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#### Author Note

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#### Abstract

This paper reports findings from a nationally representative survey of K-12 teachers in May 2023 that examines the potential long-term impacts of COVID-19 on public schooling. The findings suggest fundamental ways in which school operations, instructional practice and parent-teacher interaction have changed since the pandemic. Some changes seem promising; others suggest caution. While policymakers may not be able to directly influence some of the reported changes in the short run, monitoring the evolution of school practices (and their consequences for children) will position educational leaders to help teachers and students address the consequences of the COVID-19 pandemic going forward.

*Keywords:* COVID-19, computers and learning, instructional practices, instructional technologies, student mental health, parents and families, survey analysis

# The Lasting Effects of the COVID-19 Pandemic on K-12 Schooling: Evidence from a Nationally Representative Teacher Survey

The impact of the COVID-19 pandemic on public schooling was unrivaled in recent history. Starting in late February 2020, education officials across the country began closing schools in an attempt to stop the spread of the virus. Eventually, 48 states ordered or recommended schools remain closed through the end of the academic year (EducationWeek, 2020). By all accounts, there was very little instruction provided in spring 2020 anywhere (Goodrich et al., 2022; Hamilton et al., 2020). In fall 2020, estimates suggest that 27% of school districts serving 44% of students started the school year virtually, with an additional 23% of students in something less than full time in-person instruction (Baum & Jacob, 2024). Fearful of health risks and frustrated with the learning options provided by public schools, many families chose to enroll their children in private schools or to school them at home. Virtual schooling in 2020-21 was plagued by challenges, exacerbated by the medical, economic and social strain placed on families (Fahle et al., 2024; Kuhfeld et al., 2022; Leech et al., 2020).

Over the course of 2020 and 2021, student academic skills and mental health deteriorated dramatically. Student reading scores on the National Assessment of Educational Progress (NAEP) experienced their largest decline since 1990, while student math scores declined for the first time ever (The Nation's Report Card, 2023). Depression and anxiety among young people increased sharply, with nearly half of high school students reporting persistent sadness or hopelessness in 2021 (CDC Media Relations, 2022).

Yet, when children returned to school in fall 2022 in-person instruction was universal and mask mandates were rare. Athletic events and extracurricular activities had resumed. Parents were allowed in schools to volunteer and meet with teachers. On its face, K-12 schooling looked much the same as it had in fall 2019.

In the midst of the COVID-19 outbreak, many educational scholars speculated about how it could lead to substantial structural changes in K-12 schooling. For example, Mehta and Datnow (2020) remarked that the pandemic might provide an "opening to radically shift the grammar of schooling" (p. 496). These and other writers noted that there was widespread dissatisfaction with the status quo before COVID-19. Indeed, Fullan (2020) indicated that the pandemic had set the stage for a paradigm shift in schooling by illustrating how "blatantly and desperately dysfunctional" (p. 661) the traditional system had become.

Did any such radical changes emerge? Have any of the structures or practices adopted during COVID-19 persisted? A recent qualitative study explores what K-12 schooling looks like in a post-pandemic world. Jacob and Stanojevich (2024) conducted semi-structured interviews with 31 teachers and administrators across 12 districts in two states, asking them to describe their experiences before, during and after the pandemic. The authors found notable changes to how schools approach technology use, instruction, and parent-teacher communication. They argue that several important changes are likely to persist, including the availability of computers assigned to individual students, the widespread use of Learning Management Systems, the prevalence of videoconferencing for parent-teacher communication, and a shift away from lecture-based instruction to more individualized (and technology-aided) work.

While this research provides a rich and nuanced picture of teaching and learning today, it is not clear how widely these findings generalize. To obtain a broader understanding of how the pandemic may have changed schooling in the U.S., I surveyed a nationally representative set of veteran K-12 teachers in May 2023. The survey included items to assess teacher views in four domains highlighted by Jacob and Stanojevich (2024): (i) student mental health and behavior, (ii) educational technology, (iii) instructional practice and (iv) parent-teacher interaction. The sample is restricted to teachers who had taught at least one year prior to COVID-19 (defined as 2018-19 or earlier). The questions were designed to elicit teacher views on how school structures and practices differed from those that existed prior to the pandemic. Several important findings stand out. First, students are still struggling with mental health challenges that impact their ability to productively engage in school. These conditions have forced teachers to adjust their instruction considerably. Notably, a large fraction of teachers report they are assigning students less homework, allowing students to turn in assignments late, and giving students the opportunity to retake exams. Second, teachers and students are using digital technology substantially more than they did before COVID-19. Even now that they are back to in-person schooling, teachers are using technology for a wide range of purposes, from delivering instruction to providing content-based remediation to creating more engaged learning opportunities. Third, teachers are spending less time lecturing, instead allocating more time to independent student work and small group activities. Finally, the use of videoconferences for parent-teacher meetings has continued. Indeed, roughly one-half of teachers indicate that they conduct a substantial fraction of parent-teacher conferences online; nearly a quarter of teachers report that most of their interactions with parents are virtual.

In interpreting these results, it is important to keep in mind that they are purely descriptive. While I highlight differences between schooling practices before and after COVID-19 disruptions, these should not be interpreted as causal effects of specific pandemic-related policies. The COVID-19 pandemic affected virtually every aspect of society, and impacted multiple aspects of education simultaneously. Moreover, there were potentially important forces operating prior to the pandemic, such as an increasing reliance on technology and growing partisan polarization which may have influenced some aspects of schooling even in the absence of the pandemic. For these reasons, it is not possible to cleanly identify which of the many things that occurred during this time were responsible for the changes in K-12 schooling described here.

While it is not clear whether all of the changes documented here will persist, the new structures and practices have a substantial impact on K-12 schooling today. The novel ways in which teachers are utilizing instructional technology, supporting the social-emotional development of children and interacting with parents affect children and their families on a daily basis. Yet we know little about *how* these changes are impacting students' psychological well-being or academic learning. There is only modest research evidence on many of the areas in which schools have experienced the greatest changes (e.g., instructional technology, parent-teacher communication), and the scale of the post-pandemic changes are unprecedented, limiting the value of the research that does exist. It is essential for practitioners, researchers and policymakers to recognize how schools have changed since COVID-19 and to carefully monitor how the new programs and practices are impacting children.

The remainder of the paper proceeds as follows. I begin with a description of the data, including the construction of key measures. I then lay out the main findings for the full sample, describing teacher responses to items in each of the four domains outlined above. Next I explore how survey responses differed by teacher, school and district characteristics. I conclude with a short discussion of policy implications.

#### Data

The data for this study comes from the RAND American Teacher Panel (ATP), a nationally representative panel of public K-12 educators (Robbins & Grant, 2020). The ATP began in 2014 and currently includes about 25,000 teachers. Teachers recruited to the ATP agree to participate in surveys several times per year for a modest financial compensation. For a fee, RAND allows researchers access to this panel to field surveys of their own design.

The specific sample used in this study includes core subject teachers (i.e., math, ELA, social science, natural science, computer science or foreign language) in grades K-12 who were teaching in spring 2023 and had taught prior to the COVID-19 pandemic, defined as the 2018-19 school year or earlier. Teachers were surveyed over a three-week period in 2023, from April 24th through May 15th. The survey took roughly 10 minutes to complete and teachers were provided \$10 for their participation.

A total of 987 teachers completed the survey.<sup>1</sup> Survey responses were merged to publicly available school and district level data based on the NCES ID of the school in which the teacher worked at the time of the survey. The contextual data includes district demographics and achievement as well as learning mode and masking policies in place in the district in the 2020-21 and 2021-22 school years. Contextual data was missing for 11 teachers, resulting in a final analysis sample of 976 teachers.

	All teachers	Elementary (grades K-5)	Secondary (grades 6-12)
Elementary school teacher	0.525	1.000	0.000
Secondary school teacher	0.475	0.000	1.000
Subject area			
ELA	0.176		0.370
Math	0.141		0.297
Science	0.073		0.154
Social studies	0.078		0.164
Male teacher	0.198	0.074	0.336
More experienced teacher	0.719	0.707	0.731
Urban school	0.280	0.303	0.254
Rural school	0.323	0.310	0.336
Charter school	0.024	0.023	0.024
% white or Asian in the school	0.538	0.525	0.553
Majority minority school	0.513	0.541	0.482
Majority poor school	0.484	0.538	0.425
Proportion of 20-21 hybrid	0.314	0.306	0.322
	(0.335)	(0.332)	(0.338)
Proportion of 20-21 virtual	0.234	0.236	0.232
	(0.299)	(0.303)	(0.295)
Missing 20-21 learning mode	0.094	0.098	0.089
N obs	976	460	516

Table	1.	Summary	<i>Statistics</i>

*Note:* Estimates are weighted to account for sampling and non-response probabilities.

Table 1 shows summary statistics for this sample. Estimates are weighted by the sampling probability in order to be representative of the target population described above. Overall, 52% of the sample are elementary teachers (grades K-5). Among secondary

 $<sup>^{1}</sup>$  The intention was to obtain 1,000 responses, but a small set of teachers did not respond to the invitation.

teachers, math and ELA teachers are roughly twice as likely to appear as science and social studies teachers. Roughly 7% (34%) of elementary (secondary) teachers are male, while about 71% of teachers have at least 10 years of experience (described as "more experienced" in the table). Charter school teachers represent only 2.3% of the sample.

#### Measures

The survey included items meant to assess teacher views in four domains that were commonly discussed by teachers in Jacob and Stanojevich (2024). Brief descriptions of the items contained in each domain appear below; the full survey appears in Appendix B.

The first domain involves student mental health and behavior. Teachers were asked to estimate what proportion of their students are struggling with depression, anxiety, bullying and other behavior problems in 2022-23 relative to before the pandemic. To gain a better sense of how these factors impact instruction, teachers were asked to estimate how much class time they spent dealing with these issues in 2022-23 versus prior to the pandemic.

The second domain includes a variety of measures relating to educational technology. Several items ask teachers to report on the availability of digital devices (i.e., laptops and tablets) during and after the 2020-21 school year. Other measures capture the availability and use of Learning Management Systems (LMS) before, during and after 2020-21. Finally, several items capture the frequency with which teachers use software or other digital tools (other than an LMS) as well as the purposes/contexts in which they are most likely to use these technologies.

The third domain focuses on instructional practice. Teachers were asked to describe various aspects of their instruction in the year of the survey (2022-23) and immediately prior to the pandemic (fall 2019). In one set of items, teachers were asked how much time they allocate to lecture, class discussion, independent student work, and group work. In another set, teachers were asked to describe how much time they spend getting students caught up, reviewing routines and procedures, and dealing with emotional or behavioral challenges students bring to class. A third set of items asks teachers about changes in academic expectations, such as the amount of homework they assign, the number of assessments they administer, and the flexibility they provide students in completing assignments and assessments.

The fourth domain encompasses parent-teacher communication. One set of items focuses on the frequency of interaction; another set focuses on the mode of communication (e.g., in-person, email, videoconference, etc.). Other items dig deeper into the growing use of videoconferencing that was highlighted by Jacob and Stanojevich (2024).

#### **Empirical Strategy**

Consistent with the descriptive goal of this research, the analysis emphasizes the presentation of summary statistics. The first section shows nationwide patterns. The second section highlights differences across several important subgroups of teachers and schools. Given the limited sample size, I focus on a small number of factors identified as potentially important moderators: grade level, urbanicity, school type (charter versus traditional), school racial composition and the district's 2020-21 learning mode. All estimates use weights provided by the ATP to account for sampling and non-response, and thus ensure the responses are representative of the target population.

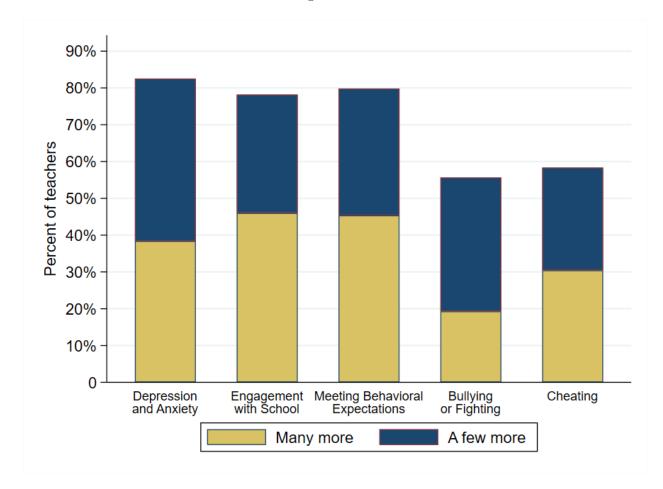
#### Results

#### The National Picture

I first present results for the full sample, which will provide a picture of post-pandemic schooling nationwide. I will later explore variation across student, teacher and district characteristics.

# Academic and Psychological Needs Among Students

The academic and psychological challenges prevalent among young people in the wake of the pandemic have been extensively documented (Betthäuser et al., 2023; CDC Media Relations, 2022; Flannery, 2022).<sup>2</sup> While there is some indication the situation has improved over the past two years (Fahle et al., 2024), even today teachers and administrators describe students as struggling more than before COVID-19 (Jacob & Stanojevich, 2024). The nationally representative set of teachers in this study echoes the sentiments voiced in more localized settings.

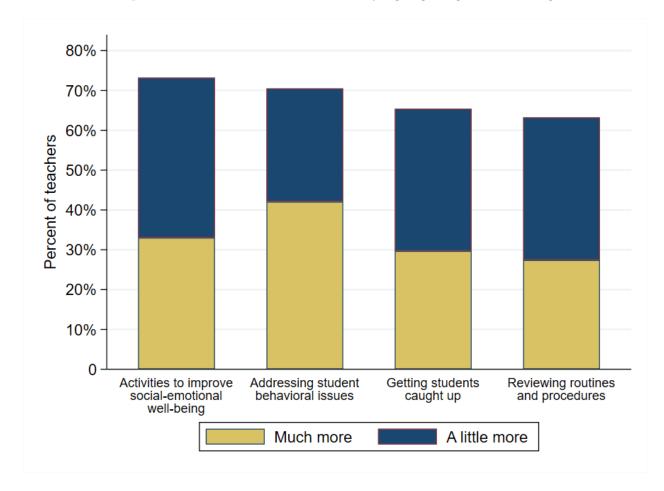


**Figure 1**. Compared to before the COVID-19 pandemic, how many of your students are struggling in the following areas?

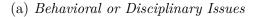
Teachers report that many more of their students struggle with emotional and behavioral challenges in 2023 compared with before the pandemic (Figure 1). Nearly 40%of teachers report *many* more students struggling with depression and anxiety than before

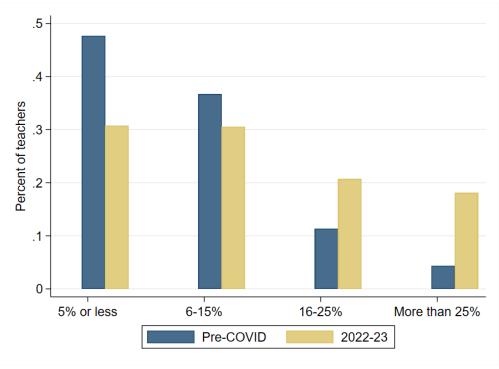
 $<sup>^2</sup>$  However, there is still some debate about whether the pandemic itself was the primary cause of the difficulties young people are experiencing today.

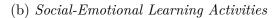
the COVID-19 pandemic; over 80% report having at least a few more students struggling. Nearly 45% report many more students are failing to meet behavioral expectations and lack engagement with school compared to the year immediately prior to the pandemic. Teachers also report more students involved in bullying, fighting and cheating.



**Figure 2**. Compared to before the COVID-19 pandemic, how much class time do you spend on each of the following tasks this school year?







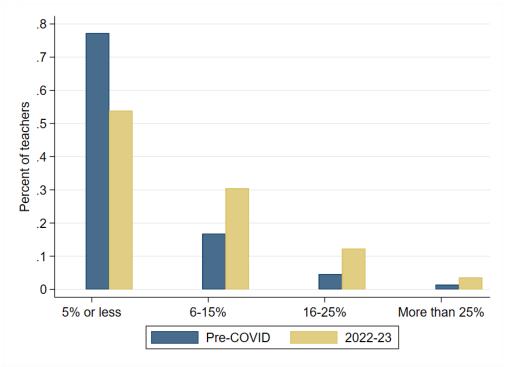


Figure 3. Proportion of Class Time Spent on Issues outside Core Academic Content

These challenges have important implications for teachers' work. As shown in Figure 2, 42% of teachers report spending *much* more class time addressing behavioral issues than before the pandemic; an additional 28% report spending a little more time. 33% of teachers report spending *much* more class time on activities relating to students' socio-emotional well-being relative to before the pandemic; 40% report spending a little more time. Over 60% of teachers report spending more time getting students caught up and reviewing routines and procedures. Figure 3 provides a sense of the actual time devoted to these issues. In spring 2023, roughly two-fifths of teachers report spending more than 15% of their total class time dealing with behavioral or disciplinary issues. There is a corresponding shift in the amount of time teachers report devoting to social-emotional learning (SEL) activities meant to improve students' well-being. Interestingly, the time spent on SEL activities is notably less than the time devoted to dealing with disruptive behavior.

#### Availability and Use of Digital Technology

Not surprisingly, teachers report a dramatic increase in the availability and use of digital technology relative to before the pandemic. As shown in Table 2, 71% of teachers report that every student in their school has their own computer in 2022-23 compared with only 40% prior to the 2019-20 school year. An additional 26% report that all students have access to their own computer while at school, but are not permitted to take them home. Only 3% of teachers report less access in 2022-23. Even among teachers that reported minimal access to digital devices before COVID-19 (the 36% shown in the bottom row), roughly 94% indicate that students now either have their own devices or can access devices while at school.

If a respondent indicated that their school had assigned students their own computer during COVID-19 but no longer does so, the respondent was asked to provide the reason(s) for the change. Teachers indicated several reasons why their schools decided to limit students from taking computers home. Roughly 50% of teachers indicated that too

#### LASTING EFFECTS OF COVID ON K-12

	Every student had computer to take home	School access but not take home	Neither
Full Sample			
Before COVID	40%	24%	36%
2022-23	71%	26%	3%
Before COVID, computer availability	School Year 2	2022-23	
Every student had their own $(40\%)$	91%	8%	1%
All students had access to a computer at school but could not take them home $(24\%)$	59%	40%	1%
Neither $(36\%)$	59%	35%	6%

#### Table 2. Student Access to their own Laptop Computer

*Note:* Estimates are weighted to account for sampling and non-response.

many devices were lost or damaged; 22% of teachers indicated that students forgot to bring them to school; and 18% reported a lack of funding.

Learning Management Systems (LMS) were perhaps the most widespread and visible pieces of technology adopted during the pandemic. These systems – like Google Classroom, Schoology, Canvas and Blackboard – serve as a one-stop "landing platform" for all types of educational activities. Teachers post learning materials, classroom activities and homework assignments to their LMS. Students use the LMS to access materials and submit assignments. Teachers, students and parents can communicate with each other via the LMS. Jacob and Stanojevich (2024) found that the vast majority of schools continued to use these systems even after in-person instruction resumed. The survey results presented here provide a national perspective.

Figure 4 shows how the use of LMS changed following the COVID-19 pandemic. Prior to the pandemic, less than 15% of teachers posted lessons to their LMS at least once a week. After the pandemic, nearly 35% of teachers report doing so. The proportion of teachers who posted homework to an LMS at least once a week increased from 35% before

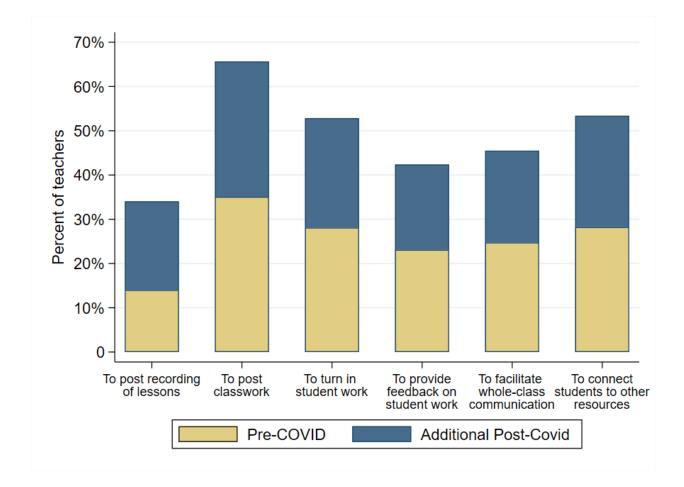


Figure 4. Use of Learning Management Systems at least once a week, by activity

the pandemic to 65% after the pandemic. Indeed, across all six categories, the proportion of teachers using an LMS frequently nearly doubled following the pandemic.

In addition to LMS, teachers report using substantially more software and other digital applications for instruction in 2023 than prior to the pandemic. Nearly 30% of teachers report using digital tools *much* more than before the pandemic; an additional 28% report using digital tools a *little* more than before. The most commonly mentioned applications include Kahoot, EdPuzzle, Nearpod, IXL, Kahn Academy, Pear Deck, Prodigy and Blooket.

# Instruction

Teachers report some important aspects of class instruction that remain quite different than before the pandemic. Not surprisingly, many of these involve the use of digital instructional technology. However, teachers also report differences beyond those mediated by technology.

Consistent with the reported decline in student achievement, teachers describe spending much more time getting students caught up and reviewing routines and procedures (see Figure 2). Indeed, nearly 30% of teachers report spending *much* more time getting students caught up than before the pandemic, with an additional 36% indicating that they spend a *little* more time.

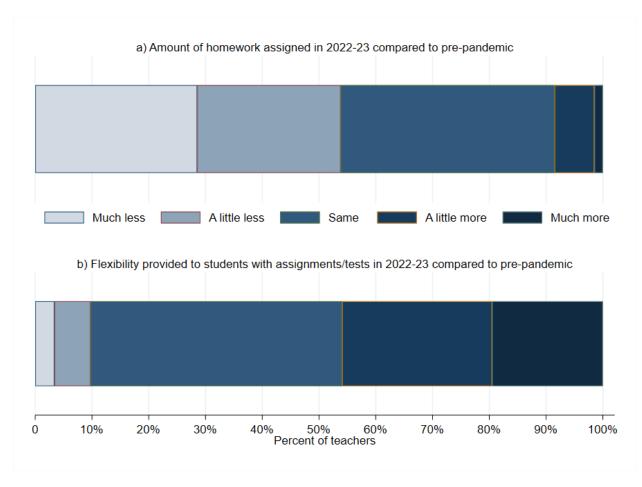


Figure 5. Changing Teacher Expectations and Practices after COVID-19

It also appears that teachers have changed their expectations and approach to teaching in potentially important ways. Figure 5 shows that teachers are assigning less homework and giving students more flexibility with assignments and tests. Roughly half of teachers report assigning less homework than before the pandemic; 44% report providing students with greater flexibility to turn in assignments late and retake exams. This is consistent with a change in student capacities along with teacher beliefs about the value of flexibility in meeting students' needs.

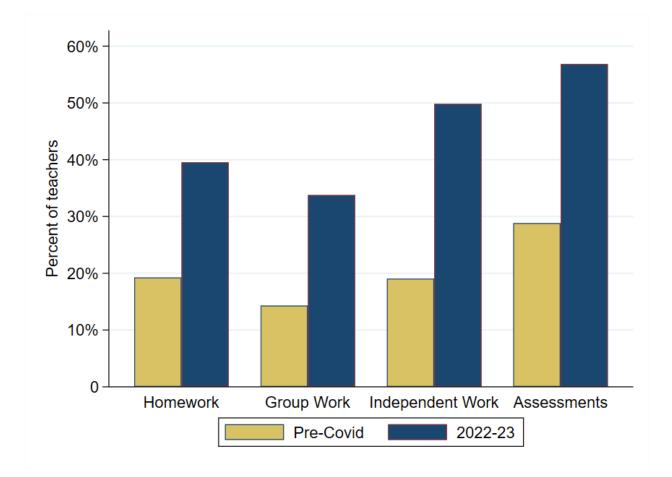
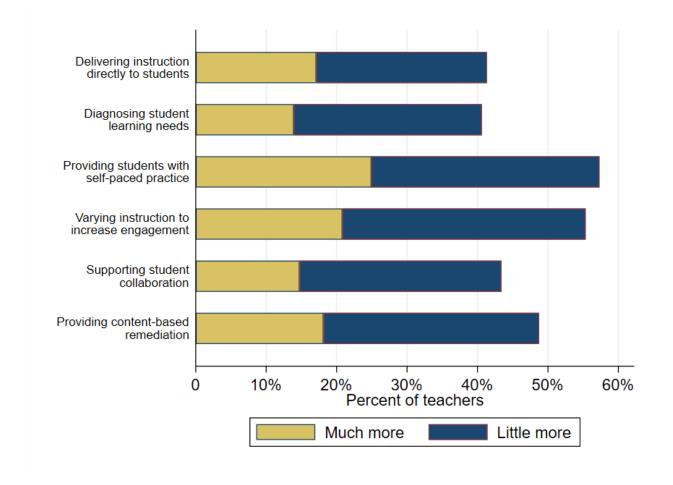


Figure 6. Proportion of teachers doing at least half of work on digital devices, by activity

With respect to technology, teachers report notable increases in the proportion of class activities conducted using digital devices rather than paper and pencil. Figure 6 presents these statistics separately by activity. The largest differences appear for independent work. Before the pandemic, less than 20% of teachers indicated students completed half or more of independent work on devices; in spring 2023, nearly 50% report this to be the case. Prior to March 2020, only about 28% of teachers reported that students took most assessments digitally. Following the pandemic, this fraction was close to 60%.



**Figure 7**. Compared to before the COVID-19 pandemic, how often do you use digital tools for each of the following instructional purposes?

These responses coincide with teacher descriptions of how their instruction has changed to incorporate digital tools, as shown in Figure 7. At least 40% of teachers report that they are more likely to use digital tools for tasks such as delivering instruction, diagnosing learning needs, and increasing student engagement. We see the largest increases for the purpose of providing students with self-paced practice and increasing engagement, where 57% and 55% of teachers respectively report using digital applications more than pre-pandemic.

Finally, teachers report more general ways in which their allocation of classroom time has changed since COVID-19. Most notably, teachers report shifting away from lecturing toward small group and independent student work time (Figure 8). Prior to the pandemic, the median teacher spent 30% of class time lecturing; in spring 2023, the median teacher spent only 25% of class time speaking to the full class of students. According to teachers in Jacob and Stanojevich (2024), this change is a function of both a greater need to differentiate instruction along with the greater availability of software that facilitates such differentiation.

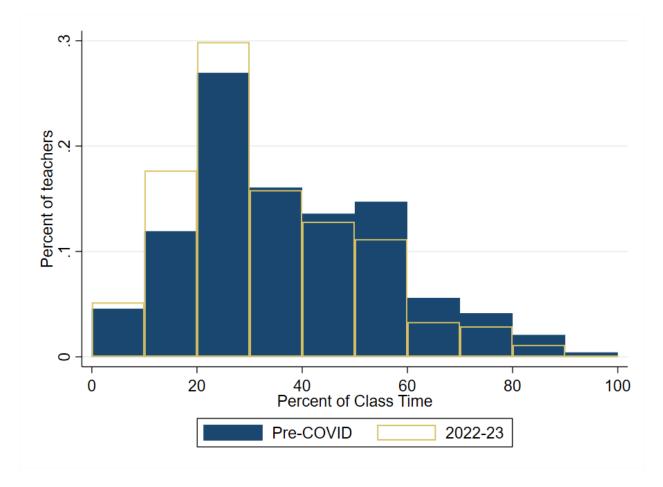


Figure 8. Proportion of Time Spent Lecturing to the Whole Class

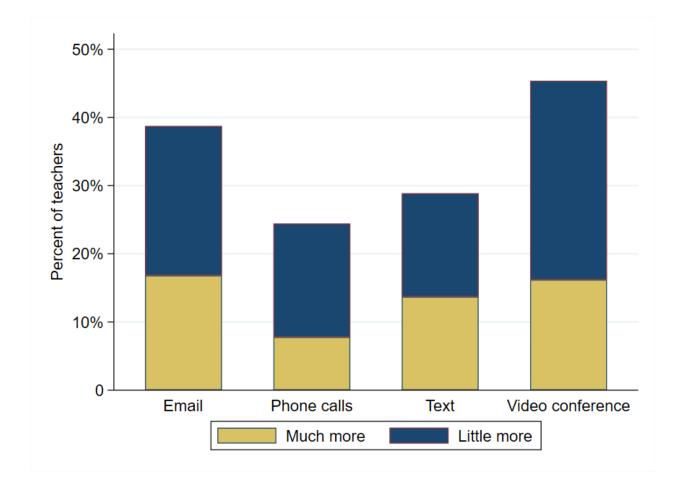
#### Parent-Teacher Interaction

The pandemic changed communication in all areas of life. After skyrocketing during the pandemic, remote work has remained extremely popular among employees across a wide variety of industries (Barrero et al., 2023). Virtual communication in medical and social service contexts is more common today than in 2019 (Lee et al., 2023).

School closures during COVID-19 dramatically impacted interactions between parents and teachers. With face-to-face contact prohibited, communication took place by phone, email or videoconference. Anecdotal accounts during the pandemic suggest substantial variation across schools in the amount and type of interaction that took place during spring 2020 and the 2020-2021 school year. Nationwide reporting in summer 2021 found that some districts frequently contacted parents about pandemic preparedness during the 2020-21 school year, sometimes even going door-to-door, while other districts barely communicated at all (Dey, 2021). In a survey of New Mexico parents in summer 2020, 40% of parents thought their school communicated with them too little but 50% thought their school communicated with them too much, with both rates elevated considerably from before the pandemic (Polikoff, 2020).

In spring 2023, teachers describe more frequent digital group communication with parents. Nearly half of teachers (47%) report communicating more with parents as a group (e.g., sending emails or newsletters, or posting alerts on their LMS). There is more variation with respect to individual interactions with parents. More than one-third of teachers (37%) report they interact more frequently with individual parents, while 18% report less frequent interaction with parents.

In many districts, interactions between families and school staff were limited to email and videoconferencing for all of 2020 and into 2021. However, by fall of 2021, virtually all public schools had returned to in-person instruction, though many required masks. Mask requirements had largely disappeared by spring 2022. During the 2022-23 school year, the "mechanics" of public schooling resembled those pre-pandemic.



**Figure 9**. Compared to before the COVID-19 pandemic, how often do you use the following modes to communicate with parents?

Yet, teacher responses in spring 2023 indicate dramatic changes in the patterns of parent-teacher interaction (Figure 9). Roughly 38% of teachers report being less likely to have in-person interactions with parents compared with before the pandemic. At the same time, teachers report increases in digital communication. 45% of teachers report being more likely to correspond with parents over video conferences. Roughly 40% of teachers report being more likely to communicate with parents via email; nearly 30% report increases in the likelihood of texting with parents.

Indeed, the prevalence of video conferencing in schools in 2023 is remarkable. Roughly 25% of teachers report that *more than half* of their parent-teacher conferences occur over video. The same proportion report that more than half of their meetings with parents regarding student disabilities take place over video. 17% report that most student disciplinary meetings occur virtually.

#### Variation Across Teachers, Schools and Districts

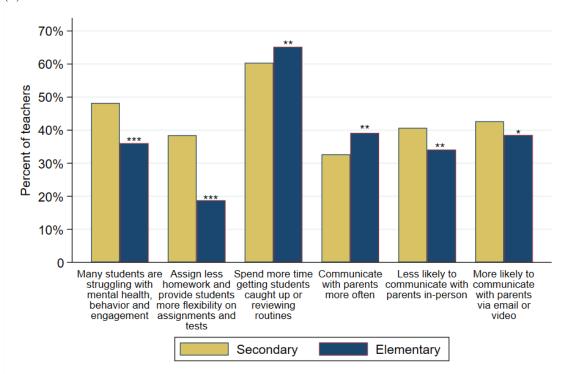
While the broad effects of COVID-19 were felt across the country, the ways in which the pandemic impacted individual schools differed widely. School districts entered the pandemic with different baseline levels of technology use, academic achievement and financial resources. Some districts utilized considerable technology before 2020; for others, digital tools were a minor part of school life. In some districts, a large fraction of students suffered from mental health challenges. In other districts, while such problems may have been growing, far fewer students struggled with depression and anxiety. Teachers in some districts utilized more didactic instruction while teachers in other places were committed to student-focused, exploratory education models. Finally, districts made starkly different choices with regard to in-person schooling and masking.

This section explores how the outcomes discussed above differed by teacher, school and district characteristics. In order to more parsimoniously summarize key patterns across teachers, I create composite measures that combine some of the individual survey items displayed in the figures above (see Appendix Table A1). Using these composites, I explore which factors moderate the relationship between COVID-19 and the changes in K-12 structures and practices.

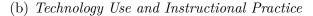
In the figures below, I present unconditional subgroup differences for each measure. The stars at the top of the columns indicate which differences are statistically significant. In order to determine whether these raw subgroup differences can be explained by correlated teacher and school characteristics, I estimate OLS regression models that control for the following predictors: school grade level (indicator for elementary school), teacher gender (indicator for male), teacher experience (indicator for 10+ years of experience), school urbanicity (indicator for rural location), school type (indicator for charter school), school racial composition (indicator for schools with more than 50% Black or Hispanic students), school poverty rate (indicator if more than 50% of students in the school are economically disadvantaged), and measures of the districts' 2020-21 learning mode (two binary variables that indicate if the district offered in-person schooling less than 25%, or greater than 75%, of the school year). I discuss these results below; the full set of regression estimates are available in Appendix A.

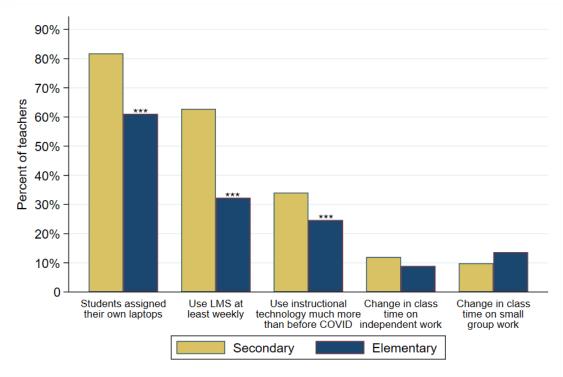
#### Results

Several consistent patterns emerged from comparison of teacher reports across schools. First, there were notable differences by grade level (Figure 10). Middle and high school teachers reported more struggles with issues such as depression and anxiety, engagement with school, and student behavior. Specifically, 48% of secondary teachers indicated that many more students struggled with these challenges compared with only 36% of elementary teachers. Perhaps as a consequence, they were much more likely than elementary teachers to report having changed their expectations for and approach toward students post-pandemic, assigning less homework and providing students with more flexibility to turn in assignments late and retake exams (39% versus 19%). Elementary teachers were more likely to report that their communication with parents increased following the pandemic, but slightly less likely to report an increase in the use of email and videoconferencing.



(a) Student Needs and Parent-Teacher Communication





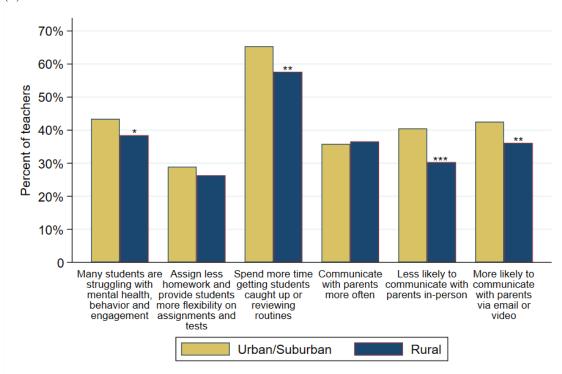
# Figure 10. Heterogeneity by School Level

Note: Stars reflect measures of statistical significance from regressions with the group category as predictor. Standard errors are clustered by district. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

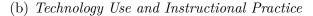
According to teacher reports, access to and use of technology is significantly higher in secondary than elementary schools. Middle and high school teachers are 21 percentage points (33%) more likely to report their students have school-assigned laptops, 30 percentage points (nearly 100%) more likely to report using an LMS at least once a week, and 9 percentage points (roughly 30%) more likely to have substantially increased their use of instructional technology since COVID-19. This is consistent with teacher views described in Jacob and Stanojevich (2024). Both elementary and secondary teachers reported spending less time on whole-class lectures, but elementary teachers were slightly more likely to allocate this time to small group activities while secondary teachers allocated more of this time to independent work (though neither of these differences were statistically significant at conventional levels).

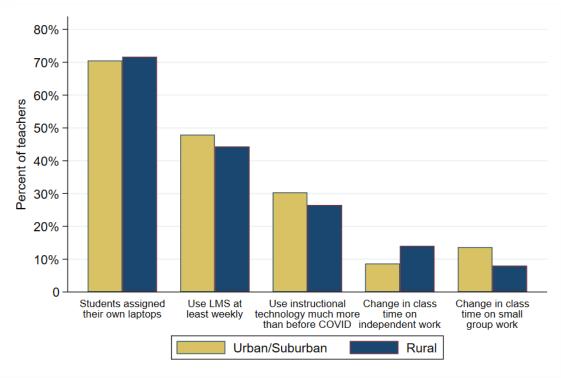
Second, teachers in rural schools reported fewer changes than their peers in urban and suburban schools (Figure 11). Rural teachers were less likely to report increases in mental health concerns among students (38% versus 43%). Relative to their counterparts in urban and suburban settings, rural teachers were less likely to report spending more time getting students caught up after COVID-19 (57% versus 65%). It is possible that rural schools were less impacted by the COVID-19 pandemic: rural schools in our sample spent a greater portion of the 2020-21 school year in person (47%) compared with suburban (32%) and urban (36%) schools. Perhaps for this reason, rural teachers also report fewer changes in the way they interact with parents. Only 30% of rural teachers say they are less likely to communicate with parents in-person compared with 40% of suburban and urban teachers. This aligns with evidence suggesting life changed less dramatically during the pandemic in rural areas of the country, with individuals reporting smaller disruptions to work habits or social activities compared to those living in urban areas (Brooks et al., 2021; Callaghan et al., 2021).<sup>3</sup>

<sup>&</sup>lt;sup>3</sup> However, despite (or perhaps because) of these differences, rural individuals experienced elevated risk of death or hospitalization related to COVID-19 (Dobis & McGranahan, 2021; Zhu et al., 2023)



(a) Student Needs and Parent-Teacher Communication





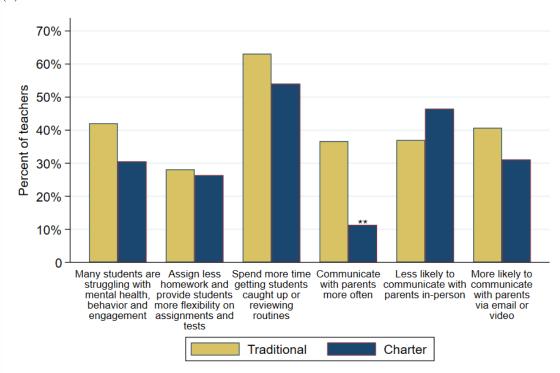
# Figure 11. Heterogeneity by Urbanicity

Note: Stars reflect measures of statistical significance from regressions with the group category as predictor. Standard errors are clustered by district. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

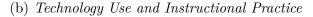
Interestingly, rural schools do not appear different in terms of access to and use of digital technologies. Across urbanicity, teachers report similar adoption of laptops and weekly use of an LMS. Rural teachers are 4 percentage points less likely to report using instructional technology more after the pandemic, but this difference is imprecise and not significantly different than zero. The figures show some differences in time allocation, but the differences are not statistically significant.

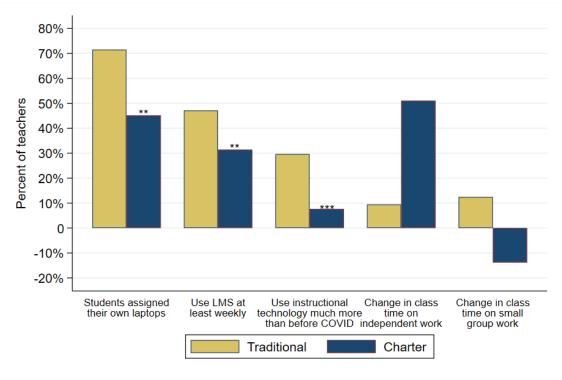
Figure 12 shows sizeable differences between charter and traditional public schools across multiple domains. These results are suggestive, but should be interpreted with caution because the sample only includes a small number of charter school teachers and the estimated differences are therefore quite imprecise. Having said this, teacher reports suggest that charter schools were less affected by COVID-19 than traditional public schools. Students in charter schools are less likely to be struggling with mental health challenges (42% versus 30%; p-value=.16). Charter school teachers are less likely to spend extra time getting students caught up (63% versus 54%; p-value = .28) and are less likely to say they communicate more with parents compared with pre-pandemic (37% versus 12%, p-value .003). Students in charter schools are less likely to be assigned their own laptops (46% vs. 72%; p-value=.04); charter teachers are less likely to use an LMS weekly (31% vs. 47%; p-value=.03) and less likely to have increased their use of instructional technology (8% vs. 30%; p-value=.005). All of these differences are robust to controls for school grade level, urbanicity, racial composition and student poverty (see Appendix Table A4).<sup>4</sup>

<sup>&</sup>lt;sup>4</sup> Unfortunately, the data on 2020-21 learning modes is missing for a high fraction of charter schools, so it is impossible to assess how this is associated with the differences presented here.



(a) Student Needs and Parent-Teacher Communication





# Figure 12. Heterogeneity by School Type

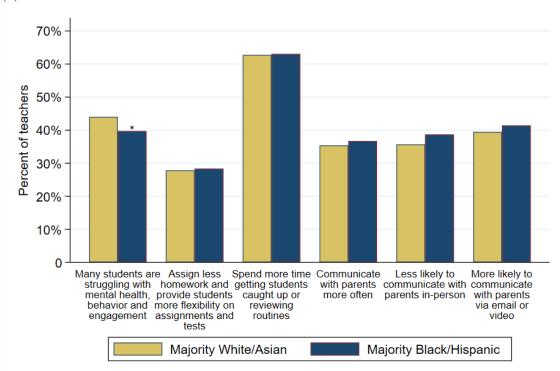
Note: Stars reflect measures of statistical significance from regressions with the group category as predictor. Standard errors are clustered by district. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

There are fewer differences across schools based on the racial composition of students (Figure 13). This is true even if one controls for other characteristics such as school urbanicity and student poverty (see Appendix Table A5). Teachers in schools where a majority of students are Black or Hispanic are slightly less likely to report large increases in mental health challenges (40% vs. 44%; p-value=.1), which may reflect higher rates pre-pandemic. Students in such "majority-minority" schools are 7 percentage points (roughly 10%; p-value=.03) less likely to be assigned their own laptops. Teachers in these schools report shifting more class time away from lecture and toward small group activities relative to before COVID-19.

Figure 14 shows how teacher responses differed by the 2020-21 learning mode. I group schools into three categories: in-person more than three-quarters of the year (roughly 27% of schools in the sample), in-person *less* than one-quarter of the year (roughly 47% of schools in the sample), and in-person between 25-75 percent of the school year (roughly 16% of schools). This analysis excludes roughly 10% of the sample for which learning mode data was not available.

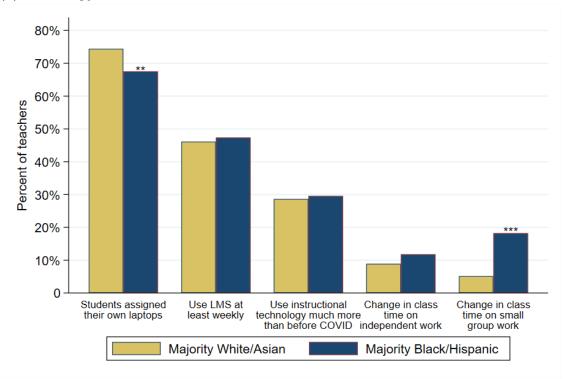
The most notable differences involve access to technology. Schools that spent most of the year online (or hybrid) are 21 percentage points (33%) more likely to report that all students are assigned a laptop in 2022-23 relative to schools that spent most of the year in-person. Similarly, teachers in schools that spent more of 2020-21 virtual were roughly 6 percentage points (23%) more likely to use instructional technology much more than before the pandemic. The inclusion of controls does change these estimates somewhat (see Table A6), though the qualitative conclusions are the same.

Given these differences, it is surprising that we do *not* see any significant differences in parent-teacher interaction across these groups. The only other significant difference involves teacher expectations: in schools that spent the most time in-person during 2020-21, teachers are least likely to report assigning less homework and providing additional flexibility on assignments and tests.



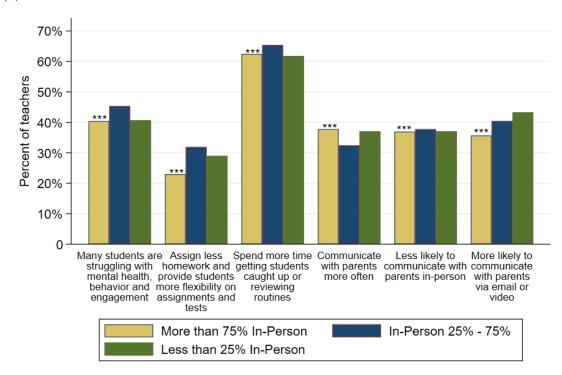
(a) Student Needs and Parent-Teacher Communication

(b) Technology Use and Instructional Practice



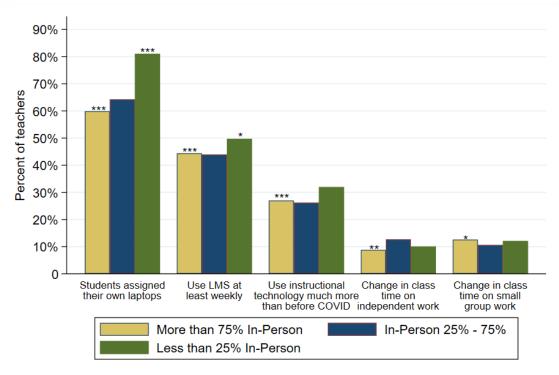
#### Figure 13. Heterogeneity by School Racial Composition

Note: Stars reflect measures of statistical significance from regressions with the group category as predictor. Standard errors are clustered by district. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.



(a) Student Needs and Parent-Teacher Communication

(b) Technology Use and Instructional Practice



#### Figure 14. Heterogeneity by 20-21 Learning Mode

Note: Stars reflect measures of statistical significance from regressions with the group category as predictor. Standard errors are clustered by district. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

Prior research did not indicate differences in the ways that male and female teachers responded to the COVID-19 pandemic. Consistent with this prior, there were few significant gender differences in teacher response after controlling for factors such as grade level where there are stark differences by teacher sex. A few exceptions are worth mentioning. Male teachers were significantly less likely to report that many of their children were struggling with mental health challenges (33% versus 43%) and were less likely to report increased communication with parents following the pandemic (25% vs. 39%). It is not immediately clear what could explain these differences. One hypothesis is that children may feel less comfortable discussing psychological concerns with male teachers and/or male teachers may be less apt to pick up on subtle cues of emotional distress among students.

#### Discussion

This paper reports findings from a nationally representative survey of K-12 teachers in May 2023 designed to examine changes in school structures and practices following the COVID-19 pandemic. The findings suggest fundamental ways in which school operations, instructional practice and parent-teacher interaction have changed since the pandemic. Students are still struggling with emotional challenges and skill deficits which, in turn, has forced teachers to adjust their expectations and practices. Teachers and students are using digital technology substantially more than they did in 2019. Student-assigned laptops remain the norm in secondary schools, and teachers continue to use technology for a wide range of purposes, from delivering instruction to providing content-based remediation to creating more engaged learning opportunities. In an effort to accommodate the substantial differences in student skills post-pandemic, teachers are spending less timing lecturing, instead allocating more time to independent student work and small group activities. Finally, the use of videoconferences for parent-teacher meetings has continued even now that schools resumed in-person instruction.

These patterns varied across schools in interesting ways. Middle and high school teachers reported more challenges with student mental health, behavior and engagement;

elementary teachers were more likely to report the need to review routines with children. Secondary teachers indicated greater increases in the use of technology of all sorts, including use of email and videoconferencing to communicate with parents. Teachers in rural and charter schools reported fewer changes along various dimensions, perhaps because they experienced fewer disruptions during the pandemic. There were fewer differences across schools by student race or poverty. As one might expect, schools that spent most of the year online were more likely to report that students have their own laptops and that teachers are using instructional technology more often than before the pandemic.

It is not clear how many of the changes described here will persist. Insofar as some of the instructional changes were motivated by the post-pandemic needs of children, it is possible that they will revert once the "COVID cohorts" age out of school. On the other hand, Jacob and Stanojevich (2024) explain that teachers' experiences during COVID-19 dramatically increased their knowledge of and comfort with a wide variety of digital technologies. In this process, teachers discovered many benefits of instructional technology they had not expected (e.g., how it can save them time grading and providing feedback to students). And the one-time infusion of federal funding during COVID-19 allowed many districts to make the initial investment in technological infrastructure, which they argue they will be able to maintain with traditional revenue sources. The continued investment in social-emotional well-being is also an open question. Schools are no longer receiving extra federal funding related to COVID-19 which supported much of the enhanced mental health programming. Some educators and parents still strongly support these programs; others view them as an unnecessary distraction. In some instances, SEL curriculum has become entangled in partian battles over social issues, leading to backlash (Anderson, 2022). In contrast, given its immense popularity among teachers and parents alike, and the widespread acceptance of videoconferencing in all walks of life, it seems likely that the use of videoconferencing for parent-teacher communication is here to stay.

The implications of these changes for student learning are difficult to assess.

Consider the case of instructional technology. Existing research suggests that digital tools can improve student performance, but the impacts are highly dependent on their context and implementation (Escueta et al., 2020; Yeung et al., 2021). Many of the specific software programs and other digital tools that gained popularity during COVID-19 have never been studied. Moreover, there is no systematic research on technology adoption at the scale that has taken place since 2020. Already there is some research pointing out potential downsides of technology-aided learning. For example, Froud et al. (2023) find that reliance on digital platforms might impede learning relative to the old fashioned "paper and pencil" approach. Moreover, explosion of AI technologies will undoubtedly change the landscape even more in coming years. Given the scale of these changes and their potential to impact student learning, it is imperative for researchers to track the implementation and impact of instructional technology moving forward.

Changes in teacher expectations also merit attention. The reduction in homework and flexibility with regard to assessment was clearly warranted during the pandemic, and still may be appropriate as students continue to struggle with learning loss and social-emotional challenges. The changes documented here and in Jacob and Stanojevich (2024) are consistent with what is sometimes referred to as "mastery" or "competency-based" learning. Unfortunately, research on the relationship between competency-based education and student achievement is mixed (Evans et al., 2020). Moreover, the post-pandemic changes were not adopted as part of a new, systematic approach to instruction. Practitioners and policymakers should closely monitor teacher expectations and related practices with an eye to ensuring that they continue to serve the learning needs of children.

Even the emphasis on student social-emotional learning warrants scrutiny. In the midst of the pandemic, schools adopted a wide variety of interventions, some of which have a reasonable evidence base, but others that do not. Schools should be continuously assessing the effectiveness of these programs and remain alert to the possibility of unintended consequences. For example, recent research has raised concern that school-based mental health campaigns can perversely *increase* the prevalence of depression and anxiety (Foulkes & Andrew, 2023).

While similar in many respects, K-12 schools today differ from their pre-pandemic counterparts in potentially important ways. The new structures and practices present some opportunities to improve the social and academic development of children. At the same time, there is a great deal of uncertainty surrounding the changes and their potential impact. It is critical for all actors in the educational ecosystem (teachers, administrators, parents, policymakers and even students) to recognize the ways K-12 schooling has changed since COVID-19, and to monitor the situation going forward. By continually assessing how school structures and practices affect children, educational leaders and policymakers can ensure that K-12 schools best serve students.

#### References

- Anderson, M. (2022). How social-emotional learning became a front line in the battle against crt. National Public Radio. https://www.npr.org/2022/09/26/1124082878/how-social-emotional-learningbecame-a-front-line-in-the-battle-against-crt
- Barrero, J. M., Bloom, N., & Davis, S. J. (2023). The evolution of work from home. Journal of Economic Perspectives, 37(4), 23–49.
- Baum, M. Y., & Jacob, B. A. (2024). Racial differences in parent response to covid schooling policies. Proceedings of the National Academy of Sciences, 121(3), e2307308120.
- Betthäuser, B. A., Bach-Mortensen, A. M., & Engzell, P. (2023). A systematic review and meta-analysis of the evidence on learning during the covid-19 pandemic. *Nature Human Behaviour*, 7(3), 375–385.
- Brooks, M. M., Mueller, J. T., & Thiede, B. C. (2021). Rural-urban differences in the labor-force impacts of covid-19 in the united states. *Socius*, 7, 23780231211022094.
- Callaghan, T., Lueck, J. A., Trujillo, K. L., & Ferdinand, A. O. (2021). Rural and urban differences in covid-19 prevention behaviors. *The Journal of Rural Health*, 37(2), 287–295.
- CDC Media Relations. (2022). New cdc data illuminate youth mental health threats during the covid-19 pandemic. *Centers for Disease Control and Prevention*. Retrieved October 22, 2023, from https://www.cdc.gov/media/releases/2022/p0331-youthmental-health-covid-19.html
- Dey, S. (2021). How some districts are trying to get anxious families back into school buildings. NPR. Retrieved February 15, 2024, from https://www.npr.org/2021/07/26/1017864066/how-some-districts-are-trying-to-getanxious-families-back-into-school-buildings

- Dobis, E., & McGranahan, D. (2021). Rural residents appear to be more vulnerable to serious infection or death from coronavirus covid-19. Amber Waves.
- EducationWeek. (2020). The coronavirus spring: The historic closing of u.s. schools. *Education Week.* https://www.edweek.org/leadership/the-coronavirus-spring-thehistoric-closing-of-u-s-schools-a-timeline/2020/07
- Escueta, M., Nickow, A. J., Oreopoulos, P., & Quan, V. (2020). Ugrading education with technology: Insights from experimental research. *Journal of Economic Literature*, 58, 897–996.
- Evans, C. M., Landl, E., & Thompson, J. (2020). Making sense of k12 competency-based education: A systematic literature review of implementation and outcomes research from 2000 to 2019. *Comptency-Based Education*.
- Fahle, E., Kane, T. J., Reardon, S. F., & Staiger, D. O. (2024). The first year of pandemic recovery: A district-level analysis. *Education Opportunity Project and Center for Education Policy Research*.
- Flannery, M. E. (2022). Mental health in schools: The kids are not all right. neaToday. Retrieved February 15, 2024, from https://www.nea.org/nea-today/all-newsarticles/mental-health-schools-kids-are-not-all-right
- Foulkes, L., & Andrew, J. L. (2023). Are mental health awareness efforts contributing to the rise in reported mental health problems? New Ideas in Psychology, 69.
- Froud, K., Levinson, L., Maddox, C., & Smith, P. (2023). Middle-schoolers' reading and processing depth in response to digital and print media: An n400 study. *bioRxiv*, 2023–08.
- Goodrich, J. M., Hebert, M., & Namkung, J. M. (2022). Impacts of the covid-19 pandemic on elementary school teachers' practices and perceptions across the spring and fall 2020 semesters. *Frontiers in Education*, 6.

- Hamilton, L. S., Diliberti, M. K., & Kaufman, J. H. (2020). Teaching and leading through a pandemic: Key findings from the american educator panels spring 2020 covid-19 surveys.
- Jacob, B., & Stanojevich, C. (2024). Did covid-19 shift the "grammar of schooling"? (Tech. rep.). University of Michigan.
- Kuhfeld, M., Soland, J., Lewis, K., & Morton, E. (2022). The pandemic has had devastating impacts on learning. what will it take to help students catch up? *Brookings Institution*.
- Lee, E. C., Grigorescu, V., Enogieru, I., Smith, S. R., Samson, L. W., Conmy, A. B., & De Lew, N. (2023). Updated national survey trends in telehealth utilization and modality (2021-2022). US Department of Health and Human Services.
- Leech, N. L., Gullett, S., Howland Cummings, M., & Haug, C. (2020). Challenges of remote teaching for k-12 teachers during covid-19. Journal of Educational Leadership in Action, 7(1), 1.
- Polikoff, M. (2020). Parent dissatisfaction shows need to improve school communication during coronavirus pandemic. *Brookings Institution*.
- Robbins, M., & Grant, D. (2020). Rand american educator panels technical description (tech. rep.). RAND Corporation. www.rand.org/t/rr3104
- The Nation's Report Card. (2023). Reading and mathematics scores decline during covid-19 pandemic. National Center for Education Statistics. Retrieved October 22, 2023, from https://www.nationsreportcard.gov/highlights/ltt/2022/
- Yeung, K. L., Carpenter, S. K., & Corrall, D. (2021). A comprehensive review of educational technology on objective learning outcomes in academic contexts. *Educational Psychology Review*, 33, 1583–1630.
- Zhu, Y., Carroll, C., Vu, K., Sen, S., Georgiou, A., & Karaca-Mandic, P. (2023). Covid-19 hospitalization trends in rural versus urban areas in the united states. *Medical Care Research and Review*, 80(2), 236–244.

# Appendix A

# Table A1. Definition of Composite Measures

Composite Measure	Survey Items (Appendix B)	Rule for creating composite measure
Many students are struggling with mental health, behavior and engagement	sew_dep_aux, sew_int_engage, ew_behavior	This composite is the fraction of these three items for which the teacher indicated "many more" of their students were struggling with the concern after COVID- 19. Values are 0, 0.33, 0.66 and 1.
Assigns less homework and provides students more flexibility on assignments and tests	ins_hw_covid_comp, ins_retake_flex	Binary variable that indicated if the teacher reported assigning less homework (either a little less or a lot less) <u>and</u> providing more flexibility for exam retakes (either a little more or a lot more).
Spend more time getting students caught up or reviewing routines	ins_classtime_covid_ comp_01, ins_classtime_covid_ comp_02	Measure is the average of two binary indicators: whether a teacher spend a little more (4) or a lot more (5) time getting students caught up (category 01) or reviewing routines (category 02).
Communicate with parents more often	comm_parent_ind	Measure is binary indicator for whether a teacher responded 4 (a little more) or 5 (a lot more).
Less likely to communicate with parents in-person	comm_parent_mode s_05	Measure is a binary indicator for whether a teacher responded 1 (much less) or 2 (a little less).
More likely to communicate with parents via email or video	comm_parent_ modes_01, comm_parent_ modes_04	Measure is the average of two binary indicators: whether a teacher communicated either a little more often (4) or a lot more often (5) with parents via email (category 01) and via videoconference (category 04).
Students assigned their own laptops	et_current_comp	The binary measure is simply whether the teacher indicated students are assigned their own laptops to take home.
Use LMS at least weekly	et_lms_use_this_ year01- et_lms_use_this_ year_06	For each of the six categories, I create a binary indicator for teacher reported use at least weekly. I then take a simple average of these six binary variables.
Use instructional technology much more than before COVID-19	et_dig_covid_comp	I create a binary variable that takes on a value of 1 if a teacher responded with either 4 (a little more) or 5 (much more).
Change in class time on independent work	ins_typ_time_dist_03	I subtract the log of the percent measure for this school year form the log of the percent for before the pandemic.
Change in class time on small group work	ins_typ_time_dist_04	In order to avoid generating missing values, I reassign responses of 0 percent to 1 percent.

	Many more students are struggling with mental health, behavior and engagement	Assign less homework and provide students more flexibility on assignments and tests	Spend more time getting students caught up or reviewing routines	Communicate with parents more often	Less likely to communicate with parents in-person	More likely to communicate with parents via email or video
Panel A Sample mean for secondary schools	0.482	0.384	0.604	0.327	0.407	0.427
Elementary school (no controls)	$-0.122^{***}$ (0.025)	$-0.197^{***}$ (0.030)	$0.065^{**}$ (0.031)	$0.065^{**}$ (0.031)	$-0.066^{**}$ (0.031)	$-0.042^{*}$ (0.025)
Elementary school (with controls)	$-0.150^{***}$ (0.026)	$-0.199^{***}$ (0.032)	$\begin{array}{c} 0.031 \\ (0.033) \end{array}$	$\begin{array}{c} 0.031 \\ (0.033) \end{array}$	$-0.082^{**}$ (0.032)	$-0.055^{**}$ (0.027)
	Students assigned their own laptops	Use LMS at least weekly	Use instructional technology much more than before COVID	Change in class time on independent work	Change in class time on small group work	
Panel B Sample mean for secondary schools	0.818	0.628	0.341	0.120	0.099	
Elementary school (no controls)	$-0.207^{***}$ (0.032)	$-0.305^{***}$ (0.023)	$-0.094^{***}$ (0.030)	-0.031 (0.042)	$0.038 \\ (0.048)$	
Elementary school (with controls)	$-0.202^{***}$ (0.034)	$-0.304^{***}$ (0.025)	$-0.113^{***}$ (0.032)	-0.011 (0.044)	0.023 (0.051)	

# Table A2. Heterogeneity in Teacher Responses, by School Grade Level

Note: Standard errors are clustered by district. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table A3.	Heterogeneity	in	Teacher	Responses,	by	School	Urbanicity
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	Many more students are struggling with mental health, behavior and engagement	Assign less homework and provide students more flexibility on assignments and tests	Spend more time getting students caught up or reviewing routines	Communicate with parents more often	Less likely to communicate with parents in-person	More likely to communicate with parents via email or video
Panel A Sample mean for Urban/Suburban	0.434	0.290	0.654	0.358	0.405	0.425
Rural (no controls)	$-0.050^{*}$ (0.027)	-0.026 (0.031)	$-0.078^{***}$ (0.029)	0.007 (0.034)	$-0.102^{***}$ (0.036)	$-0.064^{**}$ (0.027)
Rural (with controls)	$-0.083^{***}$ (0.029)	-0.020 (0.033)	$-0.095^{***}$ (0.031)	0.012 (0.037)	$-0.101^{***}$ (0.037)	$-0.054^{*}$ (0.030)
	Students assigned their own laptops	Use LMS at least weekly	Use instructional technology much more than before COVID	Change in class time on independent work	Change in class time on small group work	
Panel B Sample mean for Urban/Suburban	0.705	0.479	0.304	0.087	0.137	
Rural (no controls)	$\begin{array}{c} 0.011 \\ (0.034) \end{array}$	-0.036 (0.025)	-0.038 (0.031)	$0.054 \\ (0.047)$	-0.056 (0.051)	
Rural (with controls)	0.011 (0.035)	-0.025 (0.025)	-0.046 (0.033)	0.077 (0.054)	-0.005 (0.058)	

Note: Standard errors are clustered by district. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table A4	Heterogeneity in	Teacher	Responses,	by	Charter Status	3
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	Many more students are struggling with mental health, behavior and engagement	Assign less homework and provide students more flexibility on assignments and tests	Spend more time getting students caught up or reviewing routines	Communicate with parents more often	Less likely to communicate with parents in-person	More likely to communicate wit parents via emai or video
Panel A Sample mean for Traditional	0.421	0.282	0.631	0.367	0.370	0.407
Charter	-0.116	-0.018	-0.091	$-0.253^{***}$	$0.095 \\ (0.130)$	-0.096
(no controls)	(0.085)	(0.109)	(0.108)	(0.082)		(0.082)
Charter	-0.136	-0.018	-0.085	$-0.253^{***}$	0.061	-0.085
(with controls)	(0.089)	(0.113)	(0.122)	(0.090)	(0.142)	(0.081)
	Students assigned their own laptops	Use LMS at least weekly	Use instructional technology much more than before COVID	Change in class time on independent work	Change in class time on small group work	
Panel B Sample mean for Traditional	0.715	0.471	0.296	0.095	0.125	
Charter	$-0.264^{**}$	$-0.157^{**}$	$-0.220^{***}$	0.416	-0.263	
(no controls)	(0.123)	(0.070)	(0.075)	(0.384)	(0.455)	
Charter	$-0.196^{**}$	$-0.137^{*}$	$-0.226^{***}$	0.419	-0.246	
(with controls)	(0.100)	(0.071)	(0.078)	(0.379)	(0.450)	

Note: Standard errors are clustered by district. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	Many more students are struggling with mental health, behavior and engagement	Assign less homework and provide students more flexibility on assignments and tests	Spend more time getting students caught up or reviewing routines	Communicate with parents more often	Less likely to communicate with parents in-person	More likely to communicate with parents via email or video
Panel A Sample mean for Majority White/Asian	0.440	0.278	0.627	0.354	0.357	0.395
Majority Black/Hispanic (no controls)	-0.043* (0.026)	$0.005 \\ (0.029)$	0.003 (0.028)	0.013 (0.033)	$0.030 \\ (0.036)$	$0.020 \\ (0.026)$
Majority Black/Hispanic (with controls)	$-0.070^{**}$ (0.030)	0.031 (0.035)	-0.040 (0.033)	0.004 (0.041)	0.015 (0.039)	0.019 (0.030)
	Students assigned their own laptops	Use LMS at least weekly	Use instructional technology much more than before COVID	Change in class time on independent work	Change in class time on small group work	
Panel B Sample mean for Majority White/Asian	0.745	0.461	0.287	0.089	0.051	
Majority Black/Hispanic (no controls)	$-0.069^{**}$ (0.030)	0.012 (0.025)	0.009 (0.029)	0.029 (0.043)	$0.131^{***}$ (0.050)	
Majority Black/Hispanic (with controls)	-0.047 (0.035)	$0.046^{*}$ (0.027)	-0.033 (0.035)	0.069 (0.052)	$0.147^{**}$ (0.064)	

# Table A5. Heterogeneity in Teacher Responses, by School Racial Composition

*Note:* Standard errors are clustered by district. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Many more students are struggling with mental health, behavior and engagement	Assign less homework and provide students more flexibility on assignments and tests	Spend more time getting students caught up or reviewing routines	Communicate with parents more often	Less likely to communicate with parents in-person	More likely to communicate with parents via email or video
>75%  in-person  0.035  0.040  0.035  0.040  0.038  0.044  0.0060  0.036  0.038  0.044  0.0060  0.030  0.030  0.030  0.036  0.031  0.039  0.030  0.031  0.039  0.044  0.039  0.044  0.039  0.039  0.030  0.045  0.042  0.031  0.031  0.031  0.033  0.056  0.019  0.011  0.049  0.041  0.033  0.056  0.019  0.011  0.049  0.041  0.041  0.031  0.042  0.037  0.047  0.047  0.045  0.047  0.045  0.047  0.045  0.045  0.047  0.045  0.045  0.047  0.045  0.045  0.045  0.045  0.047  0.045  0.045  0.045  0.047  0.045  0.045  0.045  0.047  0.045  0.045  0.045  0.047  0.045  0.045  0.047  0.045  0.045  0.047  0.045  0.045  0.045  0.045  0.047  0.045  0.045  0.045  0.045  0.020	Sample mean for	0.454	0.319	0.654	0.325	0.378	0.404
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		0.050	0.080**	0 020	0.053	0.008	0.047
$ < 25\% \text{ in-person} & -0.047 & -0.020 & -0.036 & 0.046 & -0.007 & 0.020 \\ \hline (0.030) & (0.036) & (0.031) & (0.039) & (0.056) & (0.036) \\ \hline With Controls \\ > 75\% \text{ in-person} & -0.038 & -0.107^{**} & -0.040 & 0.081 & 0.033 & -0.052 \\ \hline (0.039) & (0.045) & (0.042) & (0.051) & (0.049) & (0.041) \\ < 25\% \text{ in-person} & -0.036 & -0.058 & -0.053 & 0.076 & 0.019 & 0.011 \\ \hline (0.035) & (0.042) & (0.037) & (0.047) & (0.045) & (0.038) \\ \hline & & & & & & & & & & & & & & & & & &$	> 1570 m-person						
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	< 25% in person						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	< 25% m-person						
$< 25\% \text{ in-person} \begin{array}{c} (0.039) \\ -0.036 \\ -0.036 \\ (0.042) \end{array} \begin{array}{c} (0.042) \\ -0.058 \\ (0.037) \end{array} \begin{array}{c} (0.051) \\ 0.076 \\ 0.019 \\ (0.041) \end{array} \begin{array}{c} (0.049) \\ 0.011 \\ 0.011 \\ (0.045) \end{array} \begin{array}{c} (0.041) \\ 0.041 \\ (0.045) \end{array} \begin{array}{c} (0.041) \\ 0.041 \\ (0.045) \end{array} \begin{array}{c} (0.041) \\ (0.045) \end{array} \begin{array}{c} (0.045) \\ (0.045) \end{array} \begin{array}{c} (0.045) \\ (0.045) \end{array} \begin{array}{c} (0.045) \\ (0.045) \end{array} \begin{array}{c} (0.041) \\ (0.045) \end{array} \begin{array}{c} (0.041) \\ (0.045) \end{array} \begin{array}{c} (0.041) \\ (0.045) \end{array} \begin{array}{c} (0.042) \\ (0.042) \end{array} \begin{array}{c} (0.042) \\ (0.042) \end{array} \begin{array}{c} (0.042) \\ (0.042) \end{array} \begin{array}{c} (0.042) \\ (0.034) \end{array} \begin{array}{c} (0.042) \\ (0.042) \end{array} \begin{array}{c} (0.042) \\ (0.042) \end{array} \begin{array}{c} (0.042) \\ (0.034) \end{array} \begin{array}{c} (0.042) \\ (0.042) \end{array} \begin{array}{c} (0.042) \\ (0.045) \end{array} \begin{array}{c} (0.045) \\ (0.045) \end{array} \begin{array}{c} (0.042) \\ (0.045) \end{array} \begin{array}{c} (0.045) \end{array} \begin{array}{c} (0.045) \\ (0.045) \end{array} \begin{array}{c} (0.045) \end{array} \begin{array}{c} (0.045) \end{array} \begin{array}{c} (0.045) \\ (0.045) \end{array} \begin{array}{c} (0.045) \\ (0.045) \end{array} \begin{array}{c} (0.045) \end{array} \end{array}$							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	>75% in-person						
$\frac{\text{Students assigned their own laptops}}{\text{Students assigned their own laptops}} \qquad \text{Use LMS at least weekly} \qquad \text{Use instructional technology much more than before COVID} \qquad \frac{\text{Change in class time on small group work}}{\text{With Controls}} \qquad \qquad \text{Controls} \qquad \qquad Cover the term of the term of the term of the term of term of the term of term of the term of $	< 25% in-person	-0.036	-0.058	-0.053	0.076	0.019	0.011
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		(0.035)	(0.042)	(0.037)	(0.047)	(0.045)	(0.038)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		8		technology much more than before	time on independent	time on small	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $							
$\begin{array}{ c c c c c c c c } \hline > 75\% \text{ in-person} & -0.044 & 0.005 & 0.008 & -0.039 & 0.020 \\ & & & & & & & & & & & & & & & & & & $	-	0.642	0.439	0.262	0.127	0.106	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$							
	>75% in-person						
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	<25% in-person						
(0.052)  (0.036)  (0.045)  (0.074)  (0.069)		0.000*	0.000	0.000	0.007	0.010	
	> 75% in-person						
$\begin{array}{c} (0.045) \\ (0.034) \\ (0.041) \\ (0.064) \\ (0.063) \end{array}$	<25% in-person	0.116***	0.016	0.073*	-0.046	-0.008	

# Table A6. Heterogeneity in Teacher Responses, by 2020-21 District Learning Mode

*Note:* Standard errors are clustered by district. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

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# Appendix B



Survey Instrument

**Pandemic Teaching Change Survey** 

**American Teacher Panel** 

# K12 Schooling in a Post-COVID World

# **Teacher Survey**

The COVID-19 pandemic had a dramatic impact on social, economic and political life in the United States. In many places, the impact of the pandemic on K12 schooling was particularly substantial, with schools opting for remote instruction for extended periods of time and implementing social-distancing and masking rules.

This school year (i.e., 2022-23), most schools were "back to normal" in terms of providing face-to-face instruction and not requiring masks. We are interested in learning about any <u>lasting</u> effects of the pandemic on K12 schooling. We recognize that the effects of the pandemic likely differ across grades, subjects and schools, which is why we are asking individual teachers across the country for their views.

Please answer to the best of your ability.

- If you are unsure about a question, please respond in a manner that most closely reflects your experiences. As a teacher, your careful and honest responses are critical to helping us better understand the instructional materials you use and how your school system supports your instruction
- This survey takes about 10 minutes to complete and you will receive \$10 for your participation.
- Please note that you must click the link titled "Click Here to Receive Your Gift Code" on the final page for your survey to be considered complete and to receive the gift code.

# Tips for taking this survey:

- We recommend completing this survey on a desktop or laptop for best viewing (not on a mobile device).
- Please use only the on screen "Next >" and "< Back" buttons to navigate the survey rather than using your browser's back button or hitting Enter.
- You may find that the system slows down at times. We appreciate your patience in waiting for questions to load.
- If you run into problems or have questions when completing the survey, please contact the American Teacher Panel helpdesk at <u>ATPhelpdesk@rand.org</u> or 1-833-634-1533.
- If you have questions about this study or your rights as a research participant, please contact the RAND Human Subjects Protection Committee toll-free at (866) 697-5620 or by email to <u>hspcinfo@rand.org</u>. When you contact the Committee, please reference Study 2018-1009.

#### **Your Teaching Assignment**

The questions in this section address your current school year (2022-23) teaching assignment.

#### grades\_taught

UNIVERSE: ALL RESPONDENTS

NOTE: Respondents who do not select any grade K-12 were terminated from the survey with the following message: "Thank you for your response. This survey is for teachers in public schools teaching any grade K-12. We look forward to your participation in future ATP surveys!" This school year (2022-23), what grade(s) do you teach?

SELECT ALL THAT APPLY

- PK Pre-K
- **K** Kindergarten
- **1** Grade 1
- 2 Grade 2
- **3** Grade 3
- 4 Grade 4
- 5 Grade 5
- 6 Grade 6
- 7 Grade 7
- 8 Grade 8
- 9 Grade 9
- **10** Grade 10
- **11** Grade 11
- **12** Grade 12
- 13 Ungraded
- **91** Other (please specify):

main\_subject - Main subject(s) UNIVERSE: ALL RESPONDENTS

Note: For respondents who did NOT select 1. Elementary Education, 4. English and Language Arts, 6. Foreign Languages, 8. Mathematics, 12. Computer Science, 9. Natural Sciences, or 10. Social Sciences, were terminated from the survey with the following message: "Thank you for your response. This survey is for teachers in public schools teaching core subjects as their main subject. We look forward to your participation in future ATP surveys!"

This school year (2022–23), in what subject is your MAIN teaching assignment, that is, the subject matter in which you teach the most classes?

Elementary Education
 Special Education
 Arts and Music
 English and Language Arts (including English, language arts, reading, literature, writing, speech, etc.)

**5** English as a Second Language (ESL)

6 Foreign Languages

7 Health Education

8 Mathematics (including general mathematics, algebra, geometry, calculus, etc.)

12 Computer Science

9 Natural Sciences (including general science, biology, chemistry, physics, etc.)

- 10 Social Sciences (including social studies, geography, history, government/civics, etc.)
- **11** Career or Technical Education

91 Other (please specify):\_\_\_\_\_

# subject

# UNIVERSE: ALL RESPONDENTS

Please indicate any other subject/s you teach as part of your regular teaching assignment this school year (2022-23):

99 N/A - I do not teach other subjects.
02 Special Education
03 Arts and Music
04 English and Language Arts (including English, language arts, reading, literature, writing, speech, etc.)
05 English as a Second Language (ESL)
06 Foreign Languages
07 Health Education
08 Mathematics (including general mathematics, algebra, geometry, calculus, etc.)
12 Computer Science
09 Natural Sciences (including general science, biology, chemistry, physics, etc.)
10 Social Sciences (including social studies, geography, history, government/civics, etc.)
11 Career or Technical Education
99 Other (please specify):

Background

bg\_covid\_prior\_teach UNIVERSE: ALL RESPONDENTS

NOTE: RESPONDENTS WHO DID NOT TEACH PRIOR TO THE COVID-19 PANDEMIC (covid\_prior\_teach = 02) WERE SHOWN THE FOLLOWING MESSAGE AND TERMINATED FROM THE SURVEY: Thank you for your response. This survey is for teachers who have taught prior to COVID-19 pandemic only. We look forward to your participation in future ATP surveys!

# Did you teach prior to the COVID-19 pandemic (that is, in the 2018-19 school year or earlier)?

**01** Yes

02 No (exit the survey)

#### bg\_recent\_teach\_year

UNIVERSE: ALL RESPONDENTS

What was the most recent year prior to the COVID-19 pandemic that you taught?

- 01 The 2018-19 school year
- 02 Prior to the 2018-19 school year

#### bg\_recent\_teach\_loc

#### UNIVERSE: ALL RESPONDENTS

Immediately prior to the COVID-19 pandemic, where were you teaching? If you did not teach in 2019, please respond with regard to your most recent school before 2019.

- 01 Same school as the current year
- 02 Same district but different school
- 03 Different school district
- 04 In K12 private or charter school

#### bg\_recent\_teach\_grade

#### UNIVERSE: ALL RESPONDENTS

Immediately prior to the COVID-19 pandemic, in which grade level(s) were you teaching? If you did not teach in 2019, please respond with the most recent time you taught prior to the pandemic in mind.

- 01 I was teaching at least some of the same grades as I am this year.
- **02** I was not teaching the same grade level, but I was teaching in the same grade level **<u>band</u>** (i.e., elementary, middle or high school) as I am this year.
- 03 I was teaching in a different grade level band than this year.

#### **Educational Technology**

For the following questions, if responses differ across grade levels in your school, please answer the questions for the current grade you teach.

#### et\_prior\_covid\_comp

UNIVERSE: ALL RESPONDENTS

<u>Before the COVID-19 pandemic</u>, were students in your school assigned their own school-issued computer (i.e., laptop or tablet) that they could take home?

- **01** Yes, every student had their own school-issued device. (i.e., one to one)
- 02 Every student had access to a laptop or tablet at school (i.e., class set or shared set), but was not permitted to take them home.
- 03 Our school had some laptops/tablets for student use, but access was limited.
- 04 Our school did not have any laptops/tablets for student use.

#### et\_20\_21\_comp

#### UNIVERSE: ALL RESPONDENTS

During the 2020-21 school year, were all students assigned their own school-issued computer (i.e., laptop or tablet) they could take home?

- 01 Every student was assigned a school-issued computer (i.e. one to one).
- **02** Every student who did not have their own device at home was assigned a school-issued computer.
- 03 Only students who chose to do remote schooling were assigned a school-issued computer.
- **04** Only students who chose to do remote schooling and who did not have devices at home were assigned a school-issued computer.
- **05** No students were assigned a school-issued computer.
- **91** Other

#### et\_current\_comp

UNIVERSE: ALL RESPONDENTS

<u>During the current school year</u>, were all students assigned their own school-issued computer (i.e., laptop, tablet) they can take home?

- 01 Yes, every student is assigned their own school-issued computer (i.e., one to one)
- 02 No, but every student has access to a laptop or tablet at school (i.e., class set or shared set)
- 03 No

#### et\_no\_comp

UNIVERSE: RESPONDENTS WHOSE STUDENTS WERE ASSIGNED THEIR OWN SCHOOL-ISSUED COMPUTER IN THE 2020-21 SCHOOL YEAR AND WHOSE STUDENTS HAVE NOT BEEN ASSIGNED THEIR OWN SCHOOL-ISSUED COMPUTER THIS YEAR (et\_20\_21\_comp = 01 AND (et\_current\_comp = 02 OR et\_current\_comp = 03))

Why are students no longer assigned their own school-issued computers (i.e. one to one) this school year? Select all that apply.

- 01 Too many devices were lost or damaged
- 02 Students forget to bring devices or chargers to school
- 03 Lack of funding
- 91 Other:\_\_\_\_

#### et\_lms\_use\_this\_year

#### UNIVERSE: ALL RESPONDENTS

<u>A Learning Management System (LMS)</u> is an online platform or software application that helps schools to organize, manage, track, and facilitate student learning activities. Examples include Google Classroom, Schoology, and Seesaw.

This school year, how often did you use a LMS for each of the following purposes?

	Never/rarely	At least a few times a semester	At least once a week
<b>01</b> To post recordings of lessons	1 🗆	2 🗆	3 🗆
<b>02</b> To post classwork or homework assignments	1 🗆	2 🗆	3 🗆
<b>03</b> To collect or turn in student work	1 🗆	2 🗆	3 🗆
<b>04</b> To provide feedback on student work	1 🗆	2 🗆	3 🗆
<b>05</b> To facilitate whole- class communication (e.g., announcements, discussions)	1 🗆	2 🗆	3 🗆
<b>06</b> To connect students to other resources, apps, and websites	1 🗆	2 🗆	3 🗆

### et\_lms\_use\_prior\_covid

#### UNIVERSE: ALL RESPONDENTS

<u>A Learning Management System (LMS)</u> is an online platform or software application that helps schools to organize, manage, track, and facilitate student learning activities. Examples include Google Classroom, Schoology, and Seesaw.

	Never/rarely	At least a few times a semester	At least once a week
<b>01</b> To post recordings of lessons	1 🗆	2 🗆	3 🗆
<b>02</b> To post classwork or homework assignments	1 🗆	2 🗆	3 🗆
<b>03</b> To collect or turn in student work	1 🗆	2 🗆	3 🗆
<b>04</b> To provide feedback on student work	1 🗆	2 🗆	3 🗆
<b>05</b> To facilitate whole- class communication (e.g., announcements, discussions)	1 🗆	2 🗆	3 🗆
<b>06</b> To connect students to other resources, apps, and websites	1 🗆	2 🗆	3 🗆

Before the pandemic, how often did you use a LMS for each of the following purposes?

#### et\_dig\_tool

UNIVERSE: ALL RESPONDENTS

During the pandemic, many more teachers started using a variety of software products or other digital tools as part of their instruction. Some examples include: Nearpod, Pear Deck, EdPuzzle, Screencastify, IXL, Lexia, Zern, Kahn Academy, Duolingo, Prodigy, Desmos, Kahoot, and Flipgrid.

Please <u>list up to 5 digital tools</u> you most frequently used and/or found most helpful <u>this school year</u>. Do <u>not</u> include your learning management system (e.g., Google Classroom, Seesaw, Moodle, Schoology).

#### et\_dig\_covid\_comp

#### UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how often do you use digital tools in your class for instructional purposes?

- 01 Much less
- 02 A little less
- 03 About the same
- 04 A little more
- 05 Much more

#### et\_stu\_resist

#### UNIVERSE: ALL RESPONDENTS

During the <u>current year</u>, how often did students in your class(es) resist using digital instructional tools?

- 01 Never/rarely
- 02 Occasionally
- 03 Frequently

#### et\_tool\_instruct

#### UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how often do you use digital tools for each of the following instructional purposes? For this question, focus on the type of tools mentioned above (e.g., NearPod, EdPuzzle, Desmos) and <u>not</u> your LMS (e.g., Google Classroom, Schoology, etc.).

	Much less time now	Little less time now	Same amount of time	Little more time now	Much more time now
<b>01</b> Delivering instruction directly to students (e.g., lectures, demonstrations, whole-class discussions)	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>02</b> Diagnosing student learning needs	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>03</b> Providing students with independent, self-	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆

paced practice of specific skills					
<b>04</b> Varying the delivery method of instruction to increase engagement or enhance learning	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>05</b> Supporting student collaboration and providing interactive experiences	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>06</b> Providing content- based remediation to help students catch up	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆

# et\_act\_digital\_thisyear

UNIVERSE: ALL RESPONDENTS

This school year, about what portion of each of the following activities are done on a computer or digital device?

	None	Very little (less than 10%)	Some	About half (50%)	More than half	Nearly all (over 90%)
<b>01</b> Student homework	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆	6 🗆
<b>02</b> Student independent class work	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆	6 🗆
<b>03</b> Student small group class work	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆	6 🗆
04 Assessments	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆	6 🗆

## et\_act\_digital\_covid\_prior

# UNIVERSE: ALL RESPONDENTS

Before the COVID-19 pandemic, about what portion of the following activities were done on a computer or digital device?

	None	Very little (less than 10%)	Some	About half (50%)	More than half	Nearly all (over 90%)
<b>01</b> Student homework	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆	6 🗆
<b>02</b> Student independent class work	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆	6 🗆
<b>03</b> Student small group class work	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆	6 🗆
04 Assessments	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆	6 🗆

#### et\_online\_material\_covid

UNIVERSE: ALL RESPONDENTS

During the COVID-19 pandemic, did you create online instructional materials and resources for students (i.e., teacher-made lesson videos, interactive lesson slides, or online worksheets and activities)?

- 01 Yes, I created or collaborated to create online instructional materials for students
- 02 No, my school or district provided online instructional materials for me
- 03 Both, I created or collaborated on some materials while others were provided to me
- **99** My school did not offer online instruction

#### et\_online\_material\_current

UNIVERSE: RESPONDENTS WHOSE SCHOOLS USED ONLINE INSTRUCTION DURING THE COVID-19 PANDEMIC (et\_online\_material\_covid = 01 OR et\_online\_material\_covid = 02 et\_online\_material\_covid = 03)

# This school year, to what extent are you still using the online instructional materials that you used during the pandemic?

- 01 I am still using all of the online instructional materials that I used during the pandemic
- 02 I use <u>some</u> of the of the online instructional materials that I used during the pandemic
- 03 I don't use any of the online instructional materials that I used during the pandemic

#### **Instructional Practices**

#### ins\_typ\_time\_dist

UNIVERSE: ALL RESPONDENTS

In a <u>typical week</u>, how much time did you spend doing each of the following activities in your classroom. Note: percentages should add up to 100%

	This school year	Before the pandemic
<b>01</b> Lecturing or whole-class presentations		
02 Whole class discussion		
03 Independent student work		
04 Small group work		
Total	100%	100%

#### ins\_hw\_covid\_comp

UNIVERSE: ALL RESPONDENTS

#### Compared to before the COVID-19 pandemic, how much homework do you assign this school year?

- 01 I assign much less homework this year
- 02 I assign a little less homework this year
- 03 I assign the same amount of homework this year
- 04 I assign a little more homework this year
- 05 I assign a lot more homework this year
- 06 I don't assign homework

#### ins\_assmnt\_covid\_comp

UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how often do you give summative assessments (i.e. tests that contribute to a student's grade) this school year?

- 01 Much less often
- 02 A little less often
- 03 The same amount
- 04 A little more often
- 05 Much more often

#### ins\_retake\_flex UNIVERSE: ALL RESPONDENTS

# Compared to before the COVID-19 pandemic, how much flexibility do students have with turning in assignments or taking/retaking tests this school year?

- 01 Students have much less flexibility
- 02 Students have a little less flexibility
- 03 Students have the same amount of flexibility
- 04 Students have a little more flexibility
- 05 Students have much more flexibility

#### ins\_form\_diag\_assmnt

#### UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how often do you conduct formative or diagnostic assessments (these can be your own, or school/district provided) this school year?

- 01 Much less often
- 02 A little less often
- 03 The same amount
- 04 A little more often
- 05 Much more often

### ins\_classtime\_covid\_comp

#### UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how much class time do you spend on each of the following tasks this school year?

	Much less time now	Little less time now	Same amount of time	Little more time now	Much more time now
<b>01</b> Getting students caught up on missing skills / knowledge	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>02</b> Reviewing routines and procedures for being in school	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>03</b> Activities designed to improve students' social- emotional well-being	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆

<b>04</b> Addressing student behavioral issues	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆

#### Communication

#### comm\_parent\_ind

#### UNIVERSE: ALL RESPONDENTS

Compared with before the COVID-19 pandemic, how frequently do you interact with parents on an individual basis this school year?

- 01 Much less than before
- 02 A little less than before
- 03 The same as before
- 04 A little more than before
- **05** A lot more than before

#### comm\_parent\_group

#### UNIVERSE: ALL RESPONDENTS

Compared with before the COVID-19 pandemic, how frequently do you (or your school administrators) communicate with parents as a group (e.g., via newsletters or email blasts) this school year?

- 01 Much less than before
- 02 A little less than before
- 03 The same as before
- **04** A little more than before
- 05 A lot more than before

#### comm\_parent\_phone\_vid

#### UNIVERSE: ALL RESPONDENTS

During the current school year, how often have you conducted the following types of parent meetings via phone or videoconference?

	Never/rarely	Occasionally	About half the time	More than half the time	Nearly all the time
<b>01</b> Parent-teacher conferences	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
02 504/IEP meetings	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>03</b> Student behavior/discipline meetings	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆

# comm\_parent\_modes

#### UNIVERSE: ALL RESPONDENTS

# Compared to before the COVID-19 pandemic, how often do you use the following modes to communicate with parents?

	Much less often	Little less often	Same amount of time	Little more often	Much more often
<b>01</b> Email	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
02 Phone calls	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>03</b> Text	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
04 Videoconference	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
05 In-person	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆

### comm\_vidconf\_thisyear

#### UNIVERSE: ALL RESPONDENTS

# During the current school year, how often were each of the following activities held via videoconference in your school and/or district?

	Never/rarel y	Occasionally	About half the time	More than half the time	Nearly all the time
<b>01</b> School staff meetings	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>02</b> Teacher grade level or content team meetings	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>03</b> Meetings with teachers from other schools	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆
<b>04</b> Professional development activities	1 🗆	2 🗆	3 🗆	4 🗆	5 🗆

#### **Social-Emotional Wellbeing**

We recognize that you may not know about the personal struggles of all of your students. In answering the following questions, please respond based on your perceptions.

#### sew\_dep\_anx

UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how many of your students are struggling with depression and anxiety?

- $01 \hspace{0.1in} \text{Many more} \\$
- 02 A few more
- 03 The same number
- 04 A few less
- 05 Many less

#### sew\_int\_engage

UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how many of your students are struggling with feeling interested and engaged in school?

- 01 Many more
- 02 A few more
- 03 The same number
- 04 A few less
- 05 Many less

#### sew\_behavior

UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how many of your students are struggling with meeting behavior expectations in class?

- 01 Many more
- 02 A few more
- **03** The same number
- 04 A few less
- 05 Many less

#### sew\_bully\_phys

UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how many of your students are struggling with bullying or physical altercations with other students in school?

- $01 \hspace{0.1in} \text{Many more} \\$
- 02 A few more
- 03 The same number
- 04 A few less
- 05 Many less

#### sew\_tech\_cheat

#### UNIVERSE: ALL RESPONDENTS

Compared to before the COVID-19 pandemic, how likely are your students to use technology to cheat on schoolwork (i.e., group chats, photomath)?

- 01 Much less likely than before
- 02 A little less likely than before
- 03 The same as before
- 04 A little more likely than before
- 05 A lot more likely than before

#### sew\_sel\_prior\_covid

#### UNIVERSE: ALL RESPONDENTS

Before the COVID-19 pandemic, was your school using a program or curriculum to address student social-emotional learning?

- **01** Yes
- 02 No
- 03 Not sure

#### sew\_sel\_covid

#### UNIVERSE: ALL RESPONDENTS

Since the start of the pandemic, has your school adopted or continued a program or curriculum to address student social-emotional learning?

- 01 Yes, kept the same program(s) as before
- 02 Yes, started new program(s)
- 03 Yes, kept existing program(s) and added new program(s)
- 04 No

05 Not Sure

#### sew\_sel\_program\_name

UNIVERSE: RESPONDENTS WHOSE SCHOOL HAS ADOPTED OR CONTINUED A PROGRAM WHICH ADDRESSES STUDENT SOCIAL-EMOTIONAL LEARNING (sew\_sel\_covid = 01 OR sew\_sel\_covid = 02 or sew\_sel\_covid = 3)

Please write-in the name of the social-emotional learning program(s) your school is using.

#### sew\_freq\_mh\_thisyear

#### UNIVERSE: ALL RESPONDENTS

This school year, how often do you have your students use Ed Tech tools meant to improve student mental health (e.g., Headspace)?

01 Never

- $02\ \ \, \text{A few times a year}$
- $03 \hspace{0.1in} \text{Once or twice a month} \\$
- 04 Once a week
- 05 A few times a week
- 06 Every day

#### sew\_freq\_mh\_covid\_prior

#### UNIVERSE: ALL RESPONDENTS

Before the COVID-19 pandemic, how often did you have your students use Ed Tech tools meant to improve student mental health (e.g., Headspace)?

- 01 Never
- 02 A few times a year
- 03 Once or twice a month
- 04 Once a week
- 05 A few times a week
- 06 Every day

#### sew\_pctg\_inst\_thisyear

#### UNIVERSE: ALL RESPONDENTS

This school year, what percentage of instructional time do you spend on social-emotional learning activities <u>in a typical week</u>?

- 01 5% or less
- 02 6-15%
- 03 16-25%
- 04 More than 25%

#### sew\_pctg\_inst\_covid\_prior

#### UNIVERSE: ALL RESPONDENTS

Before the COVID-19 pandemic, what percentage of instructional time did you spend on socialemotional learning activities <u>in a typical week</u>?

- 01 5% or less
- 02 6-15%
- 03 16-25%
- 04 More than 25%

#### sew\_pctg\_inst\_discp\_thisyear

#### UNIVERSE: ALL RESPONDENTS

This school year, what percentage of instructional time do you spend focused on student behavioral and/or disciplinary issues in a typical week?

- 01 5% or less
- **02** 6-15%
- 03 16-25%
- 04 More than 25%

#### sew\_pctg\_inst\_discp\_covid\_prior

UNIVERSE: ALL RESPONDENTS

Before the COVID-19 pandemic, what percentage of instructional time did you spend focused on student behavioral and disciplinary issues in a typical week?

- 01 5% or less 02 6-15% 03 16-25%
- 04 More than 25%

#### covid\_change\_open

We are interested in how the COVID-19 pandemic may have changed various aspects of K12 schooling. Please describe any important points you believe were not covered above. That is, in what ways are your students' needs and/or your practice different this year (2022-23) compared with years before the pandemic? You can consider a wide range of areas, including communication with parents, instructional approaches, use of specific technologies, content focus, and professional development.

#### **Demographic Questions**

# ethn UNIVERSE: ALL RESPONDENTS With which of the following do you identify?

#### SELECT ALL THAT APPLY

- American Indian/Alaska Native (ethn\_americanindian\_alaskan)
- Asian (ethn\_asian)
- Black/African American (ethn\_black\_africanamerican)
- Hispanic/Latino/Spanish Origin (ethn\_latinx\_hispanic)
- Native Hawaiian/Pacific Islander (ethn\_nativehawaiian\_pacificislander)
- White (ethn\_white)
- Prefer not to state (ethn\_refused\_to\_answer)
- Prefer to self-describe (please specify): (ethn\_selfdescription\_text)

#### total\_years\_teaching

#### UNIVERSE: ALL RESPONDENTS

<u>Including the current school year (2022-23)</u>, for how many years have you served as a teacher *across your entire career*? Please round to the nearest whole number, and do not include student teaching.

\_\_\_\_Years

gender UNIVERSE: ALL RESPONDENTS Do you identify as:

- 1 a Man
- 2 a Woman
- 3 Non-binary
- 4 Prefer to self-describe:
- 5 Prefer not to say

#### degree

UNIVERSE: ALL RESPONDENTS What is the highest degree you have earned?

- 1 Do not have a degree
- 2 Associate's degree
- **3** Bachelor's degree (B.A., B.S., etc.)
- 4 Master's degree (M.A., M.A.T., M.B.A., M.Ed., M.S., etc.)
- 5 Educational specialist or professional diploma (at least one year beyond master's level)
- 6 Doctorate or first professional degree (Ph.D., Ed.D., M.D., L.L.B., J.D., D.D.S.)

#### teaching\_certification

UNIVERSE: ALL RESPONDENTS

Which of the following *best describes* the teaching certificate you currently hold in the state in which you currently teach?

- **0** Regular or standard state certificate or advanced professional certificate
- **1** Other type of certificate (e.g., probationary, provisional, temporary, emergency/waiver)
- 2 I do not hold any of the above certifications in this state

# SE\_teaching\_certification

UNIVERSE: ALL RESPONDENTS Does your teaching certification allow you to teach Special Education in your state?

- 1 Yes
- **2** No
- 98 Don't know