State Education Data Lessons From the COVID-19 Pandemic

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When the COVID-19 pandemic drove schools online in March 2020, educators and policymakers found themselves in the dark. Many did not know how many students were fully engaged in virtual classes, had access to devices or internet, or needed counseling support. States canceled their spring tests in the following months, further limiting access to information about the pandemic's effects on students.

A pandemic that upended students' academic prospects, mental health and economic stability also threatened to create an information blackout that could hamstring efforts to identify and meet their urgent needs.

In fall and winter 2021, DataSmith Solutions worked with the Data Quality Campaign and Education Commission of the States to survey state education agency leaders and staff about the pandemic's impact on state education data systems and strategies. Thirty states completed the survey, and their responses suggest that the pandemic will have a lasting influence.

States reported that they had to take swift action to gather information their data systems didn't already collect, and they often relied on ad-hoc surveys or spreadsheets to identify students who needed access to such critical resources as technology or food. The pandemic also prompted plans to mount new permanent data collections, conduct research on topics like interrupted instruction and digital equity, and strengthen data infrastructure and reporting. Most survey respondents found that state policies supported their data efforts during the pandemic, and some reported new policies governing data access and use.

Along the way, states encountered challenges that pre-dated the pandemic, including barriers to sharing data among state agencies, shortcomings in their data quality and persistent limits to their capacity.

This report summarizes the survey's major findings and offers examples of state strategies for addressing the pandemic's impact on education data. Click the numbers in parentheses after each finding to see more detailed information.

During the pandemic, states received new requests for information about its impact on instruction, attendance and access to technology, among other topics.

Survey Findings

- During the pandemic, every respondent received requests for statistics, information or analyses outside of typically mandated reports (2). The overwhelming number of respondents fielded requests from other state agencies; but most also had requests from the U.S. Department of Education, the media, research institutions or think tanks, or nonprofits/community-based organizations (4).

- Every respondent received requests for data on the mode of instruction students received – e.g., remote, hybrid or in-person. Most also received requests for data on student attendance; access to technology; and student eligibility for Pandemic Electronic Benefit Transfers, a federal program to provide free or subsidized school meals while school buildings were closed. Half of respondents indicated requests for data on student health and well-being (3).

State Example

When school buildings closed, states relied on multiple sources of data to ensure that students who qualified for free or subsidized school meals continued to receive them. To provide eligible students temporary emergency nutrition benefits through the Pandemic Electronic Benefit Transfer program, states had to collect information on students' addresses, their eligibility for the National School Lunch program and their remote learning status, among other topics. In **Michigan**, a long-standing initiative to promote data sharing and reporting across state agencies eased the state's efforts to ensure that students received those critical benefits.

State data systems could not always accommodate pressing needs for information during the pandemic, which prompted reliance on additional surveys or spreadsheets to collect new data. Some of those new statewide data collections will become permanent.

Survey Findings

- Most respondents said they relied equally on existing data sources and new surveys or data collections to fulfill data requests (5). Challenges like lack of data, privacy concerns and limited capacity prevented states from fulfilling some data requests (6).
- States most often had to rely on new statewide data collections to track instructional mode, technology resources (like laptops, iPads or access to broadband internet), student attendance, and student health and well-being. States were more likely to use surveys or spreadsheets than their Student Information Systems to carry out those new statewide collections (11).
- Some states plan to make parts of their new data collections permanent (12).

State Example

In March 2021, **Washington**'s Office of the Superintendent of Public Instruction joined the University of Washington, state department of health and state health care authority to survey students in grades 6 through 12 about their feelings and behavior during the pandemic. Districts used the survey's findings to strengthen support for students facing housing insecurity, food insecurity and emotional distress. The findings are also informing ongoing plans to reengage students and improve schools.

States have expanded their research agendas and partners in response to the pandemic.

Survey Findings

- Most respondents said their research agendas expanded to include interrupted instruction (or learning loss), digital equity (e.g., broadband and instructional modality), and equity issues for student groups (30).
- Roughly half of respondents said they expanded their research partners to address the research demands of the pandemic (33).

- Thirteen states reported new data sharing agreements with external research partners (28).
- Eleven states reported that the pandemic caused them to delay research projects, but almost every one of those states said they expect those projects to return to the queue (31, 32).

State Examples

Indiana H.B. 1514 required the state board of education to carry out a study on interrupted instruction in kindergarten through 10th grade. The resulting study examined the impact of interrupted instruction on different student groups and offered recommendations for tailoring interventions to their diverse needs.

Ohio has released Data Insights reports to help districts and schools navigate the challenges of the pandemic. To date, reports have addressed Ohio students' access to technology and the internet, the pandemic's effects on the 2020-21 school year and the pandemic's impact on students. Topics include education delivery models, student enrollment and attendance, and assessment outcomes. Reports also include guidance on how educators can use the data to support students and promote equity.

The pandemic's lessons are encouraging states to update data systems and reporting infrastructure.

Survey Findings

- Few respondents said their states had statewide student information systems (SIS) – that is, systems in which the state and every school district within it use the same system for managing student data. Those that did have such systems overwhelmingly reported that they helped solve key challenges involved in defining, collecting and reporting data during the pandemic (14). However only 21% of respondents in states without a statewide SIS said their states are considering implementing one (15).

- Most respondents said the pandemic's lessons would prompt changes or updates to their state education agency's data dashboards or public information portals, as well as to their district, state and federal reporting (17).

- Respondents were more likely to say that the pandemic accelerated than delayed plans to improve data connections across agencies or to build or improve data dashboards and portals (16).

State Example

The **Tennessee** Department of Education publishes an interactive visualization that estimates the pandemic's impact on student learning in every district and school in the state. The visualization allows users to identify districts and schools whose students likely suffered the worst effects of the pandemic and therefore need the most support. The dashboard also offers insight on the pandemic's effects by subject, grade level and student demographics.

State policies generally supported data efforts during the pandemic, but some states adopted new policies governing data access and use.

Survey Findings

- Most respondents agreed that formal and informal state policies supported efforts to launch new data collections or analysis in response to the pandemic ([20](#)).
- Most also agreed that current state policies support their data systems plans ([21](#)).
- Eleven states reported developing new state policies to help students, teachers and administrators gain remote access to data systems. Substantially smaller numbers of respondents reported new state policies for tracking student behavior on school-provided resources, data privacy, or P-20W data sharing, access or use ([27](#)).

State Example

School administrators in **Hawaii** lost access to virtual private networks when they began teleworking during the pandemic, limiting their ability to retrieve information about students who might need the most support as schools closed. The Hawaii Department of Education manually extracted data from the longitudinal data system to give principals information on the students who were most vulnerable to the closures so that principals could address their needs.

States were using, or planning to use, federal funds to upgrade their data systems and reporting. Some of those efforts address the impact of the pandemic.

Survey Findings

- Respondents were most likely to report that they were using, or applying for, funds from the Individuals with Disabilities Education Act Part B grants, Statewide Longitudinal Data System Grant Program, Perkins V, the Every Student Succeeds Act, or the Elementary and Secondary School Emergency Relief Fund.

- Most of the states reporting that they were applying ESSER funds to their data systems indicated that the funded work was related to the pandemic (34).

- Most respondents said federal funds would help them develop or improve data tools for the public or modernize their data systems' infrastructure (35).

State Examples

Florida made $4 million in CARES Act funds available to modernize its student information system, promote real-time data collection and allow districts to use the state student information system as their own. The state allocated an additional $6 million of CARES Act funds to grants to help local districts use data to improve student outcomes during and after the pandemic. Districts could choose to use the funds to hire data scientists. For an overview of how states planned to use American Recovery Plan funds to improve data systems, see FutureEd's State Plan Tracking spreadsheet.

The **Arkansas** Department of Education is using ESSER funds to provide districts with an early warning and intervention system focused on student achievement, discipline and safety. The resulting SmartData Dashboards aim to help educators and other school support staff identify and address challenges to students' health, safety and academic progress.

The pandemic prompted efforts to improve data linkages among different state agencies, but it also revealed barriers to sharing data among agencies.

Survey Findings

- Most respondents said their states already had separate entities that manage data across different agencies that represent early learning through the workforce (P20W) (9). Respondents were more likely to say the pandemic had accelerated than delayed plans to enhance data linkages across agencies (16).
- Some states reported using federal funds to build or improve data-sharing across agencies (35). Many of those federally funded efforts predate the pandemic.
- Thirteen states reported developing new data sharing agreements with other state agencies (28).
- More than 8 in 10 respondents said they occasionally (40%) or often (43%) coordinated with other state agencies, like health and human services or SNAP, to respond to requests for information during the pandemic (7).

- The data they sought were not always available. Thirty-seven percent said data from other agencies were always or often available and another 37% said they were occasionally available (8).
- Asked about challenges to sharing and reporting data from different state agencies across the P20W spectrum, respondents pointed to limited staff capacity, limited data elements and sources, onerous data-sharing restrictions and questionable data quality. Those challenges were most pronounced in early childhood data systems (26).
- Data governance and legal challenges ranked among the top challenges respondents faced in meeting their data sharing and reporting needs across P20W agencies (25).

State Example

Facing concerns about the pandemic's impact on early learning and development, the **Utah** Department of Health is working with Early Childhood Utah, the state's early childhood agency, to combine data from multiple datasets and thereby improve the range and accuracy of information about the development and care of young children. Data leaders in Utah aim to strengthen the information available to policymakers by connecting survey data on child development with the state's longitudinal data system. The effort intends to support research that informs policy and improves children's readiness to succeed in school.

Limits to capacity hampered state data systems' efforts to respond to the pandemic.

Survey Findings

- Most respondents reported that they lacked capacity — for example, funding, staffing or authority — to meet their needs for data collection, management and reporting (19). Most also said they needed more staff to carry out planned changes to their data systems (22).
- Respondents were most likely to say they would use additional staff in information technology or research and evaluation. Some said they would add database administrators and project managers (23).
- On average, survey respondents' top three challenges to meeting K-12 data system and reporting needs were data quality challenges, technological challenges and financial challenges (24).

State Example

Citing a surge of data requests during the pandemic, **Washington**'s Office of the Superintendent of Public Instruction published a notice on its website that it would give priority to requests from agency and legislative staff.

Final Thoughts

The COVID-19 pandemic revealed the strengths and limitations of state education data systems while inspiring new strategies for collecting, reporting and using information. Many of the limitations weren't new — but as with so many other challenges, the pandemic threw them into sharp relief. In response, states are working on systems and practices that better equip educators and policymakers to serve students in times of calm or crisis.

Despite these efforts, challenges remain. States can't modernize their data systems overnight, limits to resources and staff capacity can bedevil plans for improvement, and deep-seated cultures in state agencies can slow progress. Even so, the pandemic's lessons can help states give policymakers and educators the information they need to help students thrive.

Acknowledgments

About the Authors

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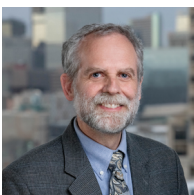
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