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Public & Social Sector Practice

Teacher survey: Learning loss is global—and significant

While the education response to the COVID-19 pandemic has varied widely, teachers agree on the high cost of remote learning, especially for vulnerable students.

by Li-Kai Chen, Emma Dorn, Jimmy Sarakatsannis, and Anna Wiesinger

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March 2021

Although teachers around the world have different styles and standards for learning, there is one thing on which they seem to agree: a computer is no match for a classroom as a place for kids to learn. While many continue to teach students online because of the COVID-19 pandemic—and may be understandably reluctant to return to in-person instruction until they feel safe—the majority of those polled in a new McKinsey survey said that the remote learning experienced over the past year is a poor substitute for being back in the classroom. We asked teachers in eight countries to rate the effectiveness of remote learning when it was first rolled out in response to school shutdowns between March and July of 2020. They gave it an average score of five out of ten.[1] The grades were especially harsh from teachers in Japan and the United States, where nearly 60 percent rated the effectiveness of remote learning at between one and three out of ten. That barely beats skipping school altogether. While the quality and support systems around remote learning have likely improved since the start of the pandemic, this is still a striking indictment.

COVID-19 has induced the largest remote learning experiment in history. Faced with a deadly threat, policy makers had to make decisions in the face of significant scientific uncertainty. While legitimate public health concerns led to school closures, our research suggests that students have paid a heavy price in lost learning. There is also emerging evidence that the stress and isolation of online learning is contributing to mental health issues among young people. Remote classes have improved as schools adopt best practices but remain difficult for students who struggle with issues such as learning challenges, isolation, or a lack of resources.

In this article, we examine the impact of remote education on student learning through the perspective of teachers on the front lines who see the results every day. Few players are more important in deciphering the long-term impact of this protracted learning experiment. Teachers have a deep firsthand knowledge of what their students are absorbing in class—real or virtual—in a way that parents and policy makers can't always measure. From missed assignments to falling test scores, teachers see the disengagement and learning loss, the effects of which could hurt the economic wellbeing of some students for life. Many also know from experience what factors can help children catch up in academic performance.

A tale of many models

When COVID-19 first became a global pandemic, in March 2020, most school systems were quick to react. Taking a page from playbooks created during previous influenza outbreaks, systems worldwide began closing down schools. By mid-April, UNESCO estimates, 1.6 billion children were no longer being taught in a physical classroom.[2] By the time students in the Northern Hemisphere returned to school in the fall, though, the consensus was more divided. Some systems decided to bring the majority of children back to school in person, while others started the new school year remotely.

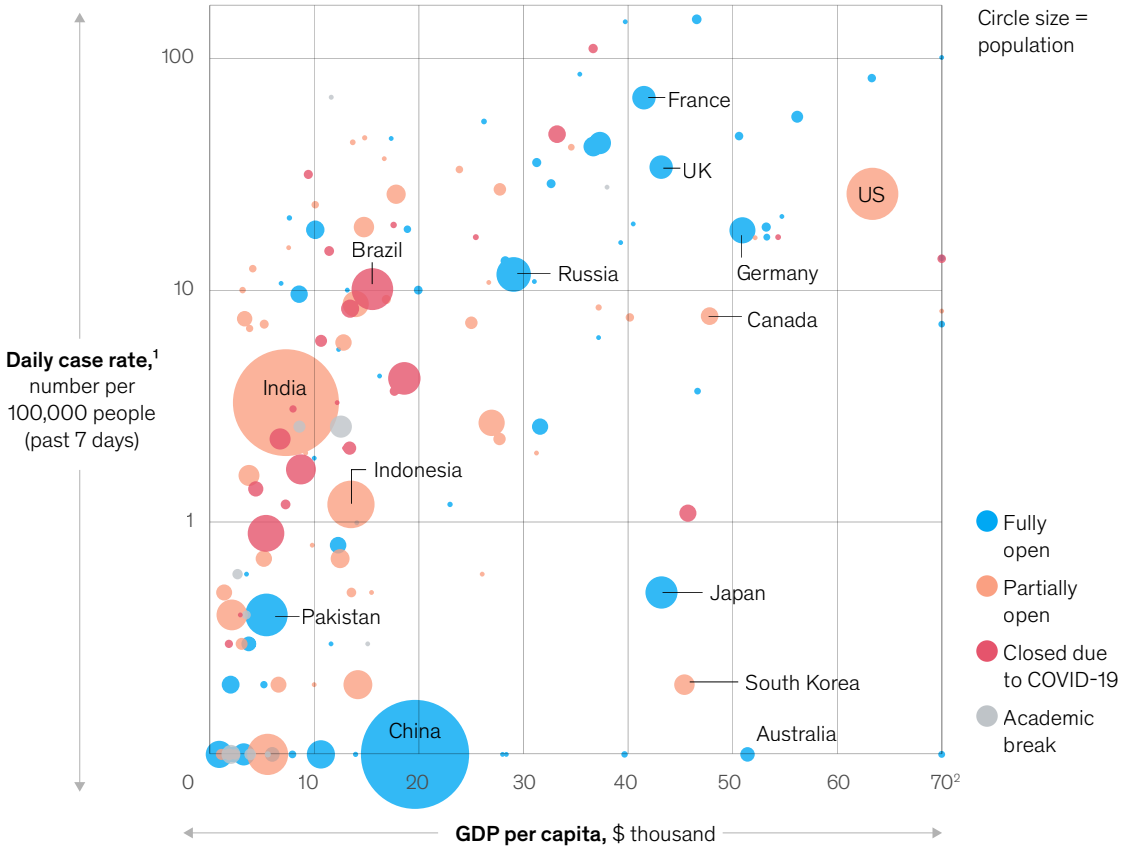
What changed? To start, many school systems developed protocols that allowed for safer in-person and hybrid learning. Public health data also indicated that children were less likely than adults to be vulnerable to COVID-19 and possibly less likely to spread the virus.[3] Moreover, projections based upon historical data about learning loss during school holidays raised concerns that the toll on learning was already high. By late August, organizations and publications from the American Academy of Pediatrics to the *Economist* were calling for students to return to the classroom. The World Health Organization released guidelines stating that school closures should be "considered only if there are no other alternatives."[4] Whether leaders decided to heed that call depended on a number of factors, from infection rates to resources and popular pressure. In most countries, though, the decision to open schools appeared to be as correlated with GDP as with infection rates (Exhibit 1).

[1] The survey covers teachers in Australia, Canada, China, France, Germany, Japan, the United Kingdom, and the United States. Teachers rated the effectiveness of remote learning between March and July of 2020 on a scale of one (least effective, with little to no learning) to ten (most effective, comparable to in-class results).
[2] "Why the world must urgently strengthen learning and protect finance for education," UNESCO, October 16, 2020, en.unesco.org.
[3] "Rapid risk assessment: Coronavirus disease 2019 (COVID-19) in the EU/EEA and the UK—ninth update," European Centre for Disease Prevention and Control, April 23, 2020, ecdc.europa.eu.
[4] *What we know about COVID-19 transmission in schools*, World Health Organization, October 21, 2020, who.int.

Exhibit 1

The decision to open schools in the fall seemed as correlated with GDP as with infection rates

Status of schools globally (as of Nov 1, 2020, the time of the McKinsey Teacher Sentiment Survey)



[1]Logarithmic scale.
[2]Represents GDP per capita ≥$70,000.
Source: Johns Hopkins University; Oxford Economics; UNESCO

Policy responses at the time teachers were surveyed can be roughly divided into four archetypes:

— *Asia stabilizing:* With COVID-19 rates in Australia, China, Japan, New Zealand, and South Korea as low as a single daily case per 100,000 people at the time of our survey, students in these countries had mostly returned to school.

— *Europe prioritizing returning to school:* Although caseloads throughout Europe were rising daily in late October—by up to 60 new cases per 100,000 people in France, the Netherlands, Spain, and the United Kingdom—leaders publicly and repeatedly prioritized teaching kids in the classroom.

— *North America partially open:* While school officials in Canada and the United States spent their summer planning for hybrid learning, rising infection levels prompted many large US districts to start the academic year remotely. By November, these decentralized education systems were a patchwork of remote, hybrid, and in-person instruction, with many children remaining fully remote.

— *Latin America and Africa hunkering down:* With the exception of Tanzania, most low-income countries in Africa and Latin America started the school year remotely. By November, a number of schools in Ethiopia, Kenya, Nigeria, and Uganda had brought students back to the classroom through hybrid models, while rising rates in Latin America prompted most system officials to keep students at home.

Since November, this picture has continued to evolve, with many European countries shutting down schools in response to spiking cases and new variants emerging over the holidays. While those responses will continue to evolve as the pandemic shifts and vaccines are distributed, the challenges of remote learning are likely to persist.

Reports from the virtual classroom

In an effort to understand the impact that these policy choices are having on students' learning experiences, we surveyed teachers in Australia, Canada, China, France, Germany, Japan, the United Kingdom, and the United States between late October and early November of 2020. Along with enabling a more apples-to-apples comparison, we limited this initial survey to leading OECD countries (plus China) for practical reasons: data are much harder to come by in many low- and middle-income countries. Research by McKinsey and others suggests that learning loss in those countries could be much worse. This survey, therefore, is probably a best-case scenario, offering perspectives from professionals who are more likely than many of their peers in other markets to have the resources, support, and health safeguards that enable them to teach in any setting.

Our previous research indicates that the impact of a school closure on academic outcomes is tied to how long the closure lasts. For that reason, we asked teachers to reflect on their experiences during the first few months of the pandemic, when most had a significant degree of exposure to remote learning in the countries we surveyed. We asked teachers to rank the effectiveness of remote learning on a scale of one to ten, with one being least effective, resulting in little to no academic progress, and ten meaning the instruction was at least comparable to what students would normally learn in a classroom—perhaps even better.

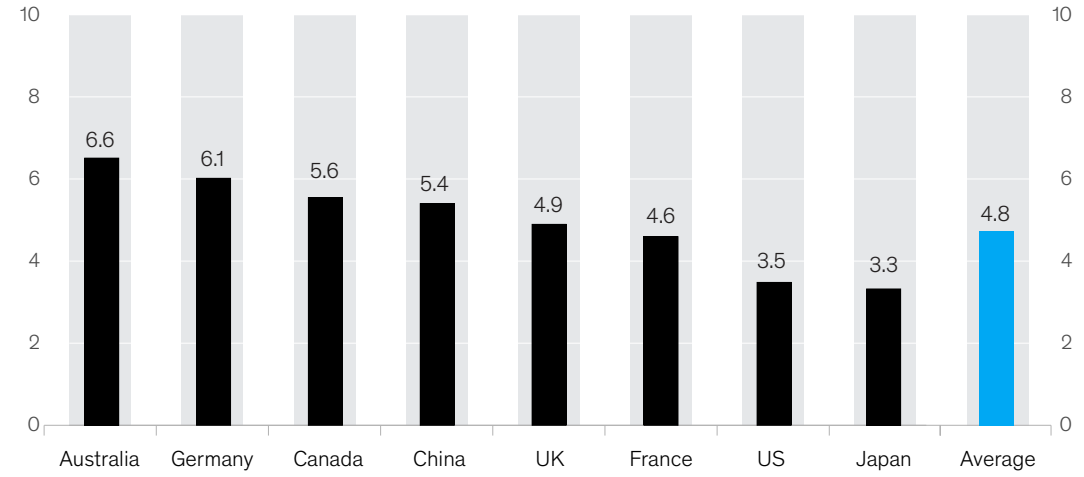
While teachers gave low marks to remote learning across the board, teachers in Australia, Canada, and Germany gave it higher ratings than their peers in other markets. Around one-third of respondents in those countries felt that remote learning was almost as effective as being in class. In Japan, by contrast, only 2 percent of teachers felt that online classes were comparable to learning in person; most felt it was much worse (Exhibit 2).

Teachers in high-poverty schools found virtual classes to be especially ineffective, bolstering concerns that the pandemic has exacerbated educational inequalities.

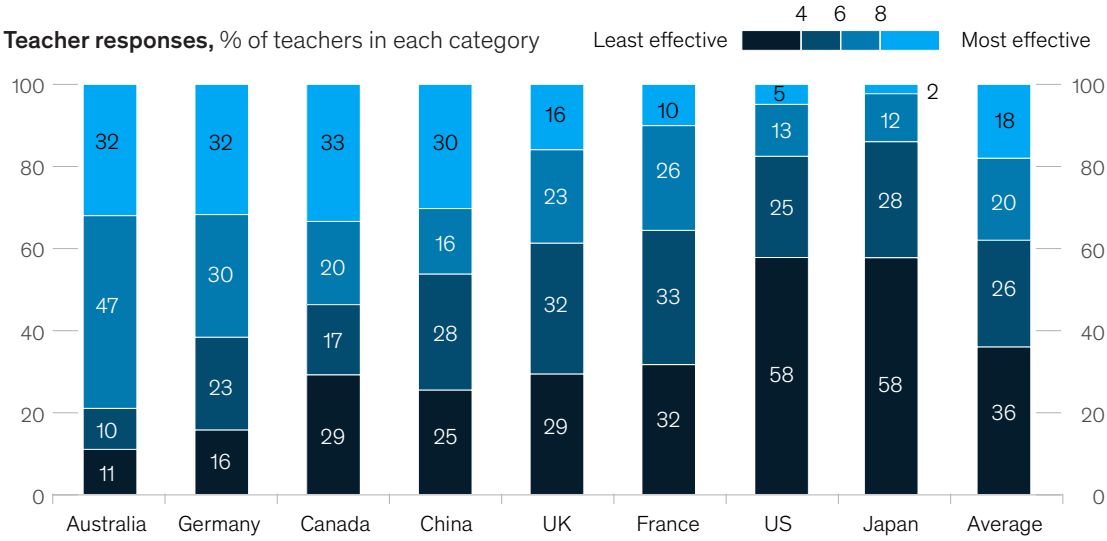
Exhibit 2

As classes went online, teachers saw the effectiveness of instruction decline.

Average effectiveness of remote learning,[1] score



Teacher responses, % of teachers in each category



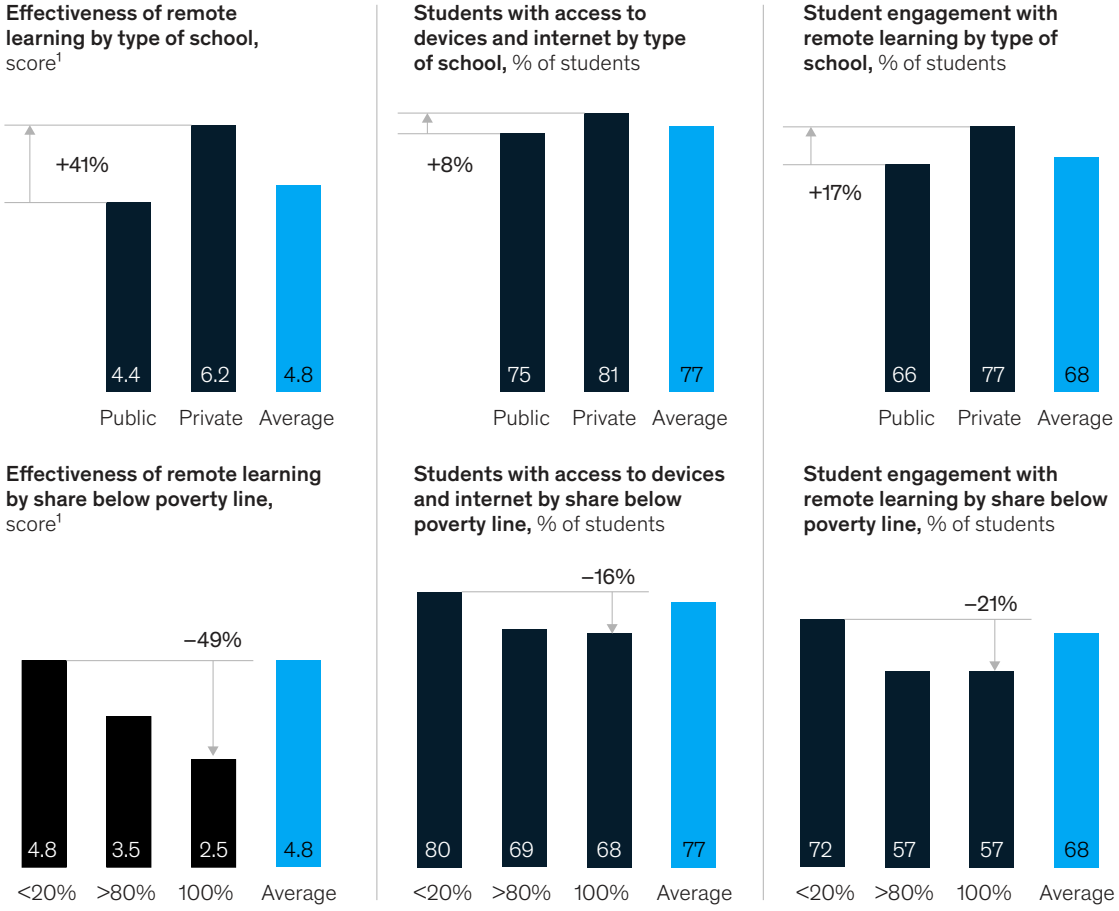
Note: Bars may not total to 100%, because of rounding.
[1]Question: How effective was remote learning in the spring compared with in-person learning? (1 = least effective; 10 = most effective, equivalent to in-person learning).
Source: McKinsey Teacher Sentiment Survey, carried out October 28 to November 17, 2020, of 2,549 teachers across Australia (146), Canada (350), China (350), France (278), Germany (274), Japan (350), United Kingdom (351), and United States (450)

Resources make a difference. Teachers who taught at public schools gave remote learning an average global score of 4.8, while their peers in private schools, which often have better access to learning tools, averaged a rating of 6.2. There is obviously a wide variation in resources for students and teachers in public schools, too. Teachers working in high-poverty schools found virtual classes to be especially ineffective, rating it 3.5 out of 10, bolstering concerns that the pandemic has exacerbated educational inequalities. Teachers in wealthy and private schools were also more likely to report that their students were well equipped with internet access and the devices required for remote learning, which may explain why their students were also most likely to log in and complete assignments (Exhibit 3).

Exhibit 3

Teachers at private and wealthy schools are more likely to report effective remote learning, access, and engagement.

Effectiveness of remote learning, access, and engagement by subgroups



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What can we learn about student learning?

Given the ongoing shutdowns and the cumulative impact of learning loss, it is too early to fully assess the pandemic's impact on student learning. Most countries suspended their usual year-end assessments and examinations at the end of the last school year, and some also chose to forgo regular formative assessments when students returned to class. Many also tweaked the format and pacing of remote classes to increase learning. That said, studies from several countries suggest that school shutdowns in the second quarter of 2020 put students up to six months behind the academic milestones their cohorts would typically be expected to reach. Losses were greater in math than in reading, and disadvantaged populations experienced more severe setbacks in all subjects (see sidebar, "Estimating the pandemic's toll on learning").

Along with the academic setbacks, research from McKinsey's Center for Societal Benefit through Healthcare and elsewhere points to a decline in students' mental health and physical fitness. None of these studies, however, deployed the same methodology to look across multiple countries, making international comparisons difficult. Our teacher survey is a first step toward filling that gap.

Estimating the pandemic's toll on learning

While all students suffered when schools shut down in the second quarter of 2020, some paid an especially high price. In the United States, students may have lost, on average, three months of learning in math and 1.5 months in reading because of shutdowns in the spring, based on test data collected by Curriculum Associates' i-Ready platform. Assessment provider NWEA, meanwhile, suggests that students in the fall of 2020 performed five to ten percentile points lower in math but similarly in reading compared with the previous year.[1] However, the results possibly underestimate the degree of loss, as a large portion of students were missing from NWEA's sample—25 percent of students, predominantly low-income Black and Hispanic students, didn't take the test this past fall. Assessment provider Renaissance Learning found similar results, with worse delays in math (eight to more than 12 weeks for students in grades four through eight) than reading (four to seven weeks behind for students in grades four through seven, for example).[2]

Meanwhile, several data sources point to the inequalities driven by underlying opportunity gaps. The McKinsey study suggests that students of color are three to five months behind where they would usually have been this past fall, while white students are just one to three months behind. What's more, analysis from math-software provider Zearn suggests that student participation in math coursework dropped by 16 percent for low-income students this past fall, but just 2 percent for high-income students.[3]

That difference is the result of not only what a student knows but also how they are being taught. In 2015, a national study from Stanford University's Center for Research on Education Outcomes (CREDO) found that students in online charter schools learned significantly less, on average, than their peers who were taught in a classroom. However, those who attended online charter schools in the top three states learned essentially as much as students in traditional classrooms. In the bottom half of states, students learning online ended up further behind than when they had started the year.[4]

Studies from around the world show similar results. In the United Kingdom, a National Foundation for Educational Research (NFER) survey of teachers and school leaders found that online learning left students roughly three months behind by last July.[5] The Office for Standards in Education, Children's Services and Skills (Ofsted) found that younger students had regressed to the point where some forgot how to hold a pencil.[6] Remote learning widened Australia's achievement gaps at triple the pace of in-person learning, according to the Grattan Institute, with disadvantaged students set back one month during a two-month lockdown.[7] A study of year-end assessments in Belgium discovered an even larger divide, equivalent to five months in mathematics and seven months in Dutch, with inequality increasing both within and across schools.[8] The Belgian study is unique in that language learning was more affected than math, but this may be because significant portions of the student population do not speak Dutch at home.

Teachers are right to be concerned. While students may learn more online as schools adopt best practices for remote learning, vulnerable students need help now and will need additional support as they return to the classroom. Otherwise, an unprecedented series of shutdowns could set back some students to the point where they may never recover.

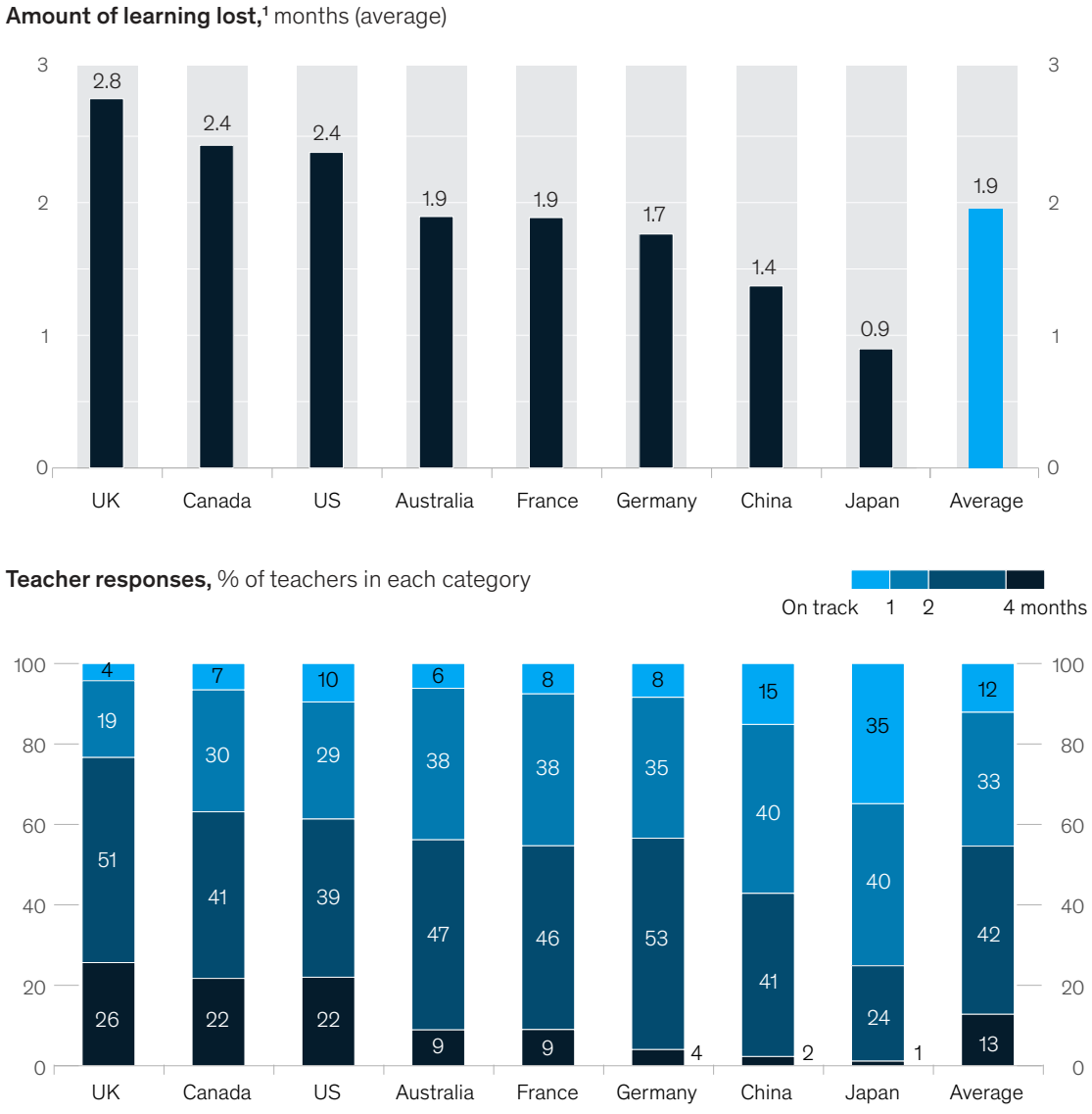
[1] Megan Kuhfeld et al., *Learning during COVID-19: Initial findings on students' reading and math achievement and growth*, Collaborative for Student Growth at NWEA, November 2020, nwea.org.
[2] *How kids are performing: Tracking the impact of COVID-19 on reading and mathematics achievement*, Renaissance Learning, November 2020, renaissance.com.
[3] For updated charts, see the Opportunity Insights Economic Tracker, on tracktherecovery.org. Data accessed November 15, 2020.
[4] James L. Woodworth et al., "Online charter school study 2015," Center for Research and Education Outcomes, 2015, credo.stanford.edu.
[5] Caroline Sharp et al., *Schools' responses to Covid-19: The challenges facing schools and pupils in September 2020*, National Foundation for Educational Research, September 2020, nfer.ac.uk.
[6] "COVID-19 series: briefing on schools, November 2020," Ofsted, December 15, 2020, gov.uk.
[7] Julie Sonnemann and Peter Goss, *COVID catch-up: Helping disadvantaged students close the equity gap*, Grattan Institute, June 2020, grattan.edu.au.
[8] The numbers in the paper were quoted in standard deviations: 0.19 standard deviations in mathematics and 0.29 standard deviations in Dutch. The authors suggest that on average students improve by about 0.4 standard deviations every year, and we used this to convert their numbers in months of lost learning assuming a ten-month school year. For more, see Joana Elisa Maldonado and Kristof De Witte, *The effect of school closures on standardised student test outcomes*, KU Leuven, September 2020, feb.kuleuven.be.

Teachers reported that students were an average of two months behind at the time of the survey, with low-income and at-risk students suffering higher setbacks in every market. The degree of loss varied significantly among countries. Japan reported the lowest losses, with less than a month of learning lost. While this may be partially because Japan resumed in-person learning sooner than many of the other countries in our sample, another contributing factor could be the frequent use of extracurricular learning programs, otherwise known as "cram schools," prior to and during the pandemic. Teachers in the United

Kingdom, by contrast, reported an average loss of nearly three months. Approximately one-quarter of teachers in Canada, the United States, and the United Kingdom said that their students were more than four months behind where they should be as of November; in China and Japan, fewer than 2 percent of teachers felt the same way. Indeed, 35 percent of teachers in Japan said their students are still on track, as did 15 percent of those in China. In every other country, fewer than one in ten teachers said their students are on track (Exhibit 4).

Exhibit 4

Teachers reported that students were on average two months behind where they usually would have been by early November 2020.



Note: Bars may not total to 100%, because of rounding.
[1]Question: To what extent have your students lost learning due to COVID-19-related school closures?
Source: McKinsey Teacher Sentiment Survey, carried out October 28 to November 17, 2020, of 2,549 teachers across Australia (146), Canada (350), China (350), France (278), Germany (274), Japan (350), United Kingdom (351), and United States (450)

Even relatively short stints of remote learning came at a cost (Exhibit 5). Moreover, life in the classroom has changed because of the pandemic. Among other things, most schools have implemented physical distancing, simultaneous remote instruction, and health safeguards that limit both teacher–student and peer interactions. Many students are also dealing with added trauma, including economic dislocation, hunger, and mental health challenges—all of which clearly affect learning, regardless of how it takes place.

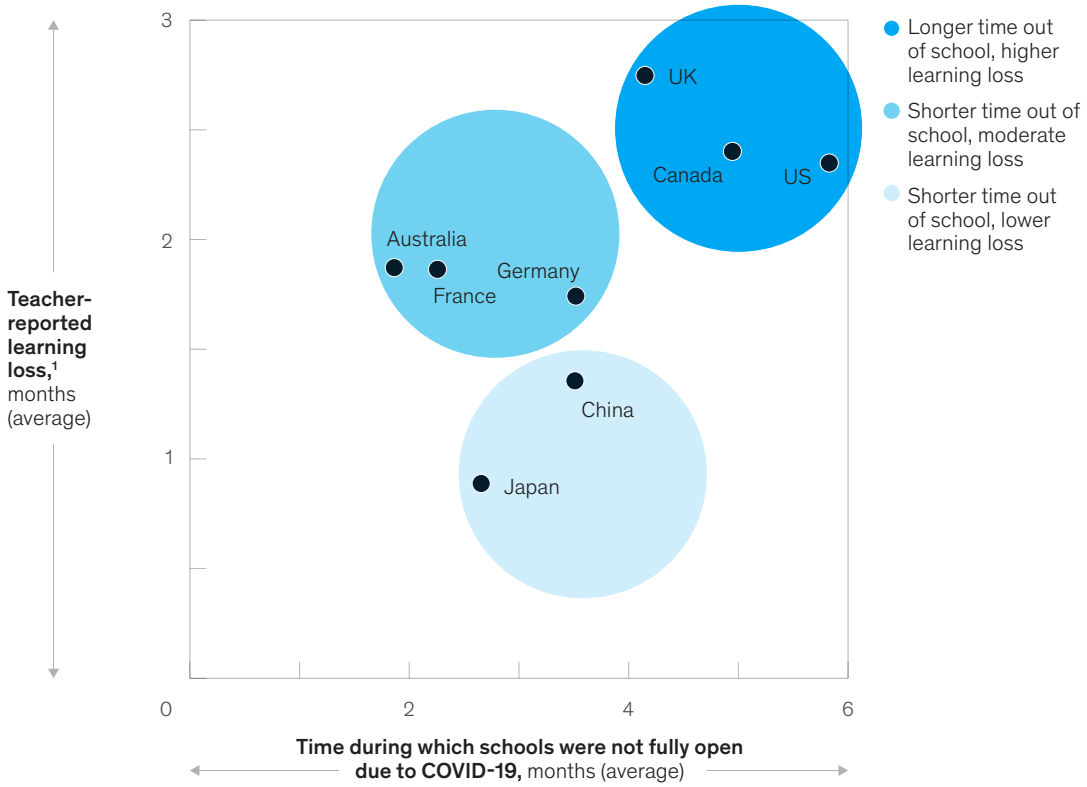
The survey indicates that some segments of the student population have been hit especially hard. Teachers in all countries reported slightly higher learning loss for younger grades (2.2 months for kindergarten through third grade versus 1.7 months for ninth through 12th grade). Economic status matters, too. Teachers in schools where more than 80 percent of students live in households under the poverty line reported an average of 2.5 months of learning loss, compared with a reported loss of 1.6 months in schools where more than 80 percent of students live in households above the poverty line.

Those results are broadly consistent with research at the national level. In the United States, teachers reported that students were 2.4 months behind expected milestones in November, while October assessment results found students to be 1.5 months behind in reading levels and 3 months behind in math skills. In Australia, local teacher surveys suggested just over a month of loss; respondents to our survey put the total at 1.6 months. In the United Kingdom, local teacher surveys reported 3 months of learning loss in July, while ours found it to be 2.8 months. That said, our survey measures only the initial toll on learning. Students have likely fallen further behind as schools remain shut. What's more, learning loss also often compounds over time. Some schools in Pakistan closed for 14 weeks after the 2005

Exhibit 5

While learning loss appears linked to the length of school closure, even brief shutdowns may have set back learning.

Lost schooling compared with time spent learning remotely



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earthquake, for example. Four years later, students attending those schools were 1.5 years behind peers in unaffected regions.

Students in low- and middle-income countries could be hit especially hard. School shutdowns have, on average, been longer in those countries, where governments have had less capacity to roll out remote learning. Unless addressed, learning loss and declining school enrollment will likely result in significant delays in achieving the UN sustainable development goal of ensuring universal primary and secondary education by 2030—not to mention higher costs in trying to get students the help they need to catch up.

The full impact of this unprecedented global shift to remote learning will likely play out for years to come. For students who have lacked access to the tools and teachers they need to succeed academically, the results could be devastating. Some may drop out of school early; others may lack the skills they need to progress to the next level of learning. Although formal educational achievement is only one component of success in life, it is strongly correlated with higher earnings and better life outcomes. Moreover, the demand for advanced skills and degrees is increasing.

The long-term impact of the pandemic will of course depend on the steps that school-system leaders take now to mitigate and address the damage that's being done. A critical first step is to improve the quality of remote learning for those students who are still learning virtually. But students will also need help to catch up losses that have already occurred. Along with offering more support for students who are behind—through high-density tutoring or more personalized mastery-based programs—students may need to spend extra time in the classroom. That could mean longer school days or vacation academies during holidays. Given the breadth and scope of learning loss, there could be a compelling case for a systemic solution as part of the recovery.

What is less compelling is a return to the status quo. The pandemic has widened achievement gaps and exposed weaknesses in school systems around the world. Educators have an opportunity now to reimagine a more equitable and resilient K–12 education system that delivers a better education to all children. The school systems that invested in recruiting talented teachers and helping them succeed prior to the crisis may turn out to be the most effective at minimizing learning loss. They recognize the need to support not only students but also students' families, especially in vulnerable communities.

Education systems worldwide are at a critical inflection point. Along with the staggering cost to human lives and livelihoods, the COVID-19 pandemic has accelerated trends that are reshaping the skills and demands that today's students will need to meet. The war for talent is likely to intensify. Standing on the front lines of that battle are the teachers. In this survey, many expressed a clear belief that children learn best from people, not programs. Every day, teachers see the difficult challenges remote learning presents to their students but also the opportunities that virtual classrooms offer to connect in new ways.

With resources, support, and evidence-based strategies to guide them, teachers will be critical in helping children recover from this pandemic to become the doctors, scientists, and teachers who will protect us from future disasters.

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The authors wish to thank Sophia Autor, Arthur Bianchi, Ben Hayes, Chauncey Holder, and Ellen Viruleg for their contributions to this article.

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