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A simple and complete solution to the learning loss problem

By Eric Hanushek

KEY TAKEAWAYS

- The pandemic's biggest economic hit may still be on the horizon. COVID-era learning losses mean a projected 6 percent dip in lifetime earnings.
- Technology and tutoring will help, but the core strategy to avert the crisis must rest with more effective teaching.
- Policy should focus on using the most effective teachers more intensively while getting rid of the least effective ones.
- Teacher-centered reforms may stand a better chance today than before the pandemic given the dire outlook for the COVID student cohort.

The largest economic costs of the COVID-19 pandemic in the U.S. will come from student learning shortfalls caused by school closures, inferior hybrid and remote instruction, and the general disruption of the academic calendar's rhythm. The most recent national data indicate learning losses are severe enough that the average student can be expected to have 6 percent lower lifetime earnings, and these losses are likely much greater for disadvantaged students. The country as a whole will face a less well-prepared workforce, with enormous cumulative losses to GDP over the coming decades.

Unlike many of the daunting social and economic problems of today, this problem is readily fixable. The appropriate strategy is clear and supported by extensive research. The necessary immediate funding is already in place. There is strong bipartisan public support. All that is missing is a real commitment to take action.

Recently released data from nationally representative samples of students in the National Assessment of Educational Progress (NAEP) allow comparisons of student performance in spring 2022 with that in spring 2019 (*https://www.nationsreportcard.gov/*). The drop in average scores, particularly in math, was profound. Two years after the school closures in March 2020 math performance of eighth graders fell in every state with an average loss equivalent to two-thirds of a year or more of learning by pre-pandemic standards. Figure 1 shows the dramatic fall in eighth-grade math scores, erasing 20 years of progress.

Primary and secondary schools continue struggling to return as much as possible to where they were in March 2020. But the learning losses risk becoming permanent if schools simply return to business-as-usual.

The open issue being addressed in districts around the country is how can educators deal with — and change — observed learning losses. School districts have gone in a variety of directions. The most common choices have been more instruction time (summer school, lengthened school days), various kinds of tutoring, or a combination of these. The results of these efforts are not fully known, but existing research does not suggest that these approaches are likely to make up for the losses, at least as currently applied (Goldhaber et al., 2022).

Better teachers, better results

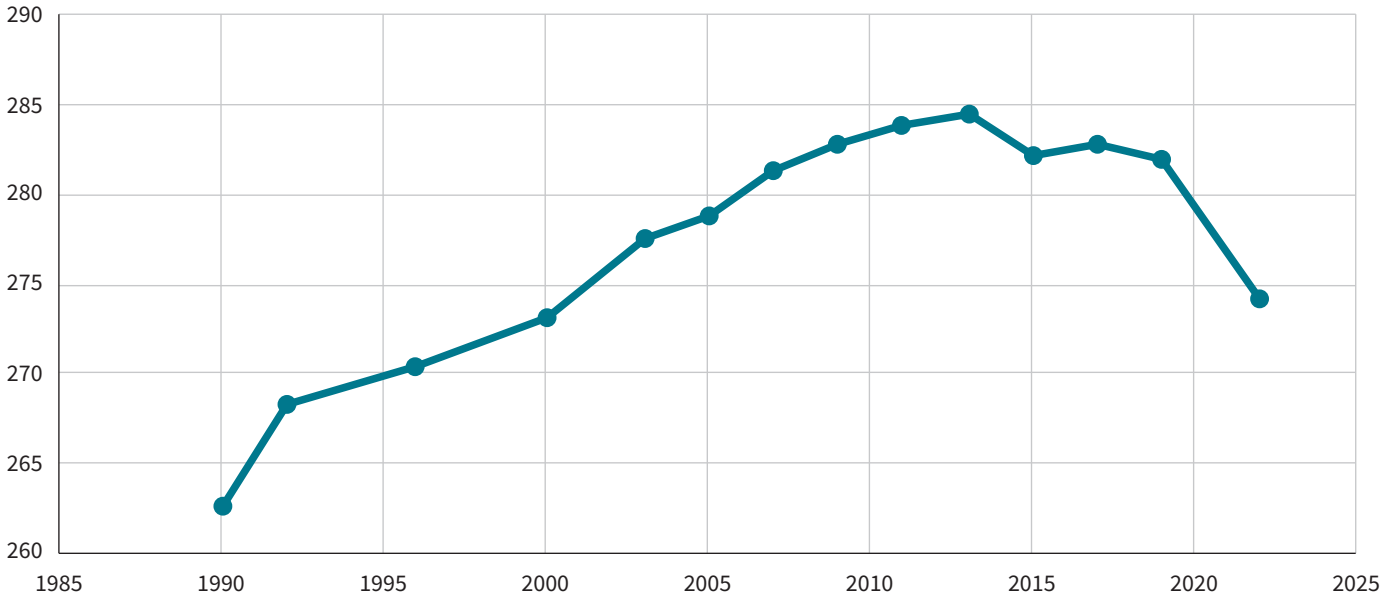
We need to look in a different direction. The biggest problem of education during the pandemic has been depriving students of the full abilities of their most effective teachers. Recovery from the damage of these years can only come from an expanded role for these teachers. Technology can help, but it has proved to be no substitute.

Before the pandemic, studies from many states and school districts found extraordinarily consistent results that student achievement was critically affected by differences in teacher effectiveness.

A study that I conducted in the public schools of Gary, Indiana, in the early 1990s examined reading and vocabulary tests for a sample of low-income Black students in grades 2-6 (Hanushek, 1992). The best teachers provided a year and a half of academic growth for students each school year, while the least effective teachers provided only a half year's learning.

Other researchers have reached similar conclusions about the importance of differences in teacher effectiveness in New York City, Los Angeles, Tennessee, Texas, and elsewhere across the country. For example, in a 2014 study of New York City teachers, Raj Chetty, John Friedman, and Jonah Rockoff linked effectiveness of grade 3-8 teachers to their students' future income

Figure 1. 8th Grade Mathematics Scores



Source: *https://www.nationsreportcard.gov/*

(Chetty, Friedman, and Rockoff, 2014). Consistent with my own estimates, replacing a bottom 5 percent teacher with a teacher of average effectiveness would increase the present value of lifetime income for students in her classroom by approximately $250,000.

In fact, the Gary results may underestimate the impact of teachers since the many now-available studies consistently show greater teacher impacts for math achievement (where families provide less help). Importantly, the research is clear that the lasting impact of a good (or bad) teacher is later seen in college attendance and in labor market earnings.

It should be emphasized that differences in teacher effectiveness are not just an issue for low-income schools or minority students. Modern research techniques adjust for student backgrounds and for what each child knows at the beginning of the year. The results about the overwhelming importance of effective teachers have been replicated in suburban schools and rural schools, as well as for schools serving disadvantaged populations.

The pandemic has undoubtedly made the job of teaching more difficult and stressful. Beyond potential health risks, teachers face more challenging classrooms. At each grade level they have students with extraordinarily wide ranges of preparedness, reaching multiple years of differences in starting achievement. This makes effective instruction more complicated but all the more important.

High stakes, high rewards

Unfortunately, we do not have very good ways to improve the general effectiveness of teachers. A more compelling solution lies in keeping and rewarding the most effective teachers while getting rid of the least effective ones.

This prescription is energetically resisted by the teachers' unions, which do not want to see personnel decisions based on differential effectiveness. But there are cases where such policies have been implemented, and the results show a clear path to improving the schools.

In 2009, Michelle Rhee and Adrian Fenty, then the schools chancellor and mayor in Washington, D.C., were able to implement a sophisticated, multidimensional system, called IMPACT, for evaluating the school district's teachers (Dee and Wyckoff, 2015, 2017). Based on these teacher assessments, and over the fierce objections of the teachers' union, the most effective teachers were highly rewarded (with annual bonuses and increases in base salaries of up to $25,000) and the least effective were dismissed (several hundred). In the first three years of IMPACT, almost 4 percent of teachers were dismissed for poor performance and an even larger percentage, under threat of dismissal, voluntarily left. At the other end, retention rates for the most effective teachers increased significantly. Simply stated, not all teacher turnover is bad.

Since the introduction of IMPACT more than a decade ago and before the pandemic, test scores of Washington, D.C., students on the National Assessment of Education Progress (NAEP) rose faster and more consistently than those in any other large city district with significant disadvantaged populations. Between 2009 and 2019 Washington, D.C., students significantly improved in grade 4 and grade 8 math and reading and outpaced across the board those in the other 16 participating NAEP districts that can be tracked, many of which showed declining scores. Figure 2 shows the change in eighth-grade math scores across participating urban districts between 2009-2019 and 2009-2022. Even though Washington, D.C., students were hard hit by the pandemic, the gains in the district compared with the pre-reform period still outstripped the other urban areas.

Another instructive case is the Dallas Independent School District, where former superintendent Mike Miles was able to persuade the school board to implement a new evaluation and pay system for teachers and principals starting in 2014. Teachers are rated by a combination of structured supervisor evaluations, student scores on assessments, and student surveys, with a similarly sophisticated system used to evaluate principals. These evaluation scores are used to place teachers in a forced distribution (which avoids the

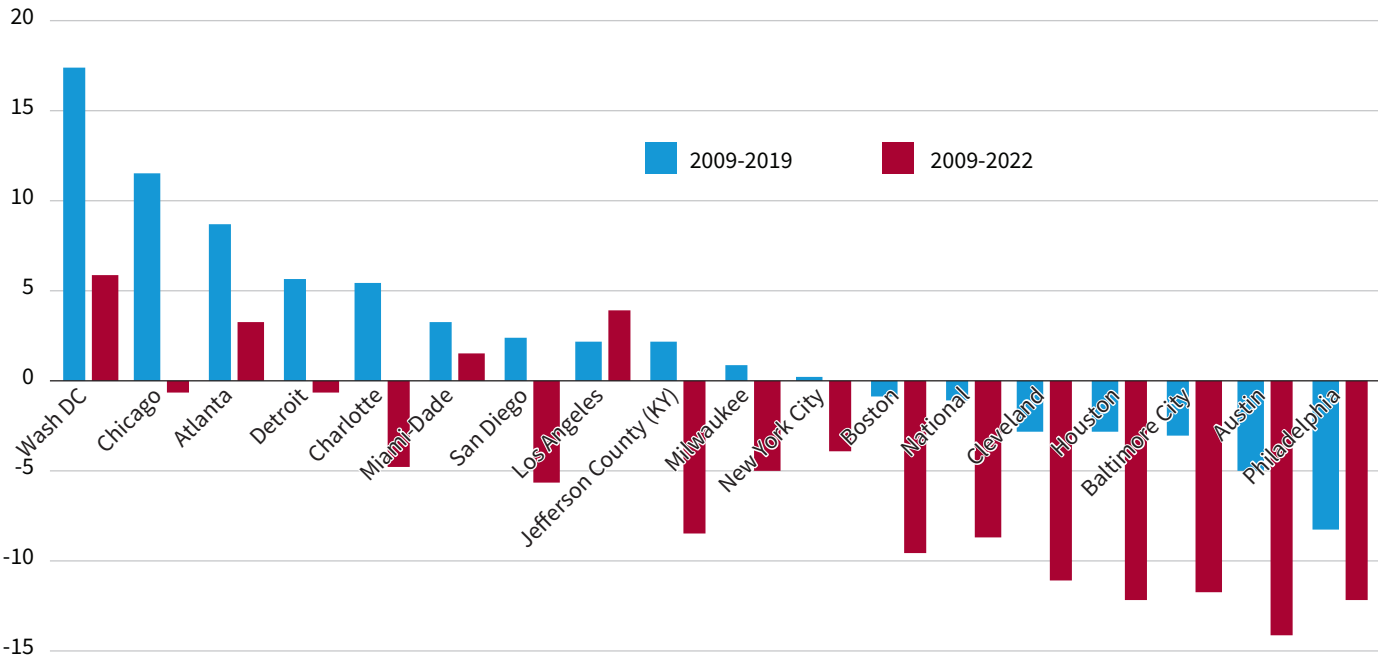
common problem that all teachers are rated as excellent) and to determine pay. While we await long-term results, it appears that student performance in Dallas has improved relative to that in other large Texas districts. Overall, the recent NAEP data indicate that Dallas students weathered the pandemic better than students in most urban districts.

An especially important part of the Dallas reforms, Accelerating Campus Excellence (or ACE), provided differentiated incentives based on prior performance for teachers to move to the most disadvantaged schools. A top-rated teacher got a bonus of $12,000 in 2016 while lower-rated teachers in the next lower rating categories received bonuses of $10,000 and $8,000. Highly rated teachers moved to and stayed in the neediest schools. Within two years, these schools moved close to the average Dallas student performance level. The program showed so much promise that the Texas legislature instituted a fiscal incentive system designed to encourage other districts to evaluate teacher effectiveness more closely and to induce highly rated teachers to work in disadvantaged schools where they were most needed.

A number of districts in Florida, Tennessee, and elsewhere have made similar changes, but most of the country's other 13,000-plus school systems still use rigid salary schedules unrelated to teacher effectiveness and do nothing to assign effective teachers where they're most needed.

Efforts to deal with pandemic learning losses have yet to focus on use of effective teachers. The most-popular pandemic-relief options have attempted to retain the existing structure and operations of schools with small modifications. At best, they have called for more time with existing teachers, often assigned as they were before the pandemic. The only partial switch

Figure 2. Change in Math 8th Grade NAEP Scores 2009-2019 and 2009-2022



Source: *https://www.nationsreportcard.gov/*

to anything different builds on the remote instruction during the pandemic. This forced change clearly spurred a number of new technological efforts, some of which have stayed, although it remains unclear what long-term gains will come through technology. Pre-pandemic research yielded mixed results about overall success of technologically enhanced individualized instruction. In the end, the available evidence points back to the central role of the teacher.

Good timing

Teacher-centered reforms may stand a better chance today than before the pandemic. Educators and public officials understand the urgency of improvement if we are not going to abandon the COVID cohort of students. The past few years also have given parents a closer look at the instruction that their children receive, and many have come away disappointed and determined to push for change. In fact, a significant number has already bailed from the traditional public schools. Because of the pandemic, we may not have to rely only on visionary leaders to get substantial improvement in our schools.

Public schools may be uniquely open to new approaches over the next few years. Many districts need to work to retain students whose parents, frustrated with closures and poor instruction during the pandemic, are considering other options. And schools have significant extra resources, at least for now, thanks to unexpectedly large emergency federal grants that have been provided by three separate COVID relief acts. In fact, many districts have barely touched their relief funds even though they have been available for some time.

Importantly, the current teacher corps can support the rescue of the COVID cohort of students and can provide the means for future U.S. students to become internationally competitive. We do not have to wait for further retirements, for a new crop of entry teachers, or for radically changed personnel systems. A focus on more effective teachers could be implemented quickly by providing salary incentives to effective teachers to take on more students. Buying out the contracts of ineffective teachers would move schools in the same direction. In the longer run, providing incentives for effective teachers will attract and retain more of them.

What remains to be seen is whether teacher unions will continue to resist efforts to assess the work of their members, to use performance in assignments, and to reward them accordingly. We know from surveys and prior experience such as that in Dallas that teachers, as opposed to their unions, will respond to financial incentives. But, at the beginning of the current school year, we saw teacher strikes closing the schools in Columbus and Seattle, suggesting that the teacher unions were more intent on squeezing out the last personal gains possible from the pandemic than on dealing with the learning crisis facing students.

A popular solution, fully union supported, that does not work is simply increasing all teacher salaries, since the incentive to stay then applies to all teachers, regardless of talent. It would also lead to fiscal problems in the future, particularly as temporary federal funding for COVID relief runs out.

The window for addressing the profound learning deficit created by the pandemic is closing rapidly, leaving millions of students at a life-long disadvantage. There is no other solution except to ensure that, as they work to catch up, they are helped by the best teachers we can find.

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