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PANDEMIC LEARNING:

Less Academic Progress Overall, Student and Teacher Strain, and Implications for the Future



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PANDEMIC LEARNING

Less Academic Progress Overall, Student and Teacher Strain, and Implications for the Future

Why GAO Did This Study

The COVID-19 pandemic disrupted learning for millions of students, educators, and families. Its effects continue to reverberate across the nation and produce challenges for schools that will likely be felt for years to come. In many respects, the 2020-21 school year offers insights and lessons on the struggles and successes that schools, educators, and parents faced.

The CARES Act includes a provision for GAO to report on its ongoing COVID-19 monitoring and oversight efforts.

This report, the third in a series of three reports, examines (1) the effect of the pandemic on academic progress, and (2) implications, and strategies and resources identified by educators and parents to address ongoing challenges or future learning disruptions.

To address these objectives, GAO contracted with Gallup to (1) conduct a nationally representative survey of elementary and secondary public school teachers and (2) arrange virtual discussion groups with teachers, principals, and parents of K-12 students. The overall response rate was 8.2 percent (using the American Association for Public Opinion Research's response rate 3, which accounts for the estimated eligibility rate of non-respondents). GAO analyzed the resulting survey data and discussion group information. GAO estimated margins of error at the 95 percent confidence level. To view the first two reports, see [GAO-22-104487](#) and [GAO-22-105815](#). To view the supplement online, click on [GAO-22-105817](#).

View [GAO-22-105816](#). For more information, contact Jacqueline M. Nowicki at (617) 788-0580 or nowickij@gao.gov.

What GAO Found

Compared to a typical school year, teachers reported that more of their students started the 2020-21 school year behind and made less academic progress, according to GAO's generalizable survey of K-12 public school teachers. Teachers also reported that many students ended the year behind grade level expectations (see figure). Educators and parents also shared their insights and experiences about student struggles and learning loss during the year.

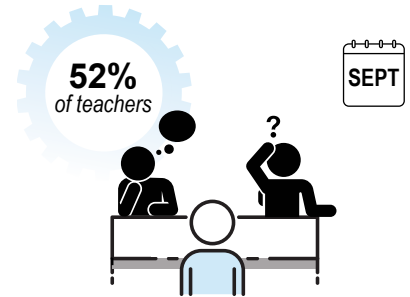
GAO estimated that about half of teachers (52 percent) had more of their students start the 2020-21 school year behind compared to a typical school year, and that this affected younger students more than older students. Further, nearly two-thirds of teachers (64 percent) had more students make less academic progress than in a typical school year. These issues occurred across all grades and instructional models, and were more pronounced in some than others. For example, between 68 and 72 percent of teachers of older students or in virtual or hybrid environments had students who made less academic progress than is typical, compared to other grades and learning models. Finally, 45 percent of teachers had at least half of their students end the year behind grade level.

Educators and parents did note, however, that some students excelled despite the strain of the pandemic. Factors associated with such success included flexibility to work at their own pace and strong familial support.

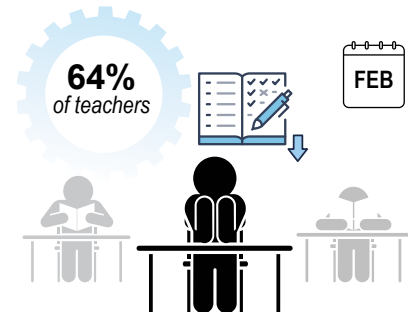
The pandemic continues to take a toll on students' and teachers' well-being. The trauma of the last 2 years has profoundly affected many students and teachers, some of whom lost parents or family members. As our teacher survey, educator and parent discussion groups, and other research has shown, this trauma and pandemic-associated schooling disruptions disproportionately harmed vulnerable students and contributed to growing disparities between student populations. Further, after 2 years of challenging working conditions, teachers are confronting burnout and recent surveys indicate that many are thinking of leaving their jobs.

To help address some of these ongoing challenges as well as inform thinking about managing future learning disruptions, educators and parents identified strategies such as providing mental health services for students.

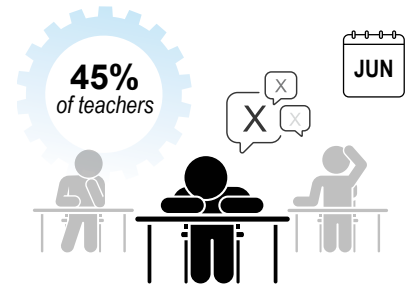
Academic Progress during School Year 2020-21



...had more students start the 2020-21 school year behind compared to a typical pre-pandemic year,



...had more students who made less academic progress than in a typical pre-pandemic year,



...had at least half their students end the year behind.

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105816

Note: The margin of error for all percentages was less than or equal to +/- 8 percent at the 95 percent confidence level. The survey asked teachers how many of their students were behind grade level or made less academic progress. We did not define "behind" or "academic progress" as we wanted to obtain teachers' overall observations of their students.



441 G St. N.W.
Washington, DC 20548

June 8, 2022

Congressional Committees

For over 2 years, the COVID-19 pandemic has disrupted learning for millions of students, educators, and families. Its effects continue to reverberate across the nation and schools will likely feel these effects for years to come. Many schools and districts continued virtual learning for much of the 2020-21 school year. Recognizing the challenges of virtual learning, they continually re-evaluated trade-offs between how best to educate students while minimizing the spread of COVID-19 based on health and safety indicators in their communities. As schools and districts struggled to operate amid uncertainty and difficult circumstances, students were profoundly affected. In many respects, the 2020-21 school year offers important insights into the struggles and successes students, educators, and parents faced.

The CARES Act includes a provision for GAO to report on its ongoing monitoring and oversight efforts related to the COVID-19 pandemic.¹ As part of our body of work to understand the impact of COVID-19 on public K-12 education, we are issuing a series of reports in the spring of 2022 that highlight key findings from our nationally generalizable survey of general education teachers and discussion groups with teachers, principals, and parents. Our first report described obstacles to learning and strategies to mitigate learning loss that teachers found helped more or fewer students.² Our second report focused on pandemic learning loss among three vulnerable populations—high-poverty, English learner, and kindergarten through second grade students—and described obstacles to learning as well as strategies to mitigate learning loss teachers used with these students.³ This third and final report in this series on pandemic learning includes two sections:

- the effect on academic progress, and
- implications, and strategies and resources identified by educators and parents to address ongoing challenges or future learning disruptions.

Scope and Methodology

GAO contracted with Gallup to (1) conduct a nationally representative survey of elementary and secondary public school teachers between June 18 and July 9, 2021 and (2) arrange virtual discussion groups with teachers, principals, and parents. Our survey focused on general education teachers at the elementary, middle, and high school levels.⁴

¹ Pub. L. No. 116-136, § 19010, 134 Stat. 281, 579-81 (2020).

² GAO, *Pandemic Learning: As Students Struggled to Learn, Teachers Reported Few Strategies as Particularly Helpful to Mitigate Learning Loss*, [GAO-22-104487](#) (Washington, D.C.: May 10, 2022).

We also issued a supplement with technical materials related to the three reports in the pandemic learning loss series issuing in May and June 2022: GAO, *Pandemic Learning: Technical Materials for Teacher Survey and Discussion Groups with Public K-12 School Principals, Teachers, and Parents*, [GAO-22-105817](#) (Washington, D.C.: May 10, 2022).

³ For more information on why we selected these populations for in depth analysis see GAO, *Pandemic Learning: Teachers Reported Many Obstacles for High-Poverty Students and English Learners As Well As Some Mitigating Strategies*, [GAO-22-105815](#) (Washington, D.C.: May 31, 2022).

In addition, we recently issued related work on students who were unaccounted for in school year 2020-21. See GAO, *K-12 Education: An Estimated 1.1 Million Teachers Nationwide Had At Least One Student Who Never Showed Up for Class in the 2020-21 School Year*, [GAO-22-104581](#) (Washington, D.C.: Mar. 23, 2022).

⁴ We surveyed general education teachers who work in a public school and taught a core subject. For the purpose of this survey, core subjects included: elementary school, math, science, computer science/information technology, English/language arts/reading/writing, social studies and world/foreign languages or English language learning. For this work, we use the terms elementary, middle, and high school to refer to those teaching in grades K-5, 6-8, and 9-12, respectively.

The survey asked teachers about their instructional models, adult support provided to their students, difficulties their students faced, their students' academic progress, strategies they used to mitigate learning loss, and the extent to which their students were engaged in learning, among other topics.⁵ The initial sample was selected from two sources: the Gallup Panel, a probability based panel of U.S. adults, and a national list of teachers. The responses achieved our margin of error targets for key subgroups by location, participation in free or reduced-price lunch (FRPL) programs, grade level, and percentage of English learners. They were weighted to minimize bias independently for each source and for the sources combined. All estimates in this report have a margin of error less than or equal to +/- 10 percent at the 95 percent confidence level.

We analyzed the survey responses of 2,862 teachers, which are generalizable to the population of all K-12 general education public school teachers in the U.S.⁶ This analysis included disaggregation for each key subgroup. We also developed a series of statistical models to describe the associations between teachers' use of various strategies to address learning loss and teachers' perceived effectiveness of the strategies. Our models estimated the probability teachers' reports that "about half or more" of their students "improved their academic progress" differed by instructional model. We grouped responses to each question, in order to increase the sample sizes. We estimated these probabilities separately by grade level, in-person or hybrid and virtual instructional models, and a three-way categorization of the school's FRPL participation. We limited the survey respondents to those who responded to all relevant questions—a sub-sample that could vary across learning strategies.

To gain further insight into the topics covered in the survey, we held 18 virtual discussion groups with public school teachers (six groups), parents of students (six groups), and principals (six groups) between June 29 and July 14, 2021.⁷ We contracted with Gallup to recruit and arrange the K-12 public school groups. In total, Gallup segmented participant category (teachers, parents, and principals) based on their school's geographic location (urban, suburban, or rural), with two groups for each participant type and location. Teachers participating in the groups had also responded to

⁵ Many survey questions asked teachers to reflect on their experiences teaching virtually, in-person, or in a hybrid model. Teachers were instructed to answer these questions based on how their students learned for the majority of the year. Teachers who indicated they worked simultaneously with students learning fully in person and students learning fully virtually were randomly assigned to answer either the questions about teaching in a virtual environment or in person.

⁶ Our survey results are based on the responses of 2,862 teachers who met our eligibility criteria of public school general education teachers of core subjects—selected from an initial sample of 45,792 teachers. The initial sample was selected from the Gallup Panel, a probability based panel of U.S. adults, and a national list of teachers. The overall response rate was 8.2 percent (using the American Association for Public Opinion Research's response rate 3, which accounts for the estimated eligibility rate of non-respondents). Estimates for subpopulations of interest had margins of error ranging from plus or minus 2.9 to 7.2 percent, although margins for individual questions varied depending upon the number of responses. Gallup adjusted the survey weights to account for potential nonresponse bias by accounting for relevant school characteristics for non-respondents and re-weighting (post-stratifying) the sample to match the number and regional distribution of teachers and teacher demographics such as age, sex, and race. Weighting information came from the National Center for Education Statistics National Teacher and Principal Survey for 2017-2018. Based on the survey and weighting adjustment methods used, we determined that estimates from this survey are generalizable to the population of U.S. public K-12 general education teachers and are sufficiently reliable for the purposes of our report.

⁷ After completing the survey, teachers answered additional screening questions to determine their eligibility, interest, and availability to participate in our discussion groups. In addition, to respond to a provision in the conference report accompanying the National Defense Authorization Act of Fiscal Year 2021 for GAO to examine virtual learning in Department of Defense Education Activity (DODEA) schools, we held two additional discussion groups—one with DODEA teachers and one with parents of students in DODEA schools. For the DODEA discussion groups, we selected a non-generalizable sample from DODEA's Southeast district in the U.S., which had the highest percentage of stateside students in full-time virtual status as of October 2020. To solicit participants for our discussion groups, we asked DODEA to send an email to teachers and parents in that district to inform them of our request. We considered five factors in selecting participants: (1) military installation within the Southeast district, (2) grade levels teachers taught or grade level students were in, (3) subjects teachers taught, (4) gender of teachers and parents, and (5) race or ethnicity of teachers and parents. The findings from those two discussion groups are incorporated into our first pandemic learning loss report (see [GAO-22-104487](#)).

Q&A QUESTION BOX



What is learning loss?

For the purposes of this report, learning loss means the loss or reversal of knowledge or skills as well as forgone learning, which is the learning that would have occurred under typical circumstances. Learning loss may accumulate over time, particularly if a student misses a lot of classes.

Source: GAO. | GAO-22-105816

our generalizable teacher survey. GAO moderators structured and guided the discussions using a standardized list of questions to encourage participants to share their thoughts and experiences on students' learning during school year 2020-21 and on strategies used to mitigate learning loss. We developed discussion guides tailored to each stakeholder group (teachers, principals, and parents) without Gallup's input. Prior to conducting any of the discussion groups with participants recruited by Gallup, we pretested our discussion guide with one teacher, two parents, and two principals. To accommodate the schedules of participants, each discussion group was held by video conference in the evening for one hour. The contractor also created a written transcript of each group. To select discussion group comments for the report, we first analyzed and coded the transcripts from these discussion groups for common themes among the groups. We then compared these themes with our survey results to identify comments that were illustrative of the key themes across the survey and discussion group analyses. Comments, information, and views obtained from these discussion groups are not generalizable to other educators and parents.⁸

Additional technical details about our scope and methodology are provided in [GAO-22-105817](#), which offers technical supplementary material for all of our pandemic learning loss work issuing in May and June 2022. The material includes information such as survey terminology, the survey's sample frame, margin of error and minimum sample size requirements, sample weighting, analysis approach, regression modeling, and discussion group recruitment and logistics. It also includes a copy of the survey instrument and survey results in aggregate for all closed-ended questions.

We conducted this performance audit from August 2020 to June 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Pandemic Instructional Models

Throughout the 2020-21 school year, teachers, administrators, and policymakers were continually challenged to make decisions about whether to keep schools open for in-person learning, close their school buildings (completely or on certain days) and revert to virtual instruction, or use some combination of the two. In our nationally generalizable survey, we asked teachers to identify which of the following four models they taught in for the majority of the 2020-21 school year.⁹

- **In-person:** teaching and learning occur in the same classroom.
- **Virtual:** teaching and learning occur via information technology (hardware and software), including video or audio conferencing and document sharing; could be supplemented with printed assignments and could be synchronous (real time) or asynchronous (accessed at any time).
- **Hybrid:** teaching and learning occur in person on certain days of the week and virtually on other days.
- **Mixed:** teachers present lessons simultaneously to students learning in person and to those learning virtually. (These teachers were randomly assigned to answer some survey questions about teaching in either a virtual environment or in-person.)

⁸ We similarly analyzed teacher responses to our open-ended survey questions to select comments that were illustrative of key themes. We defined a common theme as one identified in 20 separate teacher survey responses. These comments are not generalizable to other teachers.

⁹ Our analyses are not designed to estimate causal effects of particular learning models. We do not address, assess, or form conclusions about the health and safety measures taken by schools, districts, or states, including decisions to use any particular mode of instruction, in this body of work. Instead, we focus on how, in retrospect, these different instructional models related to students' learning.

Section
1

THE PANDEMIC'S EFFECT on Academic Progress

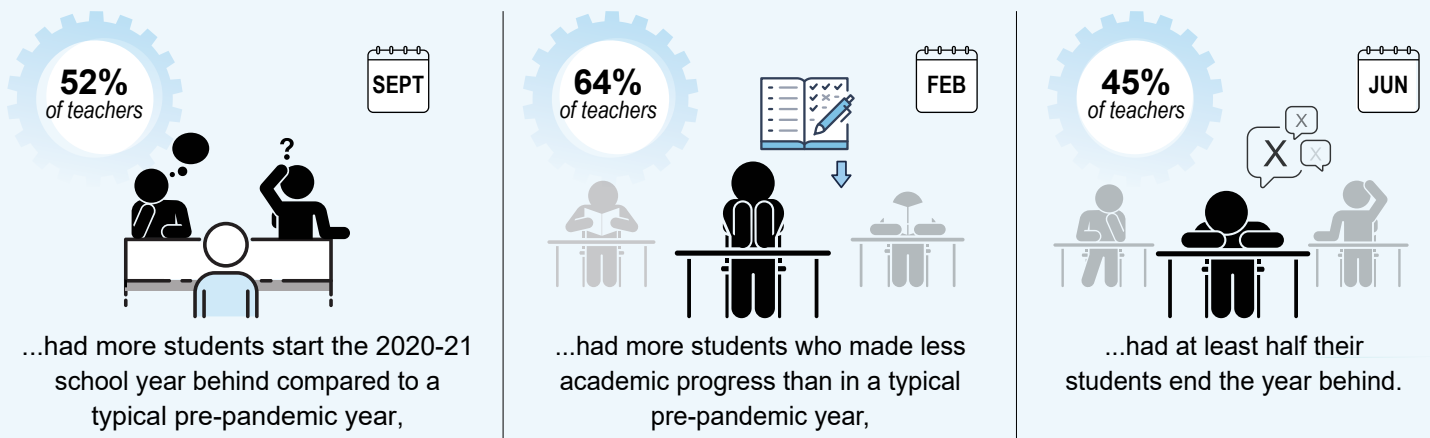
Many Students Struggled In School and Experienced Learning Loss

Based on our nationally generalizable survey, we estimate that, compared to a typical year, teachers had more students start the 2020-21 school year behind and make less academic progress. Further, almost all teachers had students who ended the year behind (see figure below).¹⁰ Educators and parents in our discussion groups, who have first-hand insights into the challenges students faced, described having concerns about the learning loss their students and children experienced.

Keep in Mind

The findings in this section are the result of our nationwide survey of K-12 teachers and discussion groups with teachers, principals, and parents and reflect their experiences during the 2020-21 school year. When we refer to a “virtual environment”, we mean one in which students spent the majority of the year learning remotely. Similarly, “in person” means when students spent the majority of the year learning in the classroom and “hybrid” refers to an environment in which students spent some days learning remotely and others in the classroom. We also defined a “typical school year” as a recent school year prior to the pandemic. Differences in the responses between virtual and in-person environments could reflect the instructional setting as well as other factors that we did not measure, such as school resources or certain student characteristics. (We did not design our analysis to estimate the causal effects of the environment.)

Academic Progress during School Year 2020-21



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105816

Note: The margin of error for all percentages was less than or equal to +/- 8 percent at the 95 percent confidence level. The survey asked teachers how many of their students were behind grade level or made less academic progress. We did not define “behind” or “academic progress” as we wanted to obtain teachers’ overall observations of their students.

¹⁰ The survey asked teachers how many of their students were behind grade level. We did not define “behind” as we wanted to obtain teachers’ overall observations of their students.

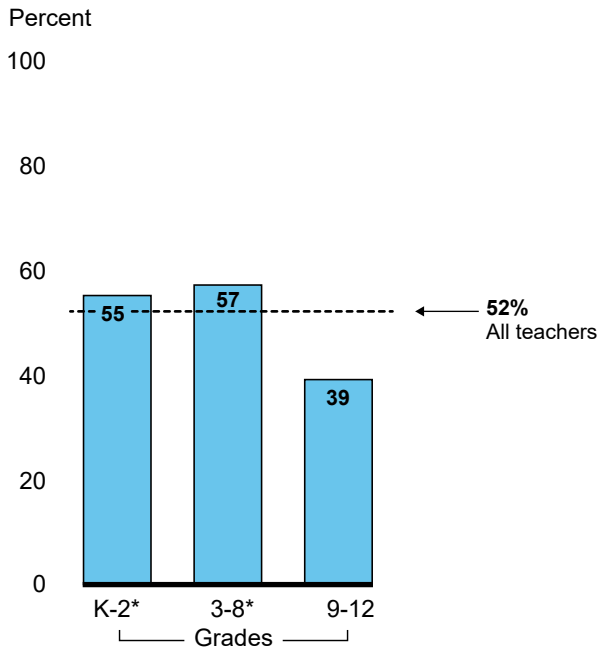


About Half of Teachers Had More Students Who Started the 2020-21 School Year Behind

Teachers began the 2020-21 school year with the added challenge of addressing learning loss resulting from the pandemic-related disruptions and closures from the prior school year. We estimate that about half of teachers (**52 percent**) had more students who were behind at the beginning of the 2020-21 school year compared to a typical year.¹¹ Further, those teaching K-2 and 3-8 had more students start the year behind than did those teaching grades 9-12 (see figure below).

Estimated Percentage of Teachers Who Had More Students Who Started Behind

Public K-12 Teachers by Grade Level, School Year 2020-21 Compared to a Typical Pre-pandemic School Year



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105816

Note: *There was no significant statistical difference between K-2 and 3-8. The margin of error for all percentages was less than or equal to +/- 8 percent at the 95 percent confidence level. The survey asked teachers how many of their students were behind grade level. We did not define "academic progress" as we wanted to obtain teachers' overall observations of their students.

¹¹ When analyzing the percent of public K-12 teachers who had more students who started behind compared to a typical school year the data were compiled into three groups (less, about the same, and more), instead of two groups (less and about the same or more).



What We Heard



“The thing I noticed [when] those little kiddos [came back into the actual classroom] is every single one of them no matter how advanced they were at the end of the last school year, every single one of them came back way behind[.]”

– Suburban Teacher

“[W]e were...in person for the majority of the year but...we felt that a lot of the kids were... behind coming into the year. So we did some after school help which...bridged the gaps a little bit between some of the struggling students. But I still don't think it was enough.”

– Rural Teacher

Source: Discussion groups with public K-12 school teachers. | GAO-22-105816

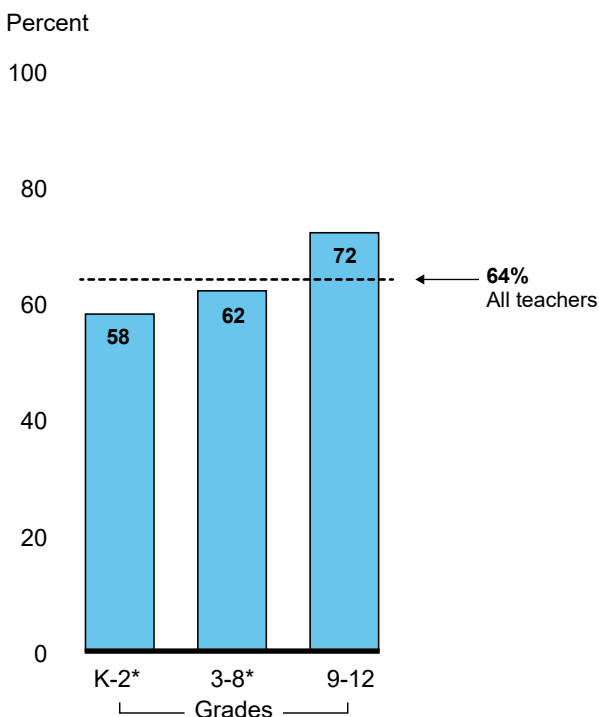
Note: The selected comments reflect themes discussed by teachers in GAO discussion groups and are not generalizable.

While More Teachers Had Students Who Made Less Academic Progress during the 2020-21 School Year, Some Had Students Who Excelled

The majority of teachers (an estimated **64 percent**) had more students who made less academic progress across all grade levels and instructional models compared to a typical school year. Teachers of older students more commonly had students who made less progress overall (see figure below).

Estimated Percentage of Teachers Who Had Students Who Made Less Academic Progress by Grade Level

Public K-12 Teachers, School Year 2020-21 Compared to a Typical Pre-pandemic School Year



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105816

Note: *There was no significant statistical difference between K-2 and 3-8. The margin of error for all percentages was less than or equal to +/- 7 percent at the 95 percent confidence level. The survey asked teachers how many of their students made less academic progress. We did not define “academic progress” as we wanted to obtain teachers’ overall observations of their students.



“I just felt like compared to their grade levels the material was very much dumbed down so that they would, I guess, learn it either through Zoom [o]r to make it easier for everybody. But it was just not the quality of education that I expected.”

– Urban Parent

“I have students at my school [that] didn’t receive any science at all the entire year... The teachers weren’t teaching science in the classroom and the science teacher was dedicated to fourth and fifth grade...A good swath of my kids learned and kids at my school learned...less than half of what they should.”

– Urban Teacher

“Teaching older students in high school, most of the learning loss...was from [students having] to work to support their family or they had to watch younger siblings...And so learning loss basically came from outside forces...from the situations that those families would be in.”

– Rural Teacher

Source: Discussion groups with teachers and parents of students in public K-12 schools. | GAO-22-105816

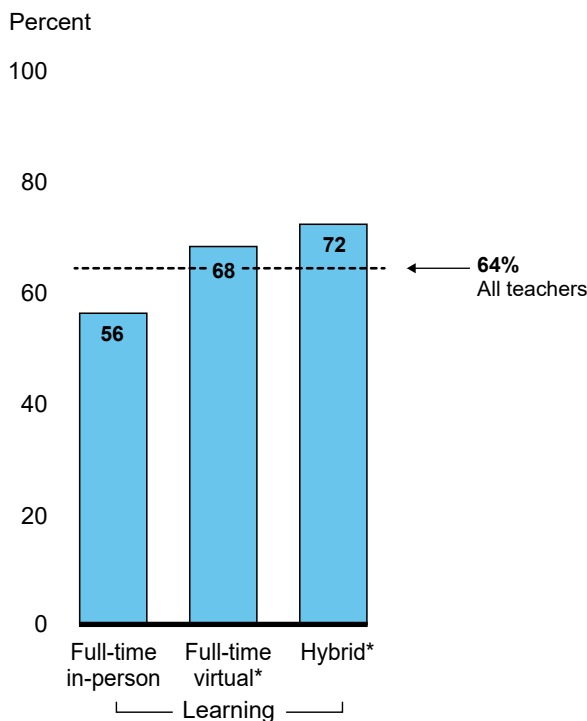
Note: The selected comments reflect themes discussed by teachers and parents in GAO discussion groups and are not generalizable.

While More Teachers Had Students Who Made Less Academic Progress during the 2020-21 School Year, Some Had Students Who Excelled (continued)

Having students who made less progress was more common among teachers in virtual and hybrid models (see figure below).

Estimated Percentage of Teachers Who Had Students Who Made Less Academic Progress by Instructional Model

Public K-12 Teachers, School Year 2020-21 Compared to a Typical Pre-pandemic School Year



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105816

Note: *There is no significant statistical difference between full-time virtual learning and hybrid learning, where students may attend school in person on certain days of the week and attend school virtually on other days. The margin of error for all percentages was less than or equal to +/- 5 percent at the 95 percent confidence level. Some survey questions asked teachers to reflect on their experiences teaching in the instructional model in which they spent the majority of the year. The 27 percent of teachers who indicated they used a mix of instructional models for the majority of the year were randomly assigned to reflect on either their virtual or in person experiences. The survey asked teachers how many of their students made less academic progress. We did not define “academic progress” as we wanted to obtain teachers’ overall observations of their students.



“But the virtual disconnect...when you had a family where there was five kids and you could hear...everyone trying to learn virtually, that was extremely difficult for...the learners, it was difficult for them, you could just see it. And then they became disengaged because it was too difficult...So it was a significant learning loss during...virtual [instruction].”

– Rural Teacher

“Kiddos that are in person and engaged in the process – they’re learning a lot more than the kiddos that are sitting back and not participating. It was the same [for] the hybrid model[.] The online learning for the vast majority of our kids did not work. The majority of kids lost learning over the last year and a half.”

– Suburban Teacher

Source: Discussion groups with public K-12 school teachers. | GAO-22-105816

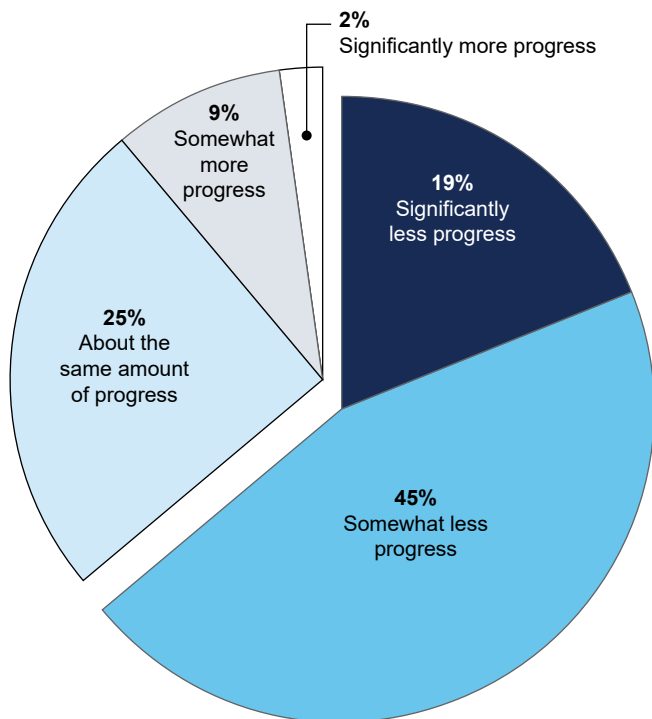
Note: The selected comments reflect themes discussed by teachers in GAO discussion groups and are not generalizable.

While More Teachers Had Students Who Made Less Academic Progress during the 2020-21 School Year, Some Had Students Who Excelled (continued)

About one-third of teachers had some students thrive academically, despite pandemic-related obstacles. Specifically, we estimate that **36 percent** of teachers had students who made at least the same amount of progress during the school year compared to a typical school year, regardless of the instructional model used. Further, we estimate that **2 percent** of teachers had students who made significantly more progress (see figure below).

Estimated Percentage of Teachers' Views of the Academic Progress Their Students Made Overall

Public K-12 School Teachers, School Year 2020-21 Compared to a Typical Pre-pandemic School Year



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105816
 Note: The margin of error for all percentages was less than or equal to X percent unless otherwise noted.
 Note: The margin of error for all percentages was less than or equal to +/- 3 percent at the 95 percent confidence level. The survey asked teachers how many of their students made less academic progress. We did not define "academic progress" as we wanted to obtain teachers' overall observations of their students.



What We Heard



“The ability to go at our own pace [with virtual learning] was really helpful. Both for the kids who were able to go really quickly and those who needed a little bit more time. Especially on different topics. Some things they also were able to spend more time on things they really liked. My 12 year old sixth grader loved history, so she spent a ton more time doing history than what her peers in person were doing.”

– Rural Parent

“My daughter has mentioned to me that she really appreciated the fact that she felt like her teachers were kind of in a coaching capacity... they were able to...flip the classroom and give her the learning material and then she was able to come into class with all of her questions and... go for mastery...She actually really thrived in that environment.”

– Urban Parent

“Our families who were virtual chose virtual for the year...I thought the program that we designed worked very well. My [fourth grade] students had great growth, we were able to meet family [needs], we were able to [meet] IEP needs, and I thought it was a very successful program. And really, we did well with the learning loss that needed to be, you know, kind of addressed during the year.”

– Rural Teacher

Source: Discussion groups with teachers and parents of students in public K-12 schools. | GAO-22-105816

Note: The selected comments reflect themes discussed by teachers and parents in GAO discussion groups and are not generalizable.

While More Teachers Had Students Who Made Less Academic Progress during the 2020-21 School Year, Some Had Students Who Excelled (continued)

In our survey, common themes among the factors that contributed to students who made more progress included being motivated and independent; being well supported; having flexibility to work at their own pace; and having introverted tendencies or social anxiety that were alleviated by less social interaction.¹² Educators and parents in our discussion groups also identified similar factors that contributed to student success.

A higher percentage of teachers with younger students and students in full-time in-person models reported their students made at least the same academic progress compared to a typical year.

- We estimate that a higher percentage of teachers of younger students (**42 percent** of K-2 teachers and **38 percent** of 3-8 teachers) had students who made at least the same academic progress compared to teachers with older students (**28 percent** of 9-12 teachers).¹³
- We estimate that a higher percentage of in-person teachers (**44 percent**) had students who made at least the same academic progress compared to virtual (**32 percent**) or hybrid (**28 percent**).¹⁴

¹² These, and other open-ended responses are not generalizable. We defined a common theme as one identified in 20 separate teacher survey responses.

¹³ There is no significant statistical difference between K-2 and 3-8.

¹⁴ There is no significant statistical difference between virtual and hybrid.



What We Heard



“But I did want to note that there was a small population that really excelled...[T]here were some who...would be normally very quiet in class...if they were in person but then online...they found an opportunity to even take on leadership roles because we can't see their face.”

– Urban Teacher

“My daughter liked the virtual days more so than in person because she is more of an introverted type.”

– Suburban Parent

“As far as virtual goes it worked really well for our oldest child who was an eighth grader last year. They got to work at their own pace which was fantastic because she tends to work a lot better independently. So when she has to wait for other kids to catch on to what's going on, she loses focus and falls out. So she got to speed ahead through the stuff she already knew and then ask questions and spend more time on the stuff she didn't know.”

– Rural Parent

“I had a lot of students that would shine and do incredibly awesome virtually and – I mean there were some students that had lots of parental support at home, and it was with those parents that were supportive that we saw some of our best students during this virtual time.”

– Rural Teacher

Source: Discussion groups with teachers and parents of students in public K-12 schools. | GAO-22-105816

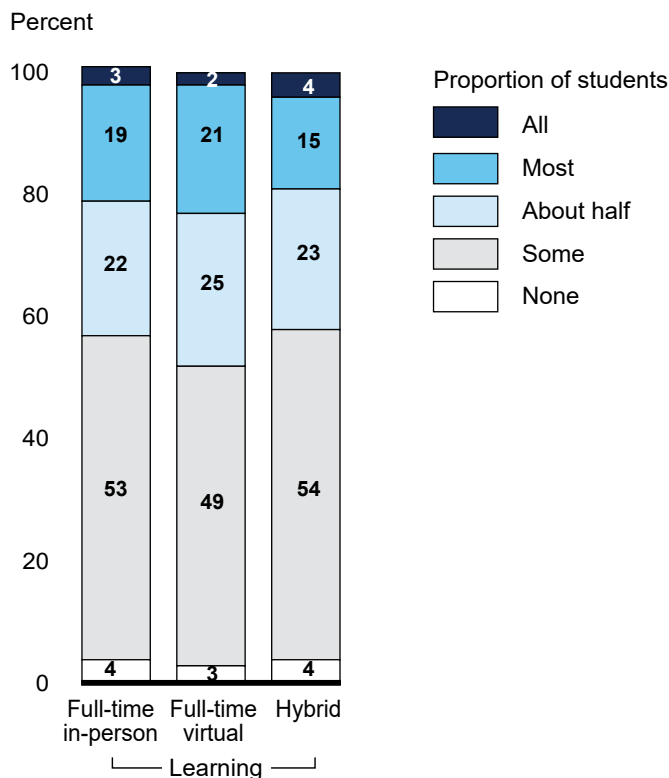
Note: The selected comments reflect themes discussed by teachers and parents in GAO discussion groups and are not generalizable.



Many Teachers Had Students Who Ended the 2020-21 School Year Behind, Regardless of Learning Model

Almost all teachers (an estimated **96 percent**) had at least some of their students end the 2020-21 school year behind grade level. These estimates were similar whether teachers were in a virtual model, a hybrid model, or in person (see figure below).

Public K-12 Teachers by Instructional Model, School Year 2020-21



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105816

Note: There is no significant statistical difference between any instructional models (hybrid learning is where students may attend school in person on certain days of the week and attend school virtually on other days). The margin of error for all percentages was less than or equal to +/- 5 percent at the 95 percent confidence level. Data in each category may not add up to 100 percent due to rounding to the nearest whole percent. Some survey questions asked teachers to reflect on their experiences teaching in the instructional model in which they spent the majority of the year. The 27 percent of teachers who indicated they used a mix of instructional models for the majority of the year were randomly assigned to reflect on either their virtual or in person experiences. The survey asked teachers how many of their students were behind grade level. We did not define “behind” as we wanted to obtain teachers’ overall observations of their students.



What We Heard



“The other thing that was really difficult was... kindergarten’s so pivotal to just understanding the norms of school. And [our daughter] would just walk away from her iPad all day long... so she’s repeating kindergarten now next year because she just didn’t get enough. She didn’t get enough learning and we didn’t feel comfortable ...that she could be academically successfully in first grade...[The] face-to-face communication and time and presence in kindergarten was so important...and she...missed it.”

– Urban Parent

“And I think we’re just going to have a lot of work to do. Especially with our seventh graders coming in next year [school year 2021-22] where they essentially were out of school for the last year and a half. And the kiddos that came back only had, you know, six weeks of what middle school looked like. So we’re essentially going to have two groups of sixth graders next year. So what I’m saying is there’s a lot of learning that still needs to take place in terms of how to engage in what middle school looks like.”

– Suburban Teacher

“A lot of kids have to make up credit. In my high school the kids have to earn certain credits in order to move on, there’s a lot of kids are behind.”

– Rural Principal

Source: Discussion groups with teachers, principals, and parents of students in public K-12 schools. | GAO-22-105816

Note: The selected comments reflect themes discussed by teachers, principals, and parents in GAO discussion groups and are not generalizable.

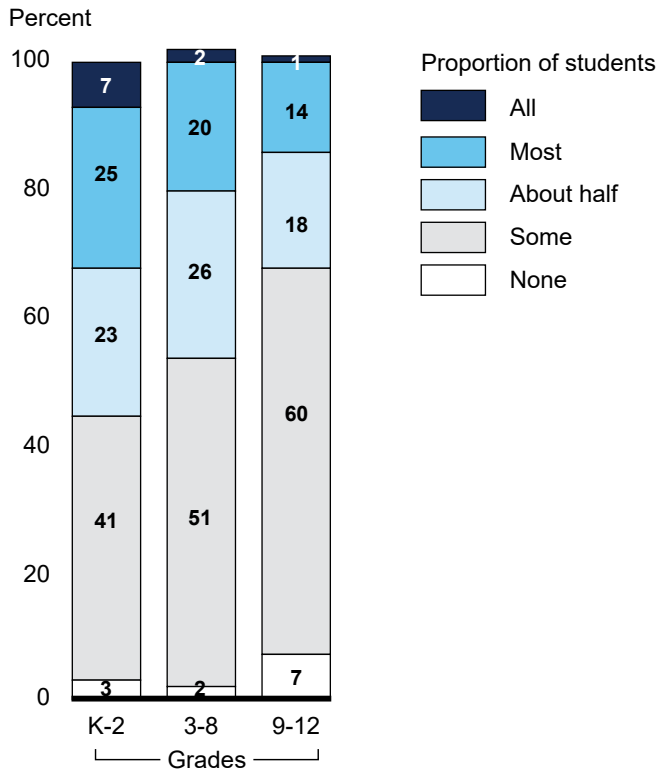


Many Teachers Had Students Who Ended the 2020-21 School Year Behind, Regardless of Learning Model (continued)

Based on our estimates, a higher percentage of teachers with younger students reported that they had students who ended the year behind than teachers with older students. Further, for an estimated **7 percent** of K-2 teachers, all of their students ended the year behind (see figure below).¹⁵

Estimated Percentage of Teachers Who Had Students End the School Year Behind

Public K-12 Teachers by Grade Level, School Year 2020-21



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105816

Note: There is no significant statistical difference between grades K-2 and 3-8, except in the all category. Differences between some and most are statistically significant when comparing grades 9-12 to either K-2 or 3-8. The margin of error for all percentages was less than or equal to +/- 7 percent at the 95 percent confidence level. Data in each category may not add up to 100 percent due to rounding to the nearest whole percent. The survey asked teachers how many of their students were behind grade level. We did not define "behind" as we wanted to obtain teachers' overall observations of their students.

¹⁵ The margin of error for the estimated percent of K-2 teachers who had all of their students end the year behind was less than or equal to +/- 5 percent for the 95 percent confidence level.



What We Heard



“And speaking from a place where students were already sort of behind as a whole, you know, looking at a grade such as a second grade a group that lost really the first two years. Their first was cut short, their second year, you know, they were only in school [for] days. And so really and truly there are gaps that really aren't their fault but we're talking about kids that were already behind. So now that gap is even larger than it would have been initially. And the catchup feels insurmountable to some.”

– Suburban Principal

Source: Discussion groups with public K-12 school principals. | GAO-22-105816

Note: The selected comments reflect themes discussed by principals in GAO discussion groups and are not generalizable.

Section
2

IMPLICATIONS MOVING FORWARD, and Educators' and Parents' Reflections on How to Support Students

The last 2 years continue to take a heavy toll on the overall well-being of both students and teachers. Some of America's most vulnerable students have been disproportionately harmed by the COVID-19 pandemic and the resulting disrupted learning, and some life-long effects and growing disparities have already started to emerge. For example:¹⁶

Students

Children continue to work through life-defining trauma



In the first year of the COVID-19 pandemic, 140,000+ children in the U.S. lost a caregiver (parent or grandparent). Children of racial and ethnic minority groups accounted for **65 percent** of those who lost a primary caregiver.¹⁷

Preexisting achievement gaps widened



One study estimates that elementary students (grades 1-6) in majority-Black schools are now academically 12 months behind those in majority-White schools, and similarly, elementary age students in low-income schools are now 13 months behind those in high-income schools, compared to 9 and 11 months behind, respectively, pre-pandemic.¹⁸

What We Heard



“This disruption that we’re talking about was world altering. People died. I don’t think of the pandemic as a “disruption to the typical learning environment.” It was a disruption to the world, to the way we live.”

– Urban Teacher

“I teach at a high school in an area [with] a very low socioeconomic population. Most of them are [English learners]...We also had the socioeconomic factor that some of my high school kids were forced to go out and work because their parents couldn’t find work...If they were at home, they were taking care of the younger siblings or they’re sharing their laptops.”

– Urban Teacher

Source: Discussion groups with public K-12 school teachers and principals, and GAO teacher survey. | GAO-22-105816

Note: The selected comments reflect themes discussed by teachers and principals in GAO discussion groups and by teachers in open-ended responses to survey questions, and are not generalizable to other educators.

¹⁶ The examples of life-long effects and growing disparities were selected based on (1) their widespread use to describe the harm COVID-19 has done to young people, and (2) their focus on vulnerable populations of interest for this work, including high-poverty and English learner students (see [GAO-22-105815](#) for more information).

¹⁷ S.D. Hillis, A. Blenkinsop, A. Villaveces A, et al., “COVID-19–Associated Orphanhood and Caregiver Death in the United States,” *Pediatrics*, vol. 148 no. 6 (2021).

¹⁸ E. Dorn et al., COVID-19 and education: An emerging K-shaped recovery (McKinsey & Company Public & Social Sector Practice, Dec. 2021). The study analyzed a non-generalizable sample of approximately 3 million students in all 50 states and the District of Columbia using Fall 2021 and pre-pandemic data. Assessment data are from Curriculum Associates i-Ready mathematics and reading assessment data. The analysis uses school-level rather than student-level data, therefore, the composition effect–potential effect of changes in the characteristics of students within these schools over time–cannot be determined.



Students (continued)

English learners started the pandemic behind their English-proficient peers in reading and math, and as we previously reported, their teachers were more likely to report they were failing a class or significantly falling behind in school year 2020-21.¹⁹

Disparities grew in college enrollment rates



One study estimated that the rate of decline in college enrollment was nearly four times greater for high poverty schools than for low poverty schools (**11.4 percent** and **2.9 percent** respectively).²⁰



What We Heard



“Whether the [kids were] virtual or hybrid – if they were not coming, they were not learning. And those who weren’t coming weren’t coming regularly. And we saw that impact at the end of the year with our graduation rate.”

– Rural Principal

Source: Discussion groups with public K-12 school teachers and principals. | GAO-22-105816

Note: The selected comments reflect themes discussed by teachers and principals in GAO discussion groups and are not generalizable.

“...people were going through real, traumatic, life changing things, in isolation...”

– Urban Parent

Source: Discussion groups with parents of students in public K-12 schools. | GAO-22-105816

Note: The selected comment reflects themes discussed in GAO discussion groups and are not generalizable to other parents.

¹⁹ In 2019, students who were not English learners scored higher than English learners on the National Assessment of Educational Progress (NAEP) math and reading tests for 4th- and 8th-graders. NAEP math and reading assessment results for 4th- and 8th-grades are reported as average scores on a 0-500 scale. The point differences on the scale scores are as follows: 4th-grade reading-33 points; 8th-grade reading-45 points; 4th-grade math-24 points; 8th-grade math-42 points. Department of Education, Institute of Education Sciences, National Center for Education Statistics, *Digest of Education Statistics, 2019*, tables 221.12 (October 2019) and 222.12 (November 2019). For results from our teacher survey regarding English learners, see [GAO-22-105815](#).

²⁰ J. Causey, A. Harnack-Eber, M. Ryu, & D. Shapiro, *A COVID-19 Special Analysis Update for High School Benchmarks* (Herndon, VA: National Student Clearinghouse Research Center, Mar. 2021). The sample used in the study represents about 14 percent of high schools and is not generalizable.



Teachers

Time spent by teachers



Principals in our discussion groups noted that teachers remained remarkably resilient in constantly changing and trying circumstances. While many teachers found teaching strategies that mitigated learning loss, for some it came at a cost to their well-being as they worked long hours and confronted burnout—along with the non-work-related challenges of the pandemic.

There are concerns that the challenges of the last 2 years could lead to increased teacher turnover. There were fewer public school teachers in 2021 than in 2019, and a couple of recent surveys indicate that many teachers are considering leaving their job earlier than they anticipated due to the pandemic.²¹ Historically, teacher turnover has disproportionately affected students in high-poverty and high-minority schools.²²

²¹ We estimate there were 233,000 (+/-123,000) fewer public school teachers in 2021 than in 2019. We developed this estimate using the U.S. Census Bureau's Current Population survey data from 2021 and 2019. Specifically, we compared the number of preschool and kindergarten teachers, elementary and middle school teachers, secondary school teachers, and special education teachers that were employed by local government.

In a March 2021 survey of teachers conducted by RAND, 11 percent said they were unlikely to leave their job prior to the pandemic but are now likely to leave their job at the end of the school year. In addition, a January 2022 National Education Association Survey of members, 55 percent said they intend to leave sooner than planned because of the pandemic.

²² L. Sutchter, L. Darling-Hammond, & D. Carver-Thomas, *A coming crisis in teaching? Teacher supply, demand, and shortages in the US* (Learning Policy Institute, Sept. 2016). D. Carver-Thomas and L. Darling-Hammond, "The trouble with teacher turnover: How teacher attrition affects students and schools." *Education Policy Analysis Archives*, vol. 27 no. 36 (2019).

“

What We Heard



“I think one of the things that I felt was overlooked pretty early was the impact the pandemic was having on the staff. Whether they themselves were getting sick, family members were getting sick, in some cases losing loved ones, you know, those sorts of things...just trying to get out in front as much as possible to assist the teachers through a traumatic event...”

– Suburban principal

“I spent an exorbitant amount of time working this year. Realistically, I'd say it was about 80+ hours a week at the bare minimum.”

– Suburban teacher

“Unfortunately when you teach almost 150 students a day, there is not enough time to meet with them all. When we were fully virtual, I would be on virtual meetings from about 7:00am to 11:00 pm with about a total of an hour break. I also had to take care of my 2 and 5 year old and help my 5 year old with online kindergarten.”

– Suburban teacher

Source: Discussion groups with public K-12 school teachers and principals and GAO teacher survey. | GAO-22-105816

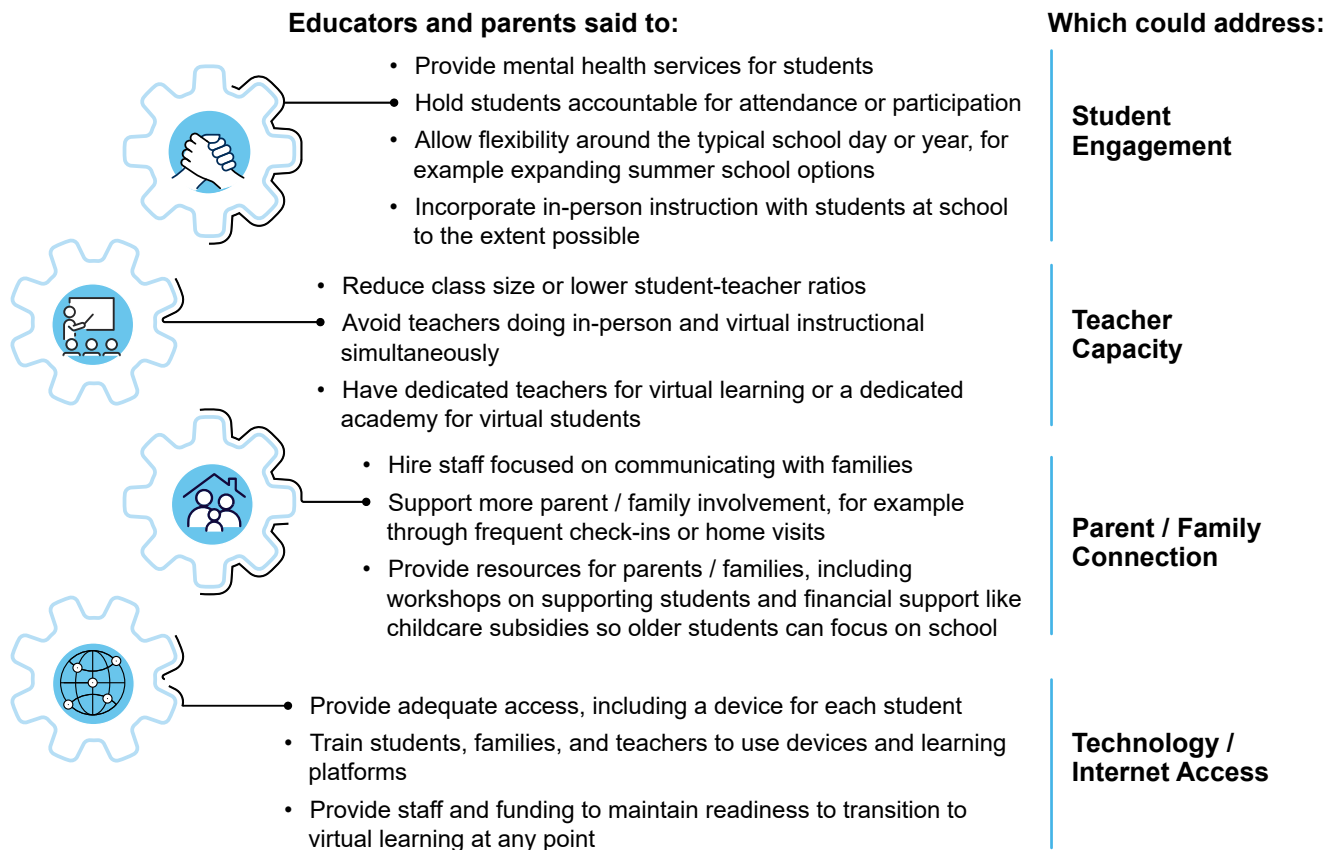
Note: The selected comments reflect themes discussed by teachers and principals in GAO discussion groups and by teachers in open-ended responses to survey questions, and are not generalizable to other educators.



Strategies and Resources

We asked teachers, principals, and parents in our discussion groups and survey what would help them address ongoing challenges and better prepare for future learning disruptions.²³ Four themes emerged from their responses: student engagement, teacher capacity, parent/family connection, and technology/internet access (see figure).

Strategies and Resources Identified by Educators and Parents for Addressing Ongoing Challenges and Future Learning Disruptions



Source: GAO analysis of K-12 public school teacher survey and analysis of discussion groups with K-12 public school educators and parents. | GAO-22-105816

Note: The strategies and resources identified are not generalizable to other educators and parents.

²³ Strategies and resources were identified from responses to discussion group topics about looking back on the school year and about looking forward, as well as from responses to the following open-ended question in our teacher survey: “Given your experiences teaching during the pandemic, what additional resources would help students to learn successfully in any future disruptions to the typical learning environment?” We conducted keyword searches of discussion group transcripts and sorted results into themes. Themes discussed by at least three discussion group participants were then combined into the broader four categories in the figure. The themes identified are not generalizable to other educators or parents.



Strategies and Resources (continued)

“ What We Heard



Source: GAO. | GAO-22-105816
 “I’m a school counselor and I’ve dealt with a lot of kiddos going through a lot of things at home and it was brought to my attention, but I wasn’t able to assist them...because they were at home and a lot of our mental health specialists—we didn’t have a lot of them, so they were stretched from here to here and we didn’t have enough.”

– Urban parent

“We’ve got to get our adult staff ready first. No matter what that disruption is, making sure they are as comfortable as they can be for whatever we do, however we do it. Because they really are our star players in this whole thing. And if we can’t get them set up and ready to go, that’s definitely where we’re going to be behind.”

– Rural principal

“So we did collect our computers at the end of the year... we also collected the hotspots and we thought why are you taking this hotspot away from someone who absolutely needs it for the summer.”

– Suburban principal

I think a number of the strategies that we’re going to use are things we’re going to do in the future. Now we did do extended three or four week summer school which we don’t typically do. So we did that targeting as many of these students as we could.”

– Suburban principal

“For me it’s more about having better relationships and communication with the families—with the parents. Like seeing them once a quarter or once a semester for a parent-teacher conference is not enough. Like you have to have real relationships with them to communicate like what’s going on and what’s needed to help their children learn.”

– Urban teacher

Source for quotations: Discussion groups with teachers, principals, and parents of students in public K-12 schools. | GAO-22-105816

Note: The selected comments reflect themes discussed by teachers, principals, and parents in GAO discussion groups and are not generalizable to other educators or parents.

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Sincerely yours,
Jacqueline M. Nowicki, Director

A handwritten signature in black ink that reads "Jacqueline M. Nowicki". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

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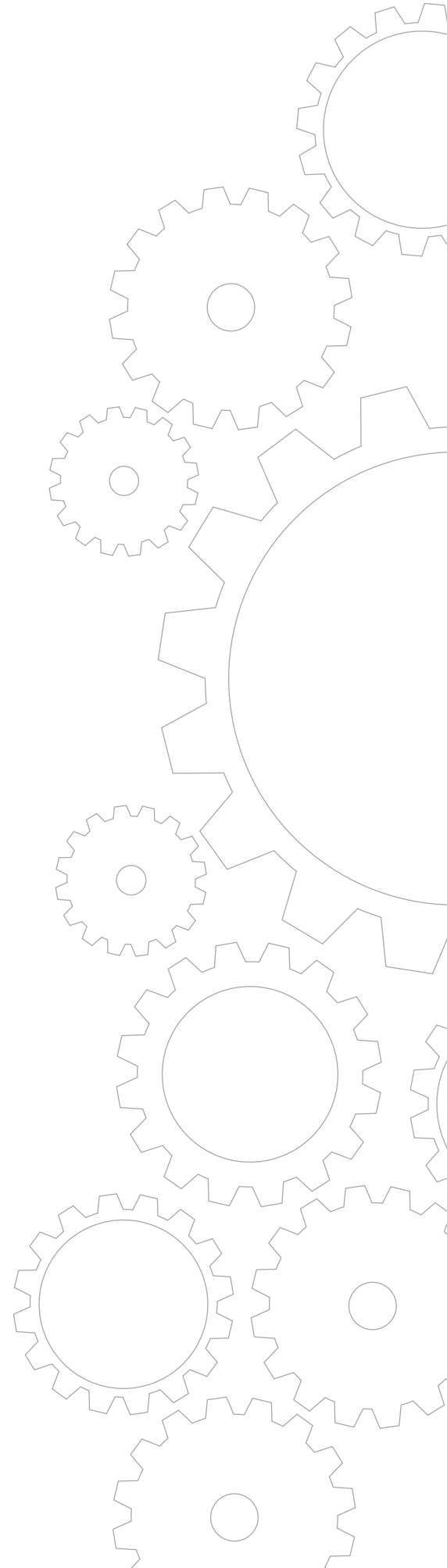
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GAO Related Products

- Pandemic Learning: Teachers Reported Many Obstacles for High-Poverty Students and English Learners As Well As Some Mitigating Strategies.* [GAO-22-105815](#). Washington, D.C.: May 31, 2022.
- Pandemic Learning: As Students Struggled to Learn, Teachers Reported Few Strategies as Particularly Helpful to Mitigate Learning Loss.* [GAO-22-104487](#). Washington, D.C.: May 10, 2022.
- Pandemic Learning: Technical Materials for Teacher Survey and Discussion Groups with Public K-12 School Principals, Teachers, and Parents.* [GAO-22-105817](#). Washington, D.C.: May 10, 2022.
- K-12 Education: An Estimated 1.1 Million Teachers Nationwide Had At Least One Student Who Never Showed Up for Class in the 2020-21 School Year.* [GAO-22-104581](#). Washington, D.C.: March 23, 2022.
- K-12 Education: Department of Education Should Help States Address Student Testing Issues and Financial Risks Associated with Virtual Schools, Particularly Virtual Charter Schools.* [GAO-22-104444](#). Washington, D.C.: January 31, 2022.
- COVID-19: Additional Actions Needed to Improve Accountability and Program Effectiveness of Federal Response.* [GAO-22-105051](#). Washington, D.C.: October 27, 2021.
- COVID-19: Sustained Federal Action Is Crucial as Pandemic Enters Its Second Year.* [GAO-21-387](#). Washington, D.C.: March 31, 2021.
- COVID-19: Urgent Actions Needed to Better Ensure an Effective Federal Response.* [GAO-21-191](#). Washington, D.C.: November 30, 2021.
- Distance Learning: Challenges Providing Services to K-12 English Learners and Students with Disabilities during COVID-19.* [GAO-21-43](#). Washington, D.C.: November 19, 2020.
- Disaster Recovery: COVID-19 Pandemic Intensifies Disaster Recovery Challenges for K-12 Schools.* [GAO-21-62R](#). Washington, D.C.: October 14, 2020.
- COVID-19: Federal Efforts Could Be Strengthened by Timely and Concerted Actions.* [GAO-20-701](#). Washington, D.C.: September 21, 2020.
- Data Security: Recent K-12 Data Breaches Show That Students Are Vulnerable to Harm.* [GAO-20-644](#). Washington, D.C.: September 15, 2020.
- COVID-19: Opportunities to Improve Federal Response and Recovery Efforts.* [GAO-20-625](#). Washington, D.C.: June 25, 2020.

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