

STRENGTHENING SYSTEMS

How States Are Rethinking Human Capital Systems and Technology Infrastructure in the COVID-19 Era

In April 2020, KnowledgeWorks published policy guidance in response to the school closures brought on by COVID-19, [*Restoring Hope and Seizing Opportunity in the Face of Crisis*](#). The report highlighted both short- and long-term strategies for states to consider as they grappled with the challenges of the pandemic. A year later, we are revisiting the guidance to highlight areas where the U.S. has begun building the momentum needed to both respond to the challenges of the pandemic and chart a path towards creating a more personalized K-12 education system.

STRENGTHENING HUMAN CAPITAL SYSTEMS AND TECHNOLOGY INFRASTRUCTURE

At the start of 2020, states [continued](#) struggling with high teacher turnover rates and the need to [diversify](#) the educator workforce. Policymakers [proposed](#) investing in educator recruitment and retention strategies to address these challenges. And even though millions of students [still lacked access](#) to the internet at home, states had largely [closed](#) the connectivity gap within most school buildings.

Despite this progress, the abrupt shift to distance learning spurred by COVID-19 revealed many deficiencies lingering in these systems. The pandemic demonstrated that closing the broadband gap in schools wasn't enough – students needed access to the internet and devices outside of the school building to participate in near-universal distance learning. It also became clear that educators needed access to both training and technology to deliver high-quality virtual instruction. States worked rapidly to provide students and teachers with the resources they needed by leveraging state and federal dollars, as well as the development of public-private partnerships to create innovative policy solutions and supports.

TECHNOLOGY, TEACHING AND PERSONALIZED LEARNING

Personalized learning is too often equated with an increased use of technology. While technology can be a powerful tool to support learning, we believe that effective learning environments first and foremost depend on quality instruction and meaningful relationships, not technology. For example, in a classroom driven by a personalized learning mindset, teachers [may integrate technology into their lessons](#) to achieve a number of student-centered objectives: customize the pacing of instruction for each individual student, provide support through content differentiation or allow students to learn even when they are outside the four walls of the classroom. However, technology does not, and should not, replace the relationship developed between teachers and students. It is simply a tool that supports great instruction centered on the needs of each student.

As the 2021 school year unfolds, policymakers must continue advancing innovations to address the interconnected challenges facing human capital systems and technology infrastructure. Pre-pandemic trends in teacher attrition have the potential to worsen, which may [exacerbate previously existing educational inequities](#). Despite the efforts of the past year, many households [still](#) do not have access to the technology needed for remote learning. The potential for new COVID-19 variants and the desire of districts to allow for more flexibility in when and how learning happens post-pandemic means this gap must continue to close. Teachers will also continue to require training to strengthen their capacity to deliver high-quality instruction in these new formats. Policymakers must take this opportunity to learn from the lessons of the pandemic and think differently about how and where learning happens, as well as how to strategically recruit, retain and support educators – including teachers of color – so that they are able to meet the individual needs of each student.

STATE HIGHLIGHTS

ARKANSAS: Investing in digital learning and teacher recruitment and development

Prior to the pandemic, Arkansas had made notable advances in providing residents with access to broadband and technology. In 2019, Governor Hutchinson's office released a state [broadband plan](#) noting that since 2015, the state had increased the number of students able to access the internet at 100 kbps by over 115,000 students. The state has continued to expand access to the internet and technology during the pandemic by [allocating](#) \$10 million of the Governor's Emergency Education Relief (GEER) fund to purchase Wi-Fi access and as many as 20,000 devices. During his most recent [state of the state address](#), Governor Hutchinson also highlighted the state's progress in developing its digital infrastructure and announced a \$30 million set aside to expand high-speed internet access to rural areas of the state.

Arkansas has also taken steps to address its human capital system needs over the past year and a half. The State Education Secretary [announced](#) in February 2021 that up to \$7.5 million in federal relief funds would be "earmarked for teaching academies to increase the number of special education and computer science teachers, and to enhance teacher skills in online education." This spring, the state legislature also passed [SB524](#), now [Act 646](#) to enhance recruitment and retention of teachers of color by requiring the following actions:

- » Requiring each public school district and charter school to prepare a three-year plan with goals for recruitment and retention of educators to “reflect the racial and ethnic diversity of the district’s students” as well as goals for increasing the number of students pursuing a career in education
- » Requiring districts to post the plan publicly, to annually assess progress towards meeting the goals of the plan, and to designate an employee to coordinate the implementation and review of this plan
- » Directing the Department of Education to set goals for increasing the number of teachers and administrators of color in the state
- » Directing the Division of Higher Education to develop a strategic plan for achieving this same goal in collaboration with other state entities

CONNECTICUT: Bridging the digital divide and increasing the pipeline of teachers of color

Early in the pandemic, the nonprofit Partnership for Connecticut [invested heavily](#) to provide devices to students across the state. In July 2020, the governor launched the [Everybody Learns Initiative](#), which invested \$43.5 million from the Coronavirus Aid, Relief, and Economic Security Act (CARES) to provide laptops and at-home internet access to Connecticut students. As of mid-December, the state [reported](#) that it had fully met the device needs of its school districts through these initiatives.

Separately, in spring 2021, the Connecticut State Department of Education launched its [AccelerateCT Education Task Force](#) to develop a statewide education recovery and acceleration framework. One of its content subgroups focused on addressing the digital divide, and the task force’s initial [recommendations](#) also include the “strategic use of technology, staff development and the digital divide” as one of its six priorities. [Guides](#) for each of the six priority areas can be found on the Department’s webpage.

Connecticut also took steps during the past year to continue its momentum in recruiting and retaining teachers of color. In 2016, the State Board of Education [identified](#) the need to develop strategies to increase “the racial, ethnic and linguistic diversity of the state’s educator workforce” in its comprehensive plan by certifying “1,000 new educators of color by 2021.” The state has since taken several actions to further this plan. In 2019, the legislature passed [SB 1022](#), requiring the State Department of Education’s Minority Teacher Recruitment Policy Oversight Council to annually hire and employ at minimum 250 new teachers and administrators from historically marginalized and resilient groups, 30 percent of which must be men. In the fall of 2020, Governor Lamont and then-Commissioner of Education Miguel Cardona also [announced](#) that the state would expand the state’s Educators Rising Academy Curriculum in 10 school districts throughout the state. This program encourages students from minority backgrounds to consider careers in education. This spring, the governor [announced](#) that the state had exceeded its 2016 comprehensive plan goal by over 1,000 positions and hired more than 1,900 educators of color since 2017.

KENTUCKY: Building on what works in digital learning and teacher diversity

Kentucky has a long history of supporting student learning remotely. The state began its [non-traditional instruction \(NTI\) program](#) as a pilot in 2011, which encourages the continuation of learning on days when school would otherwise be cancelled. The program grew to 83 districts by the 2019 school year and was expanded statewide during the pandemic. The state supplements its NTI program with an ongoing [workshop](#) series built around four digital strategies. During the pandemic, the state has also provided local education agencies with [extensive guidance](#) on how they may use federal COVID-19 relief dollars to build on existing technological capacity and support remote learning, among other priorities.

Kentucky has also continued efforts to diversify its teacher workforce. Prior to the pandemic, the [Kentucky Academy for Equity in Teaching](#) (KAET) project – a partnership between the state’s K-12, higher education and workforce entities – was established to recruit new teachers to the profession. KAET’s goal is to ensure that all students have access to “effective, experienced and diverse educators” through a range of activities intended to “inspire, prepare and educate the future and current teacher workforce.” These activities include:

- » A grow-your-own grant program
- » A teacher ambassador program to recruit the next generation of educators
- » Mentoring and assessment coaching for aspiring teachers
- » Alternative pathways to certification programs
- » Cultural competency and equity modules for public educators
- » Focus groups to build a strategic plan to support the recruitment and retention of a diverse educator workforce

In early 2021, Governor Beshear and Commissioner of Education Jason Glass [announced](#) that KAET would be re-launched to continue its work.

NEVADA: Ensuring digital access and expanding the teacher pipeline

In fall 2020, Nevada created a public-private partnership called [Connecting Kids Nevada](#) with the goal of ensuring that every student in the state “had a connection to a device and reliable internet at home.” The partnership [claims](#) to have successfully achieved this by early 2021. The Nevada Department of Education (NDE) also created the [NDE Digital Learning Collaborative](#) to “support educators, families, and students implement instruction and continue learning through digital means,” as well as establish a partnership with the CANVAS Learning Management System and a website to host digital learning materials and professional learning for the collaborative.

This year, Nevada also launched its [Blue Ribbon Commission for a Globally Prepared Nevada](#) with the goal of addressing a range of topics to support innovation in education for the next 10 to 20 years. The commission’s initial [recommendations](#) included various policies around distance education and a subsequent bill based on these recommendations, [SB 215](#), added language to the state statute requiring each school district to develop a program for distance education that establishes a plan to ensure access to technology for pupils, teachers or other school employees.

Nevada has also acted over the past year and a half to expand the diversity of its teacher pipeline through the establishment of the [NSHE Teacher Pipeline Taskforce](#). This task force, a collaboration between the state’s higher education and K-12 agencies, has been charged with:

- » Scaling up and replicating successful teacher pipeline initiatives
- » Finding solutions to overcome barriers to locally grown efforts to diversify the state’s teacher workforce
- » Making recommendations to state policy makers on ways to improve teacher preparation, licensure and retention policies
- » Exploring the role of educator preparation programs in teacher retention efforts

OHIO: Identifying and filling digital gaps

In November 2020 Ohio [launched](#) its [RemoteEDx Exchange website](#), which is designed to give parents and educators access to the tools and resources that they need to support students during remote learning. Recognizing the connectivity challenges faced by families, the state also undertook a survey of districts in early 2021 to gauge students' access to both the internet and devices. The state released the survey [results](#) and an in-depth analysis this past spring. The results, which include responses from approximately 85 percent of Ohio's traditional public-school districts, provide policymakers with a rich data set to draw on as they support families in the short- and long-term with technology access.

State policymakers have also taken actions to address the state's [digital gap](#). The state established a \$50 million [grant program](#) in summer 2020 to provide hotspots and internet-enabled devices to students for purchase. This spring, Governor DeWine signed [HB 2](#) which, among other things, [creates a grant program](#) to increase access to high-speed internet in underserved areas across the state. This program will help ensure students have greater access to broadband.

OKLAHOMA: Strengthening teacher preparation and development

In 2019 the Oklahoma State Department of Education, in collaboration with the Southern Regional Education Board, [established](#) the Oklahoma Supply and Demand network, which was tasked with "recommending improvements for preparing teacher candidates and to better support new teachers." During the midst of the pandemic in July 2020, the network released its [recommendation report](#), identifying barriers to paid student teaching internships and the lack of sustainable and statewide supports for newer teachers as two key priority challenges for the state to solve, along with accompanying recommendations.

Oklahoma has also taken actions to increase teacher retention in the state. This fall, the State Department of Education [announced](#) that it will be using \$8 million in federal money for a three year school leadership and teacher retention program. This legislative session, the state also passed two laws to strengthen the teaching profession. [H 1593](#) requires local school boards of education to establish a program to be completed by first-year teachers that emphasizes the importance of digital literacy teaching and learning standards. [H 1773](#) made changes to state law around the competencies that must be included in teacher preparation programs by requiring training for candidates that includes the identification and impact of trauma on student learning, as well as trauma-informed responsive instruction.

Additional State Examples

Arizona – Virtual Teacher Training Institute

<https://azgovernor.gov/governor/news/2020/08/governor-ducey-ade-helios-education-foundation-and-asu-launch-virtual-teacher>

Idaho – HB 386 (2021) Appropriating State Funding for Technology Infrastructure

<https://legislature.idaho.gov/wp-content/uploads/sessioninfo/2021/legislation/H0386.pdf>

Maryland – SB 66 (2021) Establishing an Office of Statewide Broadband

<https://legiscan.com/MD/bill/SB66/2021>

Maryland – Governor Hogan’s \$400 million investment in broadband

<https://news.maryland.gov/dhcd/2021/08/20/governor-hogan-announces-400-million-initiative-to-ensure-universal-broadband-for-maryland/>

Mississippi – Human Capital Taskforce

<https://www.sreb.org/mississippi-education-human-capital-roundtable>

Utah – SB 226 (2021) Making Revisions to the Provision of Online Education

<https://le.utah.gov/~2021/bills/static/SB0226.html>

Washington - HB 1365 (2021) Establishing a New Technology Grant Program

<https://legiscan.com/WA/bill/HB1365/2021>

Additional Resources on Technology Infrastructure



The Digital Bridge in K-12 Education

This organization supports school districts to increase connectivity outside of the classroom. The site includes resources for both districts and states.

<https://digitalbridgek12.org/>



Education Commission of the States State Information Request: Broadband Access Legislation

This brief includes information about how states have expanded broadband and technology in 2021

https://www.ecs.org/wp-content/uploads/State-Information-Request_Broadband-Access-Legislation.pdf



Education Commission of the States State Information Request – CARES Act Funding for Technology

This brief includes information on how states are leveraging CARES Act dollars to respond to the digital divide.

https://www.ecs.org/wp-content/uploads/State-Information-Request_-_CARES-Act-Funding-for-Technology.pdf



National Governors Association – Governors Prioritize Expanding Internet Access for K-12 Students

This brief highlights how governors are working to address the need for distance learning and close the digital divide in K-12 education.

<https://www.nga.org/news/commentary/governors-prioritize-expanding-internet-access-for-k-12-students/>

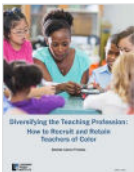
Additional Resources on Educator Recruitment and Retention



Education Commission of the States – 50 State Comparison: Teacher Recruitment and Retention

This resource details teacher recruitment and retention data and policies across all 50 states.

<https://www.ecs.org/50-state-comparison-teacher-recruitment-and-retention/>



The Learning Policy Institute – Diversifying the Teaching Profession: How to Recruit and Retain Teachers of Color

This report highlights the barriers to recruitment and retention of teachers of color and highlights promising practices to help overcome these barriers.

https://learningpolicyinstitute.org/sites/default/files/product-files/Diversifying_Teaching_Profession_REPORT_0.pdf



The Learning Policy Institute – Solving the Teacher Shortage: How to Attract and Retain Excellent Educators

This brief highlights strategies for how to attract and retain teachers.

<https://learningpolicyinstitute.org/product/solving-teacher-shortage-brief>

Get more resources to help make personalized learning a reality at KnowledgeWorks.org.



KnowledgeWorks is a national nonprofit organization advancing a future of learning that ensures each student graduates ready for what's next. For more than 20 years, we've been partnering with states, communities and leaders across the country to imagine, build and sustain vibrant learning communities. Through evidence-based practices and a commitment to equitable outcomes, we're creating the future of learning, together.