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The Impact of Rural and Urban School Reopening on Missouri Students

An Essay for the Learning Curve by Andrew Diemer and Aaron Park

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Pandemic-era teaching has heightened awareness of the gaps in education quality between the nation's most vulnerable students and most well-off students. For the most vulnerable students, access to equitable education continues to be strained, and COVID-19 variants continue to test districts and schools as they weigh the risks to health and safety against providing in-person learning. And for some students, even in this second year of pandemic-era teaching, schooling has yet to return to normal.

Given the increased attention on students living in poverty as they navigate the pandemic, we analyzed a representative sample of district reopening plans for the 2020–21 school year in Missouri. These plans help us understand how students experienced their first year of pandemic learning. They show what resources were available to help districts determine their responses last year, and they expose district-wide inequities that persist. Despite almost all plans emphasizing the importance of high-quality, in-person instruction, especially for vulnerable students, we find that:

- 95 percent of urban students living in poverty were in districts that offered exclusively distance education[1] during the first full pandemic school year (2020–21), heightening concerns about prolonged negative learning impacts, and
- rural districts, where nutritional and technological infrastructure is weakest, were less likely to provide plans to continue delivering services to students.

The pandemic's impacts have resonated differently within urban and rural communities in Missouri. This is particularly apparent among the poorest students. Responding to urban and rural students living in poverty requires attention to the different challenges these districts and students have faced.

[1] The three instructional modes are in-person (students are physically present at school, receiving instruction from teachers on-site), distance (students learn from home, either virtually or with paper packets), and mixed (students receive a combination of in-person and distance instruction).

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Poverty in Missouri

In Missouri, although race and poverty are deeply intertwined, the story of poverty changes dramatically across regions and urbanicity. Missouri is a primarily rural state of just over 6 million residents. Last year, nearly 13 percent of Missourians lived in poverty, slightly below the national average.[2] Rural districts with the highest poverty rates are overwhelmingly white (82 percent), whereas high-poverty urban districts are largely Black (88 percent).

Most of Missouri's Black residents are concentrated within St. Louis and Kansas City, and within these two metropolitan centers, Black residents are about three times as likely to live in poverty.[3] These same areas saw significant and crushing increases in pandemic-related unemployment rates among people of color.[4] Increasing unemployment and limited opportunities for remote work have put a strain on families assisting their children in learning this past year and may have contributed to higher rates of viral spread within communities of color.[5] The pandemic's disproportionate economic and health challenges for students living in poverty—paired with other challenges, such as inconsistent access to food delivery services from local schools, especially among families of color—may all contribute to a generational gap in learning.[6]

The highest concentration of poverty is within the St. Louis and Kansas City regions, but in much of Missouri's rural southeastern regions, particularly in the Ozarks and Bootheel, as much as one-third of the population lives in poverty.[7] These rural communities often have underdeveloped technological, health care, and nutritional infrastructure, each posing challenges to students and

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[2] "County-Level Data Sets: Poverty," US Department of Agriculture, Economic Research Service, last updated January 5, 2021, https://data.ers.usda.gov/reports.aspx?ID=17826.

[3] "Concentrated Poverty," City of St. Louis, accessed March 24, 2022, https://www.stlouis-mo.gov/government/departments/mayor/initiatives/resilience/equity/opportunity/neighborhoods/concentrated-poverty.cfm.

[4] Chad Davis, "African Americans Hit by Job Losses during the Pandemic Find It Hard to Recover," St. Louis Public Radio, September 2, 2020, https://news.stlpublicradio.org/2020-09-01/african-americans-hit-by-job-losses-during-the-pandemic-find-it-hard-to-recover.

[5] See the St. Louis entry at "Health Disparities," Tracking COVID-19 in Missouri, accessed March 24, 2022, https://slu-opengis.github.io/covid_daily_viz/disparities.html#St_Louis; and Connor Maxwell and Danyelle Solomon, "The Economic Fallout of the Coronavirus for People of Color," Center for American Progress, April 14, 2020, https://www.americanprogress.org/article/economic-fallout-coronavirus-people-color/.

[6] Faith Mitchell, "COVID-19's Disproportionate Effects on Children of Color Will Challenge the Next Generation," *Urban Wire* (blog), Urban Institute, August 17, 2020, https://www.urban.org/urban-wire/covid-19s-disproportionate-effects-children-color-will-challenge-next-generation; and Bethany Gross and Alice Opalka, "Analysis: As Many School Districts Reopen Virtually, the Opportunity Gap Widens for Students Living in Poverty," The 74Million, September 9, 2020, https://www.the74million.org/article/analysis-as-many-school-districts-reopen-virtually-the-opportunity-gap-widens-for-students-living-in-poverty/.

[7] "County-Level Data Sets: Poverty," US Department of Agriculture, Economic Research Service; and see the website for the Missouri Poverty Report at https://missouripovertyreport.org/.

school districts during the pandemic.[8] Last year, as the virus spread, many southeastern Missouri's students were dependent on the National Guard to provide food, and, lacking internet access, many students were left with few ways to continue their learning following a statewide mandate to close schools in April 2020.[9]

District Plans

Following statewide school closure in April 2020, Missouri school districts began to release and update school reopening plans during summer 2020. In the weeks leading up to the 2020–21 school year, all areas of Missouri had moderate to severe rates of COVID-19 transmission, and there was little guidance or communication on how to safely reopen schools from the Missouri Department of Elementary and Secondary Education, the Centers for Disease Control and Prevention, or federal, state, and local governments. Absent clear guidance, most school districts created their own reopening plans tailored to district circumstances, others relied on outside services to craft their reopening plans, and few released no plan at all.

The Policy Research in Missouri Education (PRiME) Center conducted a content analysis of fall 2020 reopening plans on a representative sample of Missouri districts to understand the reopening factors districts considered and communicated to their stakeholders for the first day of school.[10] We analyzed plans from the largest school district from each of the state's 114 counties (e.g., St. Louis Public Schools from St. Louis City) and oversampled districts in North St. Louis County and the largest counties statewide. In St. Louis City and Kansas City, we also randomly selected a sample of charter schools.[11] In combination with Small Area Income and Poverty Estimates Program data publicly available through the Urban Institute Education Data Portal, we found critical differences between how urban students living in poverty and rural students living in poverty learned during the 2020–21 school year.

We isolated the districts with the highest and lowest concentrations of students living in poverty in Missouri and found a dramatic difference between how rural and urban students learned during the pandemic school year.[12] Statewide numbers suggested students living in poverty reopened the school year similar to students in wealthier districts, but urban students living in poverty were limited

[8] Rita Hessee, Evan Rhinesmith, and J. Cameron Anglum, "Technology Implications for Missouri Public Schools in the Era of COVID-19" (St. Louis: St. Louis University, 2020); see the website for the Missouri Poverty Report at https://missouripovertyreport.org/; and Andrew Diemer, J. Cameron Anglum, and Evan Rhinesmith, "Brain Food: Student Meal Provision amid the COVID-19 Pandemic" (St. Louis: St. Louis University, 2020).

[9] Hessee, Rhinesmith, and Anglum, "Technology Implications for Missouri Public Schools"; and Diemer, Anglum, and Rhinesmith, "Brain Food."

[10] "Prime COVID-19 Content Analysis," St. Louis University, accessed March 24, 2022, https://www.sluprime.org/content-analysis.

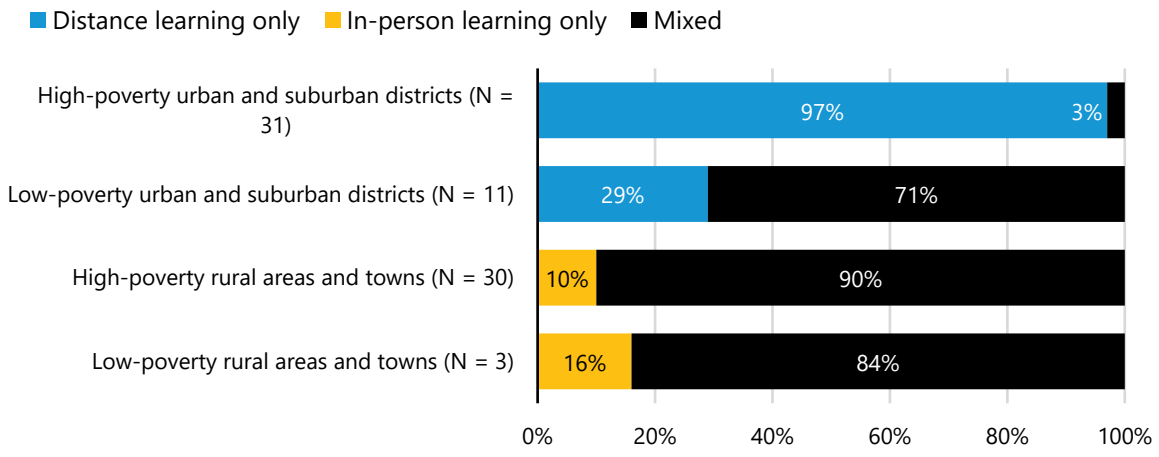
[11] For more information, see the data and documentation here.

[12] We calculate highest and lowest concentrations of student poverty from quintiles of district poverty, weighted by enrollment. We then remove the three middle categories, thereby isolating the highest and lowest quintiles.

almost entirely to distance learning. In contrast, rural students went back to school in person (figure 1).

FIGURE 1

Almost All Urban and Suburban Students in High-Poverty Districts Learned Remotely



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Source: Policy Research in Missouri Education (PRiME) Center

Widespread Distance Learning among Urban Students Living in Poverty Raises Concerns for Increased Learning Loss among the State's Most Vulnerable Students

Having urban students exclusively enrolled in distance education may be concerning because, despite the widespread expansion to online learning, evidence suggests that online education is less effective than traditional education, and, increasingly, there is the worry that distance learning for students who lack the resources and support will be especially ineffective for students living in poverty, many of whom are in districts that may not have previously been able to provide devices.[13]

Compounding this, families making low wages have less access to remote work, meaning some parents may have had to decide between staying at home to help their child grow and learn or

[13] Michael S. Grant, "National Survey of Public Education's Response to COVID-19," American Institutes for Research, accessed March 25, 2022, https://www.air.org/project/national-survey-public-educations-response-covid-19; and Cassandra M. D. Hart, Dan Berger, Brian Jacob, Susanna Loeb, and Michael Hill, "Online Learning, Offline Outcomes: Online Course Taking and High School Student Performance," *AERA Open* 5, no. 1 (January 2019), https://doi.org/10.1177/2332858419832852.

earning a paycheck.[14] These common circumstances may combine into a lost academic year, with disproportionate impacts falling upon students who have faced historical disadvantages.[15]

For families living in poverty, the pandemic exacerbated the already considerable barriers to accessing equitable education. Parents and families living in poverty have testified to the hardships they have faced working from home while assisting their children learning remotely.[16] Moreover, preliminary findings from across the nation have found that districts with high shares of students living in poverty often spend less time on instruction and are more likely to review past content to proactively respond to potential learning loss rather than introduce new content, potentially widening the already existing gap in academic performance.[17] Importantly, too, in the St. Louis and Kansas City metropolitan areas, distance education did not necessarily mean virtual education; the PRiME Center's content analysis revealed that 16 of Missouri's poorest districts used paper packets, and in some, education came solely via paper packets delivered from school to home.

Students living in poverty face substantial hardships, and the differences in instructional delivery help expose the divide between the profound challenges students living in deep poverty face and the resources that their home district has available to support them. Across similar regions, we observe that students from wealthier districts had options in how they accessed learning in the 2020–21 school year. This is a dramatic difference from urban students living in poverty, most of whom were given no option but to learn from a distance, which could widen the gap. Pandemic-related conversations on responding to students tend to focus on the urban-rural divide, but attention must focus on students who face the toughest challenges within each of these regions rather than between regions. One may argue that students in rural districts, which are more likely than urban districts to offer access to in-person learning, are at advantage compared with urban students. But different challenges, such as food insecurity and inequitable access to technology that hinder learning when students stay home to quarantine, exist and affect rural students and their families.

Rural Districts, Where Nutritional and Technological Infrastructure Is Weakest, Were Less Likely to Provide Plans to Continue Delivering Food or Devices to Students

All districts in Missouri were managing moderate to severe rates of viral spread at the beginning of the school year. The pandemic has strained access to basic necessities, such as food, particularly in

[14] Bureau of Labor Statistics, "Job Flexibilities and Work Schedules—2017-2018: Data from the American Time Use Survey," news release, September 24, 2019, https://www.bls.gov/news.release/pdf/flex2.pdf.

[15] "Will This Be a Lost Year for America's Children," *New York Times,* September 11, 2020, https://www.nytimes.com/interactive/2020/09/11/magazine/covid-school-reopenings.html.

[16] Gina Adams, "Working Parents Are Relying on Others to Help with Their Children's Distance Learning. But Who's Helping the Helpers?" *Urban Wire* (blog), Urban Institute, November 20, 2020, https://www.urban.org/urban-wire/working-parents-are-relying-others-help-their-childrens-distance-learning-whos-helping-helpers.

[17] Grant, "National Survey of Public Education's Response."

rural areas where student food insecurity is high.[18] Yet, without stable access to internet or food within communities, many rural districts cited the need to continue delivering these services to students as outweighing the risks of the pandemic, and they chose in-person learning.[19] Despite this, more than 70 percent of rural districts serving students living in poverty did not have a plan to continue to distribute food (figure 2).

Despite good intentions, these districts lacked the resources and personnel to guarantee the continuance of food services even in the event of closure.[20] In southeastern Missouri, where student food insecurity is widespread, some areas relied on the National Guard to continue to provide food to students. Meanwhile, Supplemental Nutrition Assistance Program applications for families with students have soared as statewide food insecurity has increased, indicating greater reliance on school meals.[21] But even though some social safety net programs, like the Pandemic Electronic Benefit Transfer (P-EBT), have been expanded to allow families greater access to food, a significant portion of eligible families are not receiving the benefit.[22] Recent changes to P-EBT may continue to make it difficult for families to receive the resources they need.[23]

Even now, as rural Missouri districts continue to struggle to contain schoolwide and community outbreaks, some districts continue to struggle to deliver regular meals even with school doors open.[24] Even temporary and brief periods of food insecurity can have lasting implications for students.

[18] Diemer, Anglum, and Rhinesmith, "Brain Food."

[19] Amy Shelton, Ashley Donaldson Burle, Aaron Park, Andrew Diemer, and Kristi Donaldson, "The Pandemic Digital Divide in Missouri: Rural Students Most Likely to Lack Full Access to Technology" (St. Louis: St. Louis University, 2021); and Laurie M. Tisch Center for Food, Education, and Policy, Program in Nutrition (Tisch Center), "School Meals in Rural Communities: A Vital Service during COVID-19 and Beyond" (New York: Columbia University, Teachers College, Tisch Center, n.d.).

[20] Diemer, Anglum, and Rhinesmith, "Brain Food."

[21] Diemer, Anglum, and Rhinesmith, "Brain Food."

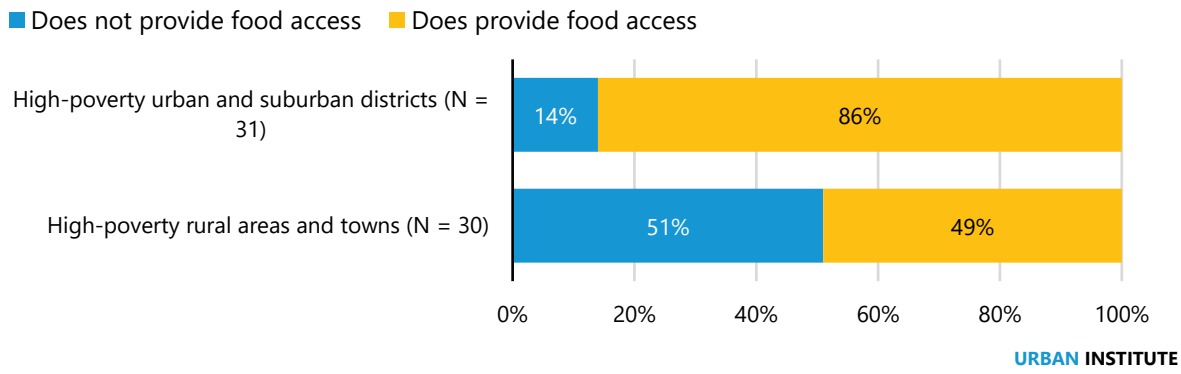
[22] Ryan Delaney, "40% of Eligible Missouri Kids Missing Out on Added Food Assistance," St. Louis Public Radio, June 24, 2020, https://news.stlpublicradio.org/education/2020-06-24/40-of-eligible-missouri-kids-missing-out-on-added-food-assistance.

[23] Missouri Times, "P-EBT Program Returns, but Many Changes for 2021," press release, June 15, 2021, https://themissouritimes.com/p-ebt-program-returns-but-many-changes-for-2021/.

[24] Madeline McClain, "Northwest Missouri School Districts Face Issues with School Food Supplies," KQTV, September 9, 2021, https://www.kq2.com/coronavirus/northwest-missouri-school-districts-face-issues-with-school-food-supplies/article_94f3a0be-32bc-5907-8f01-956b23c46814.html.

FIGURE 2

Urban and Suburban Districts Were Twice as Likely to Provide Food Access for Students



Source: Policy Research in Missouri Education (PRiME) Center

Similarly, the pandemic has strained the weak technological infrastructure across much of rural Missouri, widening the digital divide. Before the pandemic, about 1 in 10 students (K–12 and postsecondary) and teachers lacked internet access at home.[25] Rural students, students of color, and students from low-income households are most likely to lack internet access, a problem that has only grown since the onset of the pandemic and has now motivated stakeholders and policymakers to take short- and long-term actions, from distributing federal pandemic aid to expand internet and device access to making long-term investments in infrastructure.[26] Urban students and students of color, who were less likely to have access to in-person learning compared with rural students, have a more immediate and severe need for internet access than it would have been otherwise.

Since the pandemic began, policymakers and district leaders at all levels of government have collaborated to improve technology access using federal aid. State efforts, such as the Missouri Student Connectivity Grant, help districts purchase devices and improve internet infrastructure, and the Federal Communications Commission established a multibillion-dollar Emergency Broadband Benefit and Emergency Connectivity Fund to reach marginalized communities by improving local internet infrastructure and subsidizing affordable connectivity by household.[27]

Despite these efforts, rural districts struggled to provide technology to students. Fifty-four percent of students in town and rural districts with high poverty rates received devices only, and only 25 percent received both devices and internet access. On the other hand, 93 percent of students in

[25] Niu Gao and Joseph Hayes, "The Digital Divide in Education" (San Francisco: Public Policy Institute of California, 2021).

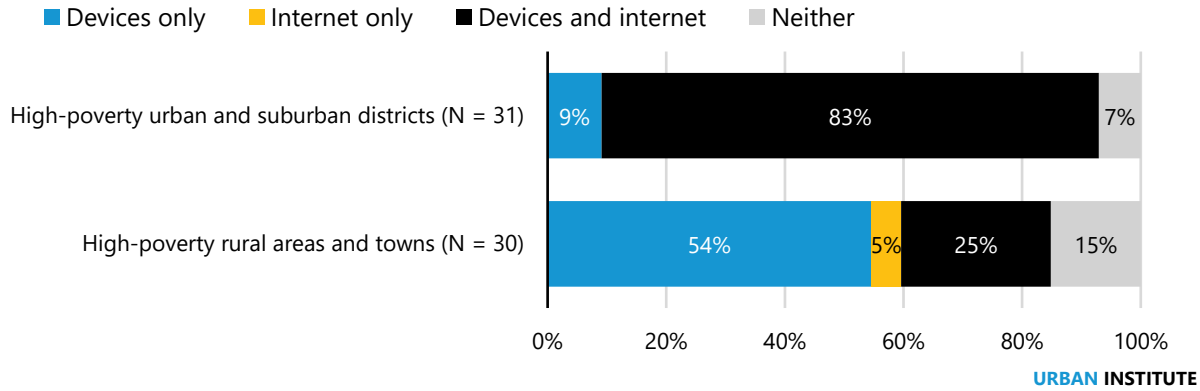
[26] Gao and Hayes, "The Digital Divide in Education."

[27] "Emergency Broadband Benefit," Federal Communications Commission, last updated March 15, 2022, https://www.fcc.gov/broadbandbenefit; and "Emergency Connectivity Fund," Federal Communications Commission, last updated March 7, 2022, https://www.fcc.gov/emergency-connectivity-fund.

urban and suburban districts with high poverty rates received either devices only or devices and internet access (figure 3).

FIGURE 3

Most Urban and Suburban Districts Offered Both Devices and Internet, Whereas Most Rural Districts Offered Only Devices



Source: Policy Research in Missouri Education (PRiME) Center

In addition to devices, stable internet access is crucial for effective distance learning. Yet students in urban and suburban districts with high poverty rates were more likely to receive home-based internet access (i.e., hot spots). Students in town and rural districts with high poverty rates were more likely to receive community-based internet access (e.g., strategically placed Wi-Fi-enabled buses and inside and outside community buildings).

For rural students unable to attend school in person, such as immunocompromised or students with Individualized Education Programs (of which there are many in rural Missouri), access to home-based internet, which is usually more affordable and subsidized by state programs (e.g., the Missouri Student Connectivity Grant), would be more useful than community-based internet. But as the pandemic highlights the broadband issues that continue to affect rural students today, expeditious adoptions and sustained support of technological infrastructure are necessary to provide stable high-quality education to all students, regardless of urbanicity and wealth.[28]

Conclusion

Urban and rural students have faced challenges in learning and returning to school, but we find that even within these areas, there are dramatic differences between how students in affluent districts and how students in districts with high poverty rates receive their education. Though race and learning are

[28] Grayson Rainey, "Rural School District Faces Broadband Issues; Subcommittee Meets at Capitol," KOMU, September 29, 2021, https://www.komu.com/news/midmissourinews/rural-school-district-faces-broadband-issues-subcommittee-meets-at-capitol/article_3db25d90-2159-11ec-b454-cb20d914e285.html.

closely intertwined, the pandemic's impacts on schooling continue to disproportionately affect students living in poverty and the districts with limited ability to support them.

Nearly all students living in poverty in urban Missouri were given no option but to learn from a distance. By virtue of the concentration of Black students in urban areas, the decisions of urban districts to provide only distance education may have lasting, even generational, impacts on students of color. Conversely, rural students, often deeply reliant on school-provided social services, continue to struggle to access those resources.

While the country and Missouri continue to battle waves of the coronavirus, access to essential nutritional and technological resources may be, at best, unreliable. Districts that serve the highest proportions of students living in poverty should receive state and local support to hire staff and make plans that prioritize providing continued instruction and resources to these students. Supplemental tutoring and consistent communication on school decisions (or even locally available resources) are helpful, but moving forward, it is vital to ensure high-quality classroom instructional time.[29]

Over the next several years, students who experienced interruptions to learning or other resources will need added attention, especially those who have been historically disadvantaged. Both urban and rural students living in poverty will require additional and differentiated responses.

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[29] Matthew A. Kraft and Manuel Monti-Nussbaum, *The Big Problem with Little Interruptions to Classroom Learning* (working paper, Annenberg Institute at Brown University, 2020); Carly D. Robinson, Matthew A. Kraft, Susanna Loeb, and Beth E. Schueler, "Accelerating Student Learning with High-Dosage Tutoring" (Providence, RI: Annenberg Institute at Brown University, 2021); and Tory Christian, Molly I. Beck, Andrew Diemer, Kristi Donaldson, and Ashley Donaldson Burle, "Supporting Students with Disabilities during the Pandemic: Rural Districts Least Likely to Provide Information" (St. Louis: St. Louis University, 2021).

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