of these challenges, it may seem surprising that online learning is here to stay, and will likely play a much larger role in public education after the COVID-19 pandemic than it did before. On the other hand, online learning has the potential to unlock possibilities that are simply too numerous, and too powerful, to ignore, including:

- Ensuring snow days become a thing of a past, allowing teaching and learning to continue even when weather or public health events might interrupt normal school operations.
- Making even the hardest-to-staff courses—like Advanced Placement Physics, Mandarin Chinese, or a panoply of career-related courses available to any high school student in the country.
- Building new connective tissue between schools, families, and communities as students participate in schooling any time, from anywhere, and teachers form closer collaborative relationships with other adults in their student's lives.
- Transforming educator professional development by replacing droll presentations with real-time coaching and mentorship that are directly connected to teachers' day-to-day work.

Now, school systems are at an important juncture. They can choose to embark on ambitious new efforts—with critical support from state and federal policy—to realize the potential of online learning while learning from past efforts that hurt student outcomes. Or they can accept the existing suite of less effective, less-than-fully-accessible online learning options, which could rob students of quality learning opportunities. Or they leave parents to sift through a growing array of alternatives on the private marketplace, without the safeguards or equitable access that public education ought to guarantee for all students.

Schools, districts, and policymakers should accept that online learning is here to stay. Now is the time to make the most of it.