



United States Government Accountability Office

## Report to Congressional Committees

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GAO-22-105815

### PANDEMIC LEARNING

# Teachers Reported Many Obstacles for High-Poverty Students and English Learners As Well As Some Mitigating Strategies



Source: Juan/stock.adobe.com.

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## Teachers Reported Many Obstacles for High-Poverty Students and English Learners As Well As Some Mitigating Strategies

### Why GAO Did This Study

The COVID-19 pandemic disrupted learning for millions of students, educators, and families who had to navigate in person and virtual schooling. Students in kindergarten through second grade could be at increased risk of compounded negative effects of disrupted learning over time. In addition, GAO's prior work has raised concerns about educational disparities for students from high-poverty schools and for English learners. The 2020-21 school year offered useful insights that may help schools, educators, and parents in the future.

The CARES Act includes a provision for GAO to report on its ongoing COVID-19 monitoring and oversight efforts. This second report in a series of three examines obstacles to learning and strategies to mitigate learning loss for high-poverty students, English learners, and students in grades K-2.

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 responses. GAO estimated margins of error and statistical significance at the 95 percent confidence level, unless otherwise noted. To view the first report, see [GAO-22-104487](#). To view more technical details on GAO's methods, see [GAO-22-105817](#).

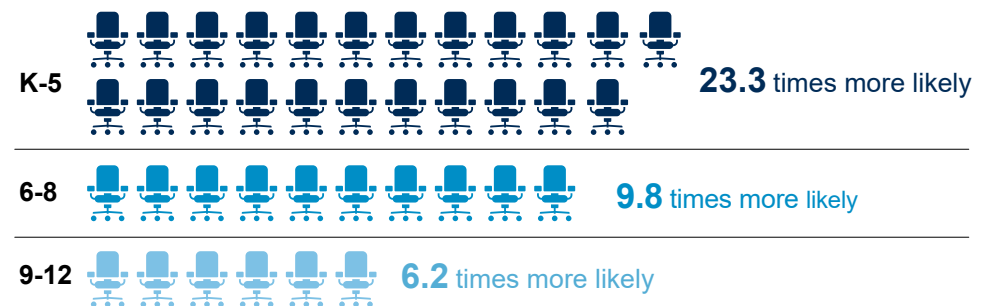
**View [GAO-22-105815](#). For more information, contact Jacqueline M. Nowicki at (617) 788-0580 or [nowickij@gao.gov](mailto:nowickij@gao.gov).**

### What GAO Found

While the pandemic presented obstacles for many students during the 2020-21 school year, GAO's nationwide survey of public K-12 teachers showed that teachers with certain vulnerable student populations were more likely to have students who faced significant obstacles to learning and an increased risk of falling behind academically. GAO estimates that teachers who taught in a virtual environment for the majority of the year with mostly high-poverty students were about six to 23 times more likely to have students who lacked an appropriate workspace, compared to all other teachers in their grade-level band (see figure). Regarding strategies to address learning loss, GAO found, with one exception, no differences between teachers of high- and low-poverty students.

#### Estimated Likelihood That Teachers with High-Poverty Students Had More Students Who Regularly Lacked an Appropriate Workspace

*Teachers in a Virtual Environment with High-Poverty Students Compared to All Other Teachers in Their Grade-level Band, 2020-21 School Year*



Source: GAO analysis of survey of K-12 public school teachers. | [GAO-22-105815](#)

Note: All estimates in this figure were statistically significant. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 81 percent of their students received free or reduced-price lunch, to all other teachers in their grade-level band (both in person and virtual). 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. GAO estimates that nearly two-thirds of K-5 teachers in a virtual environment with high-poverty students had at least half of their students lacking an appropriate workspace compared to 24 percent of all other K-5 teachers. We are comparing the proportion of teachers reporting that lacking an appropriate workspace was an obstacle for at least half of their students.

GAO also estimates that teachers in a virtual environment with a high percentage of English learners (at least 20 percent) were more likely than their peers to have students who regularly faced a variety of significant obstacles. These teachers were more likely to have students who regularly struggled with understanding lessons, completing assignments, having an appropriate workspace, accessing school meals, and getting adult assistance. Regarding strategies to address learning loss, teachers with a high percentage of English learners reported (1) small group work in person and (2) one-on-one check-ins between teachers and students mitigated learning loss for at least half of their students.

Several strategies helped the youngest students make some academic progress despite obstacles presented by the pandemic learning environment. Specifically, K-2 teachers reported that their students had difficulty getting support, lacked appropriate workspaces, and lacked tools for learning virtually. K-2 teachers found that movement breaks, small group work in person, and tutoring during the school day helped at least half of their students.



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

May 31, 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. As the pandemic continued into the fall of 2020, schools and districts faced tough decisions about how to educate students while minimizing the spread of COVID-19. As conditions changed over time, many districts and schools continually re-evaluated trade-offs between these two seemingly conflicting goals, making choices they determined best suited the needs and interests of their own communities. Many continued virtual learning for much of the 2020-21 school year, despite its challenges, given health and safety indicators in their communities.

Further, as we previously reported, the nation's students faced major obstacles to learning through the 2020-21 school year.<sup>1</sup> Some students who were grappling with challenging circumstances prior to the pandemic were in more vulnerable positions compared to their peers. Our prior work has highlighted long-standing concerns about educational disparities for students from high-poverty schools and English learners. In addition, students in kindergarten through second grade are facing new vulnerabilities, as they could be at increased risk of compounded negative effects of disrupted learning over time if they fail to master the foundational skills needed to learn content in later grades.<sup>2</sup> In many respects, the 2020-21 school year offers important insights into the struggles and successes these vulnerable students and their 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.<sup>3</sup> 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. Specifically, these reports cover teaching and learning during the pandemic; how it affected certain vulnerable populations like English learners; and potential implications for the future.

Our first report described obstacles to learning and strategies to mitigate learning loss that teachers found helped more or fewer students.<sup>4</sup> This second report in the series includes three sections, each focused on obstacles to learning and strategies to mitigate learning loss for the following populations:

- high-poverty students,
- English learners, and
- the youngest students, those in kindergarten through second grade (K-2).

<sup>1</sup> 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).

<sup>2</sup> For this reason, we categorize K-2 students, whom we also refer to as “the youngest students,” as a vulnerable population in this report.

<sup>3</sup> Pub. L. No. 116-136, § 19010, 134 Stat. 281, 579-81 (2020).

<sup>4</sup> [GAO-22-104487](#).

## 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.<sup>5</sup> 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.<sup>6</sup> 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.<sup>7</sup> This analysis included disaggregation for each key subgroup. Additionally, we used our survey data to estimate the likelihood the teachers of vulnerable students said that their students experienced certain difficulties or academic outcomes, relative to their grade level colleagues. Specifically, we used an odds ratio model to create estimates, which indicate the likelihood of teachers in a virtual environment with high-poverty students or English learners reporting that their students faced various learning difficulties and academic progress compared to all

<sup>5</sup> 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.

<sup>6</sup> 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.

<sup>7</sup> 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.

### 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.

Educators have used various strategies to mitigate learning loss, such as lengthening the school day or year, offering summer school programs, and implementing “high-dose” tutoring, which can entail tutors working with students every day, often one-to-one or in small groups.

**Source: Advance Illinois and the Chicago Public Education Fund, *From Crisis to Recovery: The Education Impact of COVID-19: Preparing to Meet Students' Academic and Social & Emotional Needs, Post-Disaster* (Chicago, IL: Apr 23, 2020) and Annenberg Institute at Brown University, “Accelerating Student Learning with High Dosage Tutoring,” *EdResearch for Recovery Series* (Providence, RI: Feb. 2021). | GAO-22-105815**

other teachers in the same grade-level band (i.e., grades K-5, 6-8, or 9-12).<sup>8</sup> 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 that 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.<sup>9</sup> 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 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.<sup>10</sup>

Additional technical details about our scope and methodology are provided in [GAO-22-105817](#), which offers supplementary technical 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 May 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.

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<sup>8</sup> For the purposes of this report, the term "teachers in a virtual environment with high-poverty students" represents survey responses from teachers who said that 81-100 percent of their students received free or reduced-price lunch and that these students spent the majority of the year learning in a virtual or hybrid environment. The term "teachers in a virtual environment with English learners" represents survey responses from teachers who said that at least 20 percent of their students were English learners and that these students spent the majority of the year learning in a virtual or hybrid environment. We did not control for multiple effects in the odds ratio models, such as whether the school is urban, rural, or suburban.

<sup>9</sup> 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](#)).

<sup>10</sup> 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.

## 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.<sup>11</sup>

- **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.)

As we previously reported, we estimate 75 percent of teachers nationwide taught at least some of their students virtually for the majority of the 2020-21 school year.<sup>12</sup>

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<sup>11</sup> 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.

<sup>12</sup> 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. In total, about 60 percent of teachers reflected on their experiences teaching in virtual or hybrid environments and about 40 percent of teachers reflected on their experiences teaching in person. See [GAO-22-104487](#).

**SECTION  
1**

# **HIGH-POVERTY STUDENTS: Obstacles to Learning Virtually and Strategies to Mitigate Learning Loss**

## **High-Poverty Students Faced Significant Obstacles to Learning**

We recently reported that students experienced many *obstacles to learning virtually*. In addition, we estimated that teachers in a virtual environment with high-poverty students were more likely to report that their students faced certain obstacles. These obstacles included regularly lacking an appropriate workspace, difficulty getting adult support or supervision, and attending classes inconsistently. Compounded, these obstacles increase the risk of students falling behind academically. Regarding strategies teachers found helpful in addressing learning loss, with one exception, we found no differences between teachers with high- and low-poverty students.

### **KEY DEFINITION**

For the purposes of this report, we use “teachers in a virtual environment with high-poverty students,” to mean teachers who spent the majority of the year teaching in a virtual or hybrid environment and who said that at least 81 percent of their students received free or reduced-price lunch.



Source: GAO. | GAO-22-105815

### **Keep in Mind**

The findings in the following section are from our nationwide survey of K-12 teachers and discussion groups with parents, teachers, and principals, 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 or in a hybrid environment (where “hybrid” means students spent some days learning remotely and others in the classroom). Similarly, “in person” means students spent the majority of the year learning in the classroom.

### **In this section**

- We present odds ratios that compare responses from teachers in a virtual environment with high-poverty students to their peers. We define “peers” as teachers in the same grade-level band (i.e., K-5, 6-8, or 9-12), in either in-person or virtual environments, who reported that less than 81 percent of their students received free or reduced-price lunch.
- We refer to “teachers in a virtual environment with high-poverty students” having “more students” facing certain obstacles than their peers. In some cases, the comparison is strictly about the 2020-21 school year, meaning a higher proportion of these teachers reported that at least half of their students faced the obstacle, whereas their peers were more likely to report less than half of their students did. In other cases, the comparison involves a typical school year—a recent year prior to the pandemic—meaning a higher proportion of these teachers reported that more of their students were affected by the obstacle in the 2020-21 school year.
- 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 learning environment).

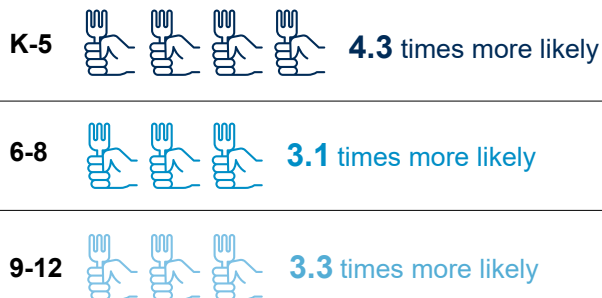


## Lack of Access to School Meals

When asked whether they had more students who lacked a school meal compared to a typical school year, teachers in a virtual environment with high-poverty students were about three to four times more likely than their peers to respond affirmatively (see figure below).

### Estimated Likelihood That Teachers with High-Poverty Students Had More Students Who Lacked a School Meal Compared to a Typical Year

*Teachers in a Virtual Environment with High-Poverty Students Compared to All Other Teachers in Their Grade-level Band*



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: All estimates in this figure were statistically significant. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 81 percent of their students received free or reduced-price lunch, to all other teachers in their grade-level band (both in person and virtual). 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. For this question, we asked teachers to compare their experiences to those in a pre-pandemic year.

### Q&A QUESTION BOX



#### What are odds ratios?

Our odds ratio models estimate the likelihood that teachers working in certain circumstances reported various learning difficulties and academic progress, compared to all other teachers in their grade-level bands. Due to the sample sizes of the subgroups discussed in this report, we created reliable estimates by grouping grade levels K-5, 6-8, and 9-12.

For example, in the adjacent figure, K-5 teachers in a virtual environment with high-poverty students had an odds ratio of 4.3 in response to a question about students lacking a school meal compared to a typical year. In other words, these teachers were about four times more likely than all other K-5 teachers to report that their students lacked a school meal in 2020-21 compared to a typical pre-pandemic year.

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

## Lack of Access to School Meals (continued)

### Q&A QUESTION BOX



#### Why did we analyze responses for teachers in a virtual environment with high-poverty students?

In many ways, the pandemic exacerbated long-standing inequities in educational resources available to high-poverty and low-poverty students. For example, in 2018 we found that high-poverty schools were less likely to offer the math and science courses that most public 4-year colleges expect students to take in high school. In addition, many high-poverty students rely on the National School Lunch Program and School Breakfast Program. These programs aim to help improve child nutrition and combat child hunger by subsidizing school meals. During the 2020-21 school year, high-poverty students' typical access to school meals was disrupted when school buildings closed due to the pandemic.

**Source:** GAO, *K-12 Education: Public High Schools with More Students in Poverty and Smaller Schools Provide Fewer Academic Offerings to Prepare for College*, GAO-19-8 (Washington, D.C.: Oct. 11, 2018). | GAO-22-105815

Note: The Elementary and Secondary Education Act (ESEA) of 1965 established the Title I program. Title I, Part A of the ESEA, as amended, (Title I) provides formula grants to states for their school districts to improve educational programs in schools with high concentrations of students from low-income families. The purpose of Title I is to provide all children significant opportunity to receive a fair, equitable, and high-quality education, and to close educational achievement gaps. These gaps, and the Title I program, remain in effect today.



## What We Heard



“Some of my students had to work and they could not log on virtually because otherwise they couldn't eat...It was frightening for me as a teacher to watch those students...in a pandemic and not having money where they couldn't eat, or they didn't have access to internet, or they had to work for income. It was hard to watch those students. And it was difficult for me mentally to watch those students suffer. So those students really suffered this past school year.”

– Suburban Teacher

**Source:** Discussion groups with public K-12 school teachers. | GAO-22-105815

Note: The selected comment reflects themes discussed by teachers in GAO discussion groups and is not generalizable.

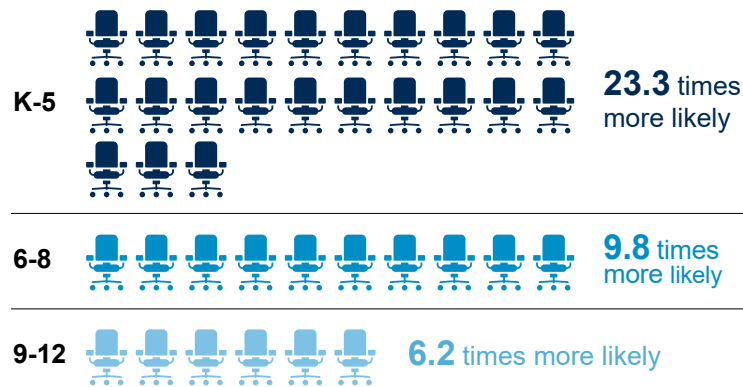


## Lack of Appropriate Workspace and Difficulty Getting Assistance, Support, or Supervision

Across all K-12 grades, we estimate that teachers in a virtual environment with high-poverty students were about six to 23 times more likely to have students who regularly experienced challenges finding an appropriate workspace. An appropriate workspace is one free of distractions. Also, when asked if their students had more difficulty getting assistance, support, or supervision compared to a typical school year, these teachers were more likely than their peers to respond affirmatively (see figures below).

### Estimated Likelihood That Teachers with High-Poverty Students Had More Students Who Regularly Lacked an Appropriate Workspace

*Teachers in a Virtual Environment with High-Poverty Students Compared to All Other Teachers in Their Grade-level Band, 2020-21 School Year*



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815  
 Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: All estimates in this figure were statistically significant. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 81 percent of their students received free or reduced-price lunch, to all other teachers in their grade-level band (both in person and virtual). 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. We estimate that nearly two-thirds of K-5 teachers in a virtual environment with high-poverty students had at least half of their students lacking an appropriate workspace compared to 24 percent of all other K-5 teachers. We are comparing the proportion of teachers reporting that lacking an appropriate workspace was an obstacle for at least half of their students.

“



Source: nadezhda1906/stock.adobe.com. | GAO-22-105815

A lot of our students come from poor conditions and their safe place is school and we took away their safe place and then told them to do work in that unsafe place, right?... And it's really hard to reach out to a screen...you can only be so loving through TV. And I think it was just a lot...the depression, the not having enough food, you know, those kind of things affected a lot of my students.

– Urban Teacher

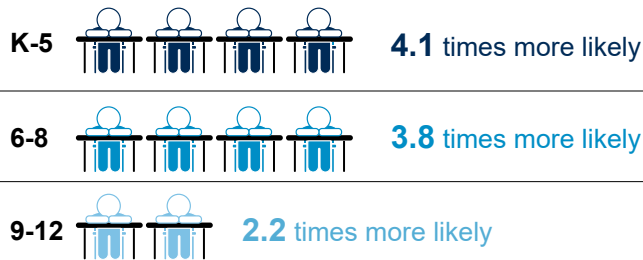
Source: Discussion groups with public K-12 school teachers. | GAO-22-105815

Note: The selected comment reflects themes discussed by teachers in GAO discussion groups and is not generalizable.

## Lack of Appropriate Workspace and Difficulty Getting Assistance, Support, or Supervision (continued)

### Estimated Likelihood that Teachers with High-Poverty Students Had More Students Who Had Difficulty Getting Assistance, Support, or Supervision at Their Workspace Compared to a Typical Year

*Teachers in a Virtual Environment with High-Poverty Students Compared to All Other Teachers in Their Grade-Level Band*



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: All estimates in this figure were statistically significant. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 81 percent of their students received free or reduced-price lunch, to all other teachers in their grade-level band (both in person and virtual). 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. For this question, we asked teachers to compare their experiences to those in a pre-pandemic year.



Source: Rawpixel.com/stock.adobe.com. | GAO-22-105815

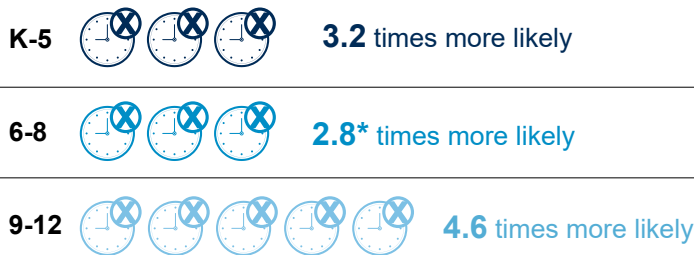
# Inconsistent Attendance or Class Participation

Teachers in a virtual environment with high-poverty students were more likely than their peers to have students who attended classes inconsistently. For example, high school teachers were about five times more likely to have students who regularly did not attend class at all (see figure below). In addition, we estimate that K-5 teachers were about four times more likely to have students who regularly arrived late or departed early from class.

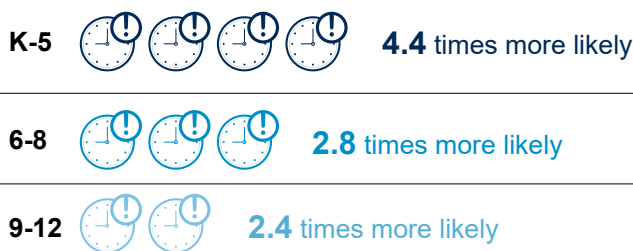
## Estimated Likelihood That Teachers with High-Poverty Students Had More Students Who Regularly Were Absent or Missed Part of Class

*Teachers in a Virtual Environment with High-Poverty Students Compared to All Other Teachers in Their Grade-level Band, 2020-21 School Year*

### Absence from school or class



### Late arrival to or early departure from class



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

\*Odds ratio was not statistically significant.

Note: All estimates in this figure were statistically significant, unless otherwise noted. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 81 percent of their students received free or reduced-price lunch, to all other teachers in their grade-level band (both in person and virtual). 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. We are comparing the proportion of teachers reporting that an absence or a late arrival to or early departure from class was an obstacle for at least half of their students.

“



Source: Artem Shadrin/stock.adobe.com. | GAO-22-105815

“[Students] quickly learned...If [they] logged in on [their] Chromebook...even 30 seconds during the day, they were counted present. And it was those kids that...also tended to be students from lower income, several were [English learner] students and a lot of them ended up...with less than a 50 average for the year, but because of the pandemic...are just going to be passed on to the next year.”

– Suburban Teacher

Source: Discussion groups with public K-12 school teachers. | GAO-22-105815

Note: The selected comment reflects themes discussed by teachers in GAO discussion groups and is not generalizable.



## Inconsistent Attendance or Class Participation (continued)

In addition, we estimate that teachers in a virtual environment with high-poverty students were more likely than their peers to have students who regularly had limited or no class participation. For example, middle school teachers were about seven times more likely to have students with limited or no class participation.



Source: Georgy Dzyura/stock.adobe.com. | GAO-22-105815

## Regularly Behind Academically

Across all grade levels and compared to their peers, teachers in a virtual environment with high-poverty students were more likely to have students who were regularly behind academically; this was especially true for older students. Most notably, in the virtual environment, middle school teachers with high-poverty students were about 44 times more likely to have students who were regularly failing a class or significantly behind in meeting academic standards for a subject (see figure below).

### Estimated Likelihood That Teachers with High-Poverty Students Had More Students Who Were Regularly Behind Academically

*Teachers in a Virtual Environment with High-Poverty Students Compared to All Other Teachers in Their Grade-level Band, 2020-21 School Year*

**K-5**  **2.7 times more likely**



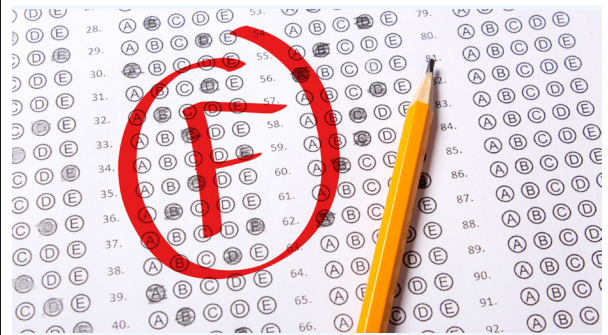
**6-8**  **44.1 times more likely**



**9-12**  **4.7 times more likely**

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: We defined “behind academically” to mean failing a class or being significantly behind academic standards for a subject. All estimates in this figure were statistically significant. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 81 percent of their students received free or reduced-price lunch, to all other teachers in their grade-level band (both in person and virtual). 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. We estimate that 55 percent of grades 6-8 teachers in a virtual environment with high-poverty students had at least half of their students regularly fail a class or fall significantly behind compared to 29 percent of all other grades 6-8 teachers. We are comparing the proportion of teachers reporting that being regularly behind academically was an obstacle for at least half of their students.



Source: adragan/stock.adobe.com. | GAO-22-105815

“I just thought the virtual format, period, just wasn’t effective for any of our low-income students. In middle school it’s almost like if you’re virtual you have to have the ability to teach yourself. The teachers can tutor you but unless you’re a strong student on grade level, you really just got to come back to school. We just had to do the best we can until we can get back to school.”

– Urban Principal

Source: Discussion groups with public K-12 school principals. | GAO-22-105815

Note: The selected comment reflects themes discussed by principals in GAO discussion groups and is not generalizable.



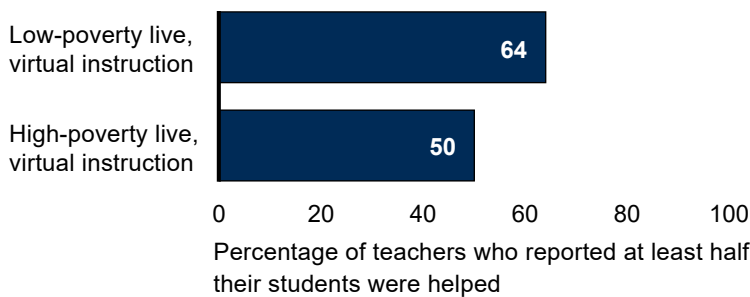
Source: Rido/stock.adobe.com. | GAO-22-105815

## Strategies to Mitigate Learning Loss for High-Poverty Students

Generally, the strategies that the majority of teachers with high-poverty students perceived as helping to mitigate learning loss for at least half of their students were the same as those for teachers with low-poverty students. However, virtual live instruction was the exception (see figure below).

### Estimated Percentage of Teachers Who Perceived That Live, Virtual Instruction Helped at Least Half Their Students

Public K-12 Teachers, 2020-21 School Year



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: There is a significant statistical difference between high and low poverty for this strategy at the 95 percent confidence level. The margin of error for all percentages was less than or equal to 7 percent. The term “teachers with high-poverty students” represents survey responses from teachers who said that 81-100 percent of their students were eligible to participate in the school’s free or reduced-price lunch program. The term “teachers with low-poverty students” represents survey responses from teachers who said that 0-20 percent of their students were eligible to participate in the school’s free or reduced-price lunch program.



“All of the students that I work with are... students of color in or around the [high-poverty] category. And the strategies for connecting with them honestly is just relationships...the thing that really was the most impactful was, you know, being flexible with how they showed their work—how they showed their learning...Deadlines—I threw those out the window...I’m not putting more on their plate because...they were also caring for their siblings or they were also doing a job or they were also, you know, with one of their grownups at work. So many other things going on in their life that it wasn’t really feasible to expect school to happen the same way that it would if we were in person.”

– Urban Teacher

“Home visits were the most effective for... those from [high-poverty] households. Home visits included the delivery of [wifi] devices and personalized instruction in the use of Canvas.”

– Rural Principal

Source: Discussion groups with public K-12 school teachers and principals. | GAO-22-105815

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





## Strategies to Mitigate Learning Loss for High-Poverty Students (continued)

### Q&A QUESTION BOX



#### What does “students were helped” by a strategy or “their academic progress improved” mean?

To determine whether teachers perceived particular strategies to be helpful to their students, we asked the following two questions:

- *Approximately, how often during this school year have you used the following strategies to support learning or address learning loss?*
- *How many of your students improved their academic progress as a result of each of the following strategies?*

Our estimates reflect that the majority of teachers who used the strategy found the strategy helped at least half of their students. For more details on survey questions and responses, see [GAO-22-105817](#).

We did not ask the teachers to use assessment (or standardized test) data, in part because assessments are often not designed to evaluate the effectiveness of any specific strategy.

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

“



“And in my school, there’s...primarily [high-poverty] families...it’s a complete wash. There was very little learned virtually. In person was a different story because they finally did...small group instruction and stuff like that.”

– Urban Teacher

“Our [high-poverty] students did seem to thrive from that extra support. So by hiring those extra individuals we did see a little bit of a payback on those kiddos.”

– Rural Principal

Source: Discussion groups with public K-12 school teachers and principals. | GAO-22-105815

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

**SECTION  
2**

**ENGLISH LEARNERS:  
Obstacles to Learning Virtually and Strategies to Mitigate Learning Loss**

***English Learners Struggled With Several Significant Obstacles, Including Understanding the Lessons Presented***

*English learners experienced the full range of obstacles discussed in our [first report](#) in this series. Further, we estimate that teachers who were teaching in a virtual environment with at least 20 percent English learners were more likely than their peers to have students who regularly faced significant obstacles. For example, English learners struggled with understanding lessons and completing assignments, having an appropriate workspace, accessing school meals, and getting assistance at their workspace. As with high-poverty students, the greater prevalence of these obstacles increases the risk of English learners falling further behind over the years. According to our estimates, teachers with at least 20 percent English learners found that certain strategies—specifically small group work in person and one-on-one check-ins between teacher and student—were particularly helpful in mitigating learning loss, regardless of instructional model.*

**KEY DEFINITION**

For the purposes of this report, we use “teachers in a virtual environment with English learners” to mean teachers who spent the majority of the year teaching in a virtual or hybrid environment and who said that a high percentage—at least 20 percent—of their students were English learners.



Source: GAO. | GAO-22-14487

**Keep in Mind**

The findings in the following section are from our nationwide survey of K-12 teachers and discussion groups with parents, teachers, and principals, 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 or in a hybrid environment (where “hybrid” means students spent some days learning remotely and others in the classroom). Similarly, “in person” means students spent the majority of the year learning in the classroom.

**In this section**

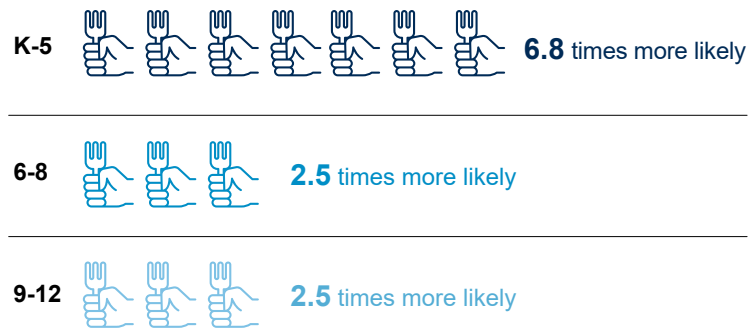
- We present odds ratios that compare responses from teachers in a virtual environment with at least 20 percent English learners to their peers. We define “peers” as teachers in the same grade-level band (i.e., K-5, 6-8, or 9-12), in either in-person or virtual environments, who reported that less than 20 percent of their students were English learners.
- We refer to “teachers in a virtual environment with English learners” having “more students” facing certain obstacles. In some cases, the comparison is strictly about the 2020-21 school year, meaning a higher proportion of these teachers reported that at least half of their students faced the obstacle, whereas their peers were more likely to report that less than half of their students did. In other cases, the comparison involves a typical school year—a recent year prior to the pandemic—meaning a higher proportion of these teachers reported that more of their students were affected by the obstacle in the 2020-21 school year.
- 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).

# Lack of Access to School Meals and an Appropriate Workspace

When asked whether they had more students who lacked a school meal compared to a typical school year, teachers in a virtual environment with English learners were about three to seven times more likely than their peers to respond affirmatively (see figure below). Elementary teachers were also about 37 times more likely to have students who regularly lacked an appropriate workspace, free from distractions (see figure on next page).

## Estimated Likelihood That Teachers with English Learners Had More Students Who Lacked a School Meal Compared to a Typical Year

*Teachers in a Virtual Environment with English Learners Compared to All Other Teachers in Their Grade-level Band*



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815  
 Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: All estimates in this figure were statistically significant. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 20 percent of their students were English learners, to all other teachers in their grade-level band (both in person and virtual). 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. For this question, we asked teachers to compare their experiences to those in a pre-pandemic year.

### Q&A QUESTION BOX



#### Why did we analyze responses for teachers in a virtual environment with English learners?

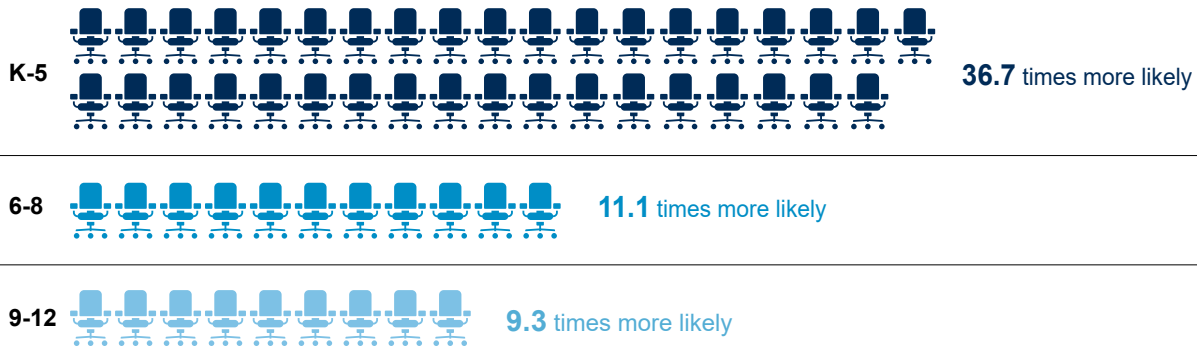
English learners face the dual challenge of concurrently learning English and grade-level content. As we reported in 2020, during the decade prior to the pandemic, the academic achievement gap between English learners and English proficient students persisted in both reading and math. Also, our prior work on learning during the pandemic found that for some English learners, the shift to virtual learning made it more difficult to fully participate in school. For example, English learners lost opportunities to converse in English with adults and peers at school.

Source: GAO analysis of *Distance Learning: Challenges to Providing Services to K-12 English Learners and Students with Disabilities during COVID-19*, GAO-21-43 (Washington, D.C.: Nov. 19, 2020). | GAO-22-105815

# Lack of Access to School Meals and an Appropriate Workspace (continued)

## Estimated Likelihood That Teachers with English Learners Had More Students Who Regularly Lacked an Appropriate Workspace

*Teachers in a Virtual Environment with English Learners Compared to All Other Teachers in Their Grade-level Band, 2020-21 School Year*



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815  
 Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: All estimates in this figure were statistically significant. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 20 percent of their students were English learners, to all other teachers in their grade-level band (both in person and virtual). We estimate 60 percent of virtual teachers of English learners in grades K-5 had at least half of their students lacking an appropriate workspace compared to 26 percent of all other K-5 teachers. 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. We are comparing the proportion of teachers reporting that lacking an appropriate workspace was an obstacle for at least half of their students.



## Difficulties with School Work

Teachers in a virtual environment with English learners were also more likely than their peers to have students who regularly had difficulty understanding and completing class work, according to our estimates. For example, such middle school teachers were about six times more likely to have students who regularly struggled to understand lessons and complete class assignments (see figure below). Additionally, across all grade levels these teachers were about three to 18 times more likely than their peers to have students who regularly had difficulty getting needed assistance, support, or supervision at their workspace.

### Estimated Likelihood That Teachers with English Learners Had More Students Who Regularly Had Difficulty with School Work

*Teachers in a Virtual Environment with English Learners Compared to All Other Teachers in Their Grade-level Band, 2020-21 School Year*

#### Difficulty understanding lessons

K-5  3.8 times more likely

6-8  5.7 times more likely

9-12  2.7 times more likely

#### Difficulty completing class assignments

K-5  3.1 times more likely

6-8  5.8 times more likely

9-12  4.1 times more likely

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: All estimates in this figure were statistically significant. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 20 percent of their students were English learners, to all other teachers in their grade-level band (both in person and virtual). 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. We are comparing the proportion of teachers reporting that difficulty understanding lessons or difficulty completing class assignments was an obstacle for at least half of their students.

“



“I teach in a...school where I have a lot of [English learners]...And a lot of them didn't have parents at home that could support them, or they were working, you know, moms were working, sisters were working. So I don't think they had the support they needed at home...the parents weren't able to help them like I would be able to help them in a classroom.”

– Suburban Teacher

Source: Discussion groups with public K-12 school teachers. | GAO-22-105815

Note: The selected comment reflects themes discussed by teachers in GAO discussion groups and is not generalizable.



Source: Satjawat/stock.adobe.com. | GAO-22-105815

## Inconsistent Attendance and Limited or No Class Participation

We estimate that elementary and high school teachers in a virtual environment with English learners were more likely than their peers to have students who attended class inconsistently. For example, these teachers were about three times more likely to have students who regularly arrived late to class or left early. These teachers were also about three to four times more likely to have students who regularly had limited or no participation when attending class (see figure below).

### Estimated Likelihood That Teachers with English Learners Had More Students Who Regularly Showed Signs of Limited Engagement

*Teachers in a Virtual Environment with English Learners Compared to All Other Teachers in Their Grade-level Band, 2020-21 School Year*

#### Late arrival to or early departure from class

K-5  **2.6** times more likely

6-8  **2.0\*** times more likely

9-12  **2.7** times more likely

#### Limited or no class participation

K-5  **3.2** times more likely

6-8 **—\*\***

9-12  **3.7** times more likely

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

\*Odds ratio was not statistically significant.

\*\*The data available were insufficient to create a reliable estimate for grades 6 through 8.

Note: All estimates in this figure were statistically significant, unless otherwise noted. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 20 percent of their students were English learners, to all other teachers in their grade-level band (both in person and virtual). 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. We are comparing the proportion of teachers reporting that a late arrival to or early departure from class or limited or no class participation was an obstacle for at least half of their students.

“



“One of my biggest frustrations though was the [English learners] who would not get online at all...And I would try to call the families and tell them...[but] I couldn't communicate with the parents to have them follow through and make sure that their kids were [in virtual class]”

– Rural Teacher

“In the classroom I had a lot of [English learners] and they didn't learn. They didn't try and – because if they were to try, they'd have to try extremely hard since I can't speak Spanish. Nor was I even allowed to speak Spanish to them...I have to speak in English so they can be immersed. And it's just...hard to teach algebra like the quadratic formula in English and they don't know what I'm saying. It's hard for a kid who speaks English. And then...if you add the virtual thing? Forget it. It just feels impossible for them. I don't blame them for not doing much work or any work in a lot of cases.”

– Urban Teacher

Source: Discussion groups with public K-12 school teachers. | GAO-22-105815

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



## Regularly Behind Academically

Across all grade levels, teachers in a virtual environment with English learners were more likely to have students who were regularly behind academically, according to our estimates. For example, middle school teachers were about five times more likely to have students who were regularly failing a class or significantly behind meeting academic standards for a subject (see figure below).

### Estimated Likelihood That Teachers with English Learners Had More Students Who Were Regularly Behind Academically

*Teachers in a Virtual Environment with English Learners Compared to All Other Teachers in Their Grade-level Band, 2020-21 School Year*

**K-5**  **2.5** times more likely

**6-8**  **4.8** times more likely

**9-12**  **4.2** times more likely

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815  
 Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: We defined “behind academically” to mean failing a class or being significantly behind academic standards for a subject. All estimates in this figure were statistically significant. To estimate these odds, we compared the responses of teachers who taught in a virtual or hybrid environment for the majority of the 2020-21 school year and who said that at least 20 percent of their students were English learners, to all other teachers in their grade-level band (both in person and virtual). 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. We are comparing the proportion of teachers reporting that being regularly behind academically was an obstacle for at least half of their students.

Additionally, when asked whether they had more students who made less academic progress in the 2020-21 school year compared to a typical school year, elementary school teachers in a virtual environment with English learners were about twice as likely as their peers to respond affirmatively. At the high school level, these teachers were also about six times more likely than their peers to have students who were behind grade level at the end of the 2020-21 school year.



Source: Matthew Benoit/stock.adobe.com. | GAO-22-105815



Source: Reidos/stock.adobe.com. | GAO-22-105815



## Strategies to Mitigate Learning Loss for English Learners

Our survey found that the majority of teachers with a high percentage (at least 20 percent) of English learners reported two strategies that mitigated learning loss for at least half of their students: one-on-one check-ins between teachers and students, and small group work in person (see figure below). The majority of teachers with a low percentage of English learners also reported that small group work in person helped at least half of their students. The success of these strategies suggests that English learners benefited from having more individualized attention and support in their learning.

### Strategies That Teachers with a High Percentage of English Learners Reported Improved Academic Progress for at Least Half of Their Students Compared to Other Teachers



Public K-12 Teachers, 2020-21 School Year



#### Strategies



##### High Percentage of English Learners

*(English learners comprised 20% or more of a teacher's students)*

-  Small group work in person
-  One-on-one check-ins between teacher and student

##### Low Percentage of English Learners

*(English learners comprised less than 20% of a teacher's students)*

-  Small group work in person
-  Use of paper packets, manipulatives, or other physical instructional materials

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: A majority of teachers surveyed reported that the strategies listed helped at least half of their students. This is the teacher's perception of what was helpful to students. These results were statistically significant at the 95 percent confidence level. The margin of error for all percentages was less than or equal to 7 percent.





## Other Helpful Strategies

We also asked teachers to describe the most helpful strategies for teaching English learners. Some teachers emphasized strategies we asked about elsewhere in the survey, such as more staff, as helpful for English learners. Other teachers described different strategies that are unique to the English learning experience. Strategies unique to English learners tended to focus on giving these students extra, and sometimes individualized, support as they learn English along with the rest of the curriculum. Common themes in teacher responses were:<sup>13</sup>

- Allowing for flexibility in the media students could use to submit assignments (e.g., using physical materials, apps, or videos)
- Focusing on vocabulary building
- Giving one-on-one or individual attention
- Providing support from ESL (English as a Second Language) teachers or other school staff (e.g., paraprofessionals, social workers, or counselors)
- Using audio for reading or directions, or doing listening drills
- Using captioning
- Using images, graphics, or other visuals
- Using sentence or paragraph framing or starters
- Using translator services (e.g., Google Translate)
- Working in small groups

<sup>13</sup> Open-ended survey responses are not generalizable. We defined a common theme as one identified in 20 separate teacher survey responses.

“



“I think that asynchronous instructional piece where students have a chance to watch a video of someone else’s commentary and then respond to it gave English learners some chances to play a video over and over so that they could truly understand what their peers were saying and rehearse their response. So if they didn’t like the first video, they made...a different one. And I think that allowed for our English learners to participate more with the learning targets and to build language around those targets during instruction.”

– Urban Principal

“[F]or a lot [of students], especially my kiddos who are English learners, we printed out sheets with their assignments each week that they could take home with them and check off. And the thing that was most helpful for them was to be really specific to where to find that assignment because they had so many teachers, so many assignments. We were really, really specific and made it to where the parents could even follow it – like here’s where you start on their computer, what do you click, what should you see. And that...seemed to get them to...turn in their work a lot more...”

– Rural Teacher

**Source: Discussion groups with public K-12 school teachers and principals. | GAO-22-105815**

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

**SECTION  
3**

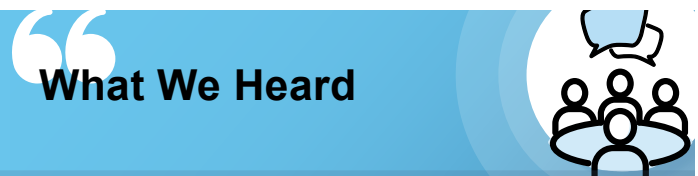
**K-2 STUDENTS:  
Obstacles to Learning and Strategies to  
Mitigate Learning Loss**

***K-2 Students Were More Affected by Certain Learning Obstacles***

*Mastering the fundamentals of reading in the early grades is essential for lasting academic success.<sup>14</sup> K-2 students were newer to school during the pandemic and had to learn how to be students, while their parents and teachers were learning how to support virtual learning. K-2 students encountered some of the same learning obstacles as older students, but a greater percentage of K-2 teachers reported that their students encountered certain obstacles, such as the need for substantial support or assistance to participate in virtual learning; lack of appropriate workspaces; and lack of tools for learning. However, a greater percentage of K-2 teachers than other teachers reported that strategies such as movement breaks and tutoring were helpful.*

**Keep in Mind**

The findings in this section are from 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 or in a hybrid environment (where “hybrid” means students spent some days learning remotely and others in the classroom). Similarly, “in person” means when students spent the majority of the year learning 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.)



**“** I had a preschooler and newborn, so I was usually unable to help [my kindergartners] on the technology platforms. Kindergartners cannot read or write at the start of the school year, so he struggled to find the answers he needed. Another negative was that it was a completely different (and less desirable) introduction to school. He is less excited about school now.**”**

**– Suburban Parent**

**“** I would say that specifically for early learners...the virtual setting was very difficult...teaching five year olds how to use a computer if they don't have an adult there with them at all times was not conducive to their learning.**”**

**– Suburban Principal**

**Source:** Discussion groups with principals and parents of students in public K-12 schools. | GAO-22-105815

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

<sup>14</sup> Department of Education, “Read Where You Are: Reading at Grade Level”, accessed March 30, 2022, <https://www2.ed.gov/readwheretheyouare/index.html>



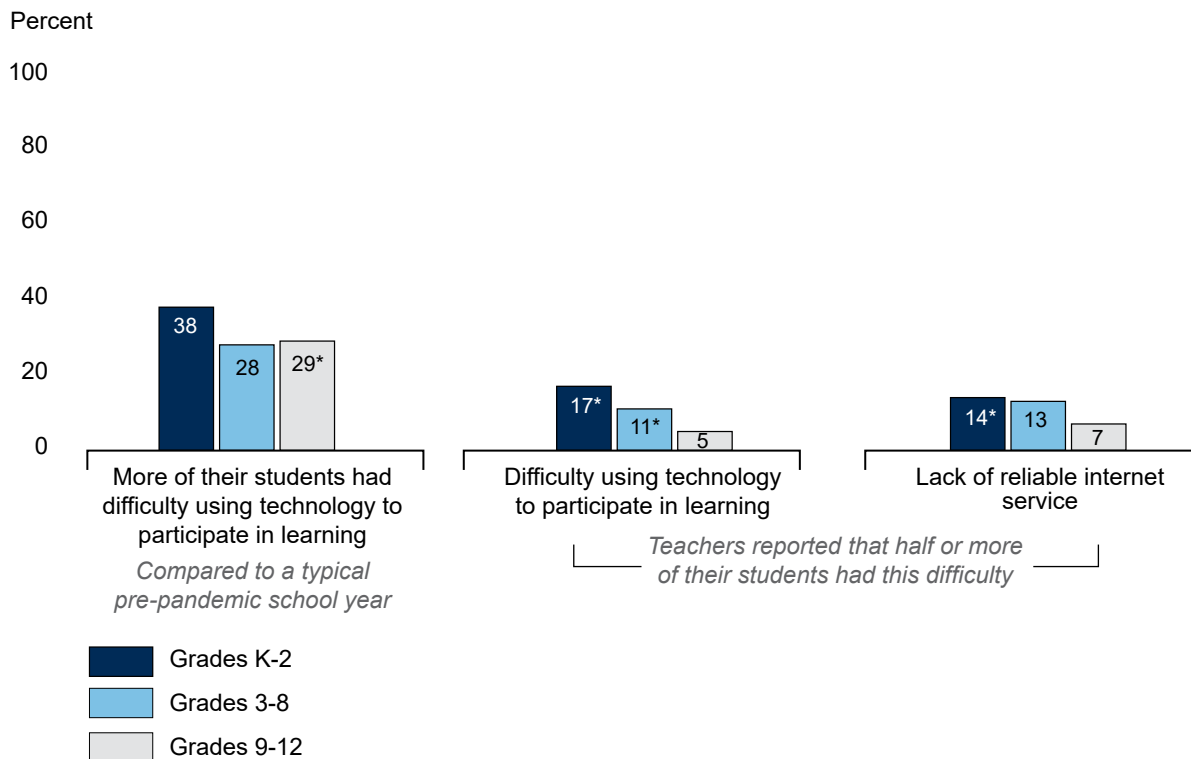
## K-2 Student Obstacles

Teachers reported that K-2 students encountered the following obstacles to learning:

- Difficulty getting support.** We asked teachers about their students who needed substantial support; an estimated 64 percent of K-2 teachers reported that less than half of such students received enough support during the school day. An estimated 76 percent of K-2 teachers reported that less than half of their students who needed substantial support got enough support after school (e.g., for homework).
- Lack of appropriate workspace.** An estimated 37 percent of K-2 teachers reported that half or more of their students regularly lacked an appropriate workspace.
- Lack of tools for learning.** While teachers across all grades reported that their students had difficulties using technology to participate in learning, this was more pronounced for teachers of K-2 students compared to, in some cases, teachers of students in higher grades (see figure below).

### Estimated Percentage of Teachers with Students Who Lacked Tools for Learning

Public K-12 Teachers, 2020-21 School Year



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

\*There is no significant difference between the following estimates: (1) grades 9-12 compared with either grades K-2 or 3-8 regarding difficulty using technology to participate in learning compared to a typical pre-pandemic school year; (2) grades K-2 and 3-8 regarding difficulty using technology to participate in learning where teachers reported that half or more of their students had this difficulty; and (3) grades K-2 compared with either grades 3-8 or 9-12 regarding lack of reliable internet service where teachers reported that half or more of their students had this difficulty.

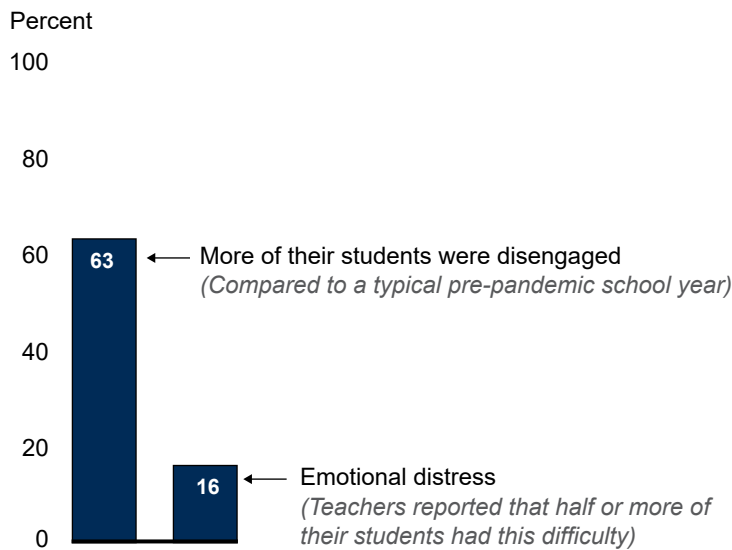
Note: The margin of error for all percentages was less than or equal to +/- 8 percent at the 95 percent confidence level.

## K-2 Student Obstacles (continued)

Other obstacles affecting K-2 students included emotional distress and disengagement. The figure below shows the percentage of K-2 teachers who reported that they had students affected by these obstacles. In addition, teachers reported that several factors contributed to their students' disengagement. For example, 27 percent of K-2 teachers with disengaged students reported that their students' responsibility providing care to a family member interfered with their learning. In our discussion groups, educators and parents talked about how younger students were negatively affected by fewer social connections and were still learning what it is like to attend school or the way a typical in person school day is structured.

### Estimated Percentage of K-2 Teachers Whose Students Were Disengaged or Experienced Emotional Distress

Public K-2 Teachers, 2020-21 School Year



Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815  
**Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815**  
 Note: The margin of error for all percentages was less than or equal to +/- 8 percent at the 95 percent confidence level.



“For our youngest, because he was in first grade, he had a really hard time...staying on task...[I]t was really hard because his teacher didn't understand the internet...So she would send the kids these little links that they can click on and go through, but it didn't have any directions or how to get there so a lot of kids got lost and confused.”

– Rural Parent

“[W]e had kindergarteners that finished 75% of their first year that will be entering second grade this year without having [entered] into a classroom...kindergarten is a lot of socialization. And so not having been around kids and in teams and systems within the classroom, they're going to be second graders this year and we're going to institute some kindergarten routines to second graders. So that's going to significantly impact our ability to start the year as normal.”

– Urban Principal

“But for our youngest – he's kind of always been awkward around other kids and that definitely was not helped this year. So he was still very much awkward little guy who doesn't know how to hang out with other people his age.”

– Rural Parent

“I would say from my perspective in the early childhood area, it was very, very difficult to get students to engage through the computer and a lot of the early learning skills are very face-to-face driven – kids need to hear, they need to see how the mouth is formed. And so not having that consistently...was very difficult.”

– Suburban Principal

**Source: Discussion groups with principals and parents of students in public K-12 schools. | GAO-22-105815**

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



## Strategies to Address Learning Loss for K-2 Students






We estimate K-2 teachers found a higher number of strategies that helped at least half of their students make academic progress than did teachers who taught grades 3-8 and 9-12.<sup>15</sup> Specifically, we estimate that a majority of K-2 teachers saw academic progress improve for at least half of their students when they used strategies aimed at providing more individualized attention, such as one-on-one check-ins and individual or small group tutoring (see figure below). These teachers also reported that at least half of their students were helped by physical instructional materials and movement breaks, which is consistent with the youngest students needing a more hands-on experience to facilitate their learning and keep them focused.

### Strategies That K-2 Teachers Reported Improved Academic Progress for at Least Half of Their Students

*Public K-2 Teachers, 2020-21 School Year*



#### Strategies: K-2 teachers

-  Small group work in person
-  Use of paper packets, manipulatives, or other physical instructional materials
-  One-on-one check-ins between teacher and student
-  Use of individual or small group tutoring sessions during the school day
-  Movement breaks

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815  
Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815

Note: A majority of teachers surveyed reported that the strategies listed helped at least half of their students. This is the teacher's perception of what was helpful to students. These results were statistically significant at the 95 percent confidence level. The margin of error for all percentages was less than or equal to 8 percent.

<sup>15</sup> These data are based on teachers' perceptions of the proportion of their students whose academic progress was improved as a result of a particular strategy.

“



“[We] use a lot of visuals for them...so always attaching [a] picture with the word. Plus we had the kids that couldn't read so the picture was really helpful. We found that...we could record the directions...for those kids that couldn't necessarily read...They still could understand what they were supposed to do. So that was a helpful step for them...sometimes having the paper copies of things was helpful when you needed them to do things on paper—practice with a pencil because finger writing with second graders does not always turn out so well. So that was helpful.”

– Rural Teacher

“I would do little scavenger hunts and say oh, you have 15 seconds to go and find something that is rough or bumpy.”

– Rural Teacher

“So I had a first grader. She was virtual the entire year and the things that worked well for us was I was able to be right there...[S]he had a one-on-one person any time she had any type of question, something wasn't working whether it was a tech issue or whether it was a question with the work that she was actually doing. And we were able to immediately address it...So that worked well.”

– Suburban Parent

Source: Discussion groups with teachers and parents of students in public K-12 schools. | GAO-22-105815

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

## Strategies to Address Learning Loss for K-2 Students (continued)

We also looked at strategies that teachers with older students (grades 3-8 and 9-12) perceived helped improve academic progress for their students, therefore mitigating learning loss. A majority of grades 3-8 teachers reported that at least half of their students were helped by small group work in person.<sup>16</sup> Most teachers for grades 9-12 did not find strategies helpful for at least half of their students beyond those that were helpful across all students.

Teachers who taught grades 3-8 and 9-12 also reported that the following four strategies helped improve academic progress, but for fewer than half of their students. These strategies were:

- increased number of teachers or staff to support student learning,
- use of individual or small group tutoring sessions during the school day,
- movement breaks, and
- providing a flexible school day.

When we accounted for teachers' circumstances, we saw similar results.

- K-5 teachers in a virtual or hybrid environment who used **movement breaks** had a much greater chance of reporting that these helped at least half of their students, compared to grades 6-12 teachers in a virtual or hybrid environment (**56 percent** chance compared to **25 percent** chance, respectively).
- K-5 teachers in a virtual or hybrid environment who used **small group work, either over devices or in person**, had a much greater chance of reporting that this helped at least half of their students, compared to grades 6-12 teachers in a virtual or hybrid environment.
  - For small group work over devices, K-5 teachers in a virtual or hybrid environment had a **48 percent** chance of reporting that this strategy helped compared to a **30 percent** chance for grades 6-12 teachers in a virtual or hybrid environment.

<sup>16</sup> These results were statistically significant at the 95 percent confidence level.

### Q&A QUESTION BOX



#### How did we use statistical models to account for teachers' circumstances?

We used statistical models to analyze whether teachers reported that a particular strategy helped at least half of their students, holding constant teacher circumstances, such as the percentage of high-poverty students a teacher may have had. Due to the sample sizes of the subgroups, we created reliable estimates by grouping grade-level bands K-5, 6-8, and 9-12. We used grade bands for our statistical models that were different than for other estimates in this section, in order to increase our sample sizes and obtain reliable estimates. We also combined teachers in virtual and hybrid environments into one group and compared them to teachers in an in-person environment. For reporting purposes, we further collapsed older grades into one 6-12 grade group; results for grades 6-8 and grades 9-12 were similar.

Source: GAO analysis of survey of K-12 public school teachers. | GAO-22-105815



## Strategies to Address Learning Loss for K-2 Students (continued)

- For small group work in person, K-5 teachers in a virtual or hybrid environment had a **60 percent** chance of reporting that this strategy helped compared to a **44 percent** chance for grades 6-12 teachers in a virtual or hybrid environment.
- K-5 teachers who used **tutoring during the school day** had a greater chance of reporting that this helped at least half of their students compared to grades 6-12 teachers.
  - K-5 teachers in a virtual or hybrid environment had a **46 percent** chance of reporting that this strategy helped (compared to a **29 percent** chance for grades 6-12 teachers in a virtual or hybrid environment).
  - K-5 teachers in an in-person environment had a **56 percent** chance of reporting that this strategy helped (compared to a **36 percent** chance for grades 6-12 teachers in an in-person environment).

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Sincerely yours,

Jacqueline M. Nowicki, Director



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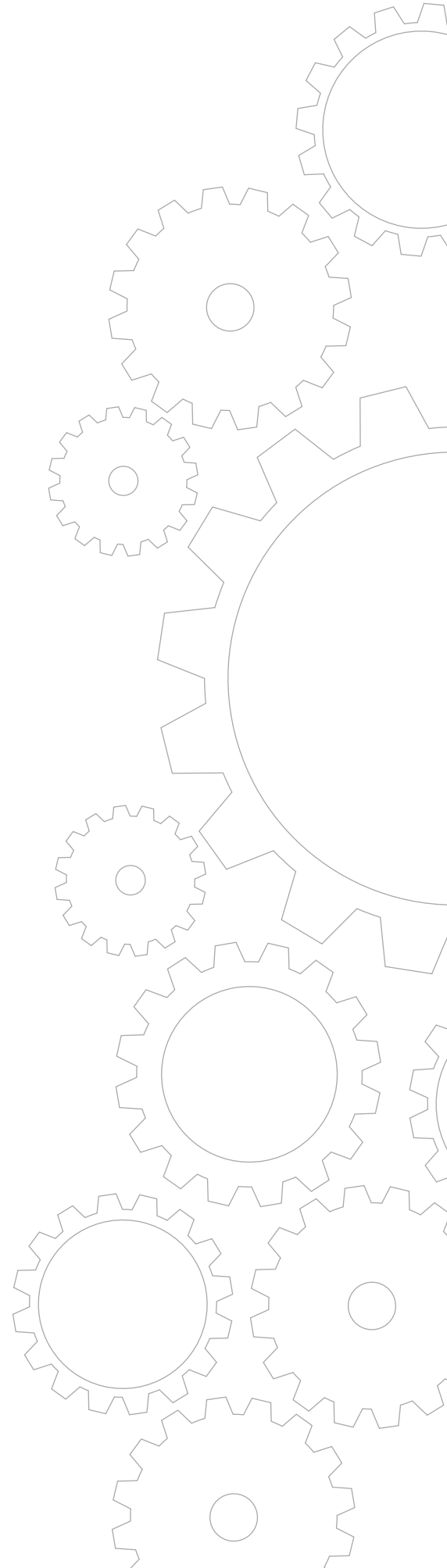
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## GAO Related Products

*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.

# GAO Contact and Staff Acknowledgments

## Jacqueline M. Nowicki

Director, Education, Workforce, and Income Security Issues,  
[nowickij@gao.gov](mailto:nowickij@gao.gov), (617) 788-0580

## Staff Acknowledgments

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