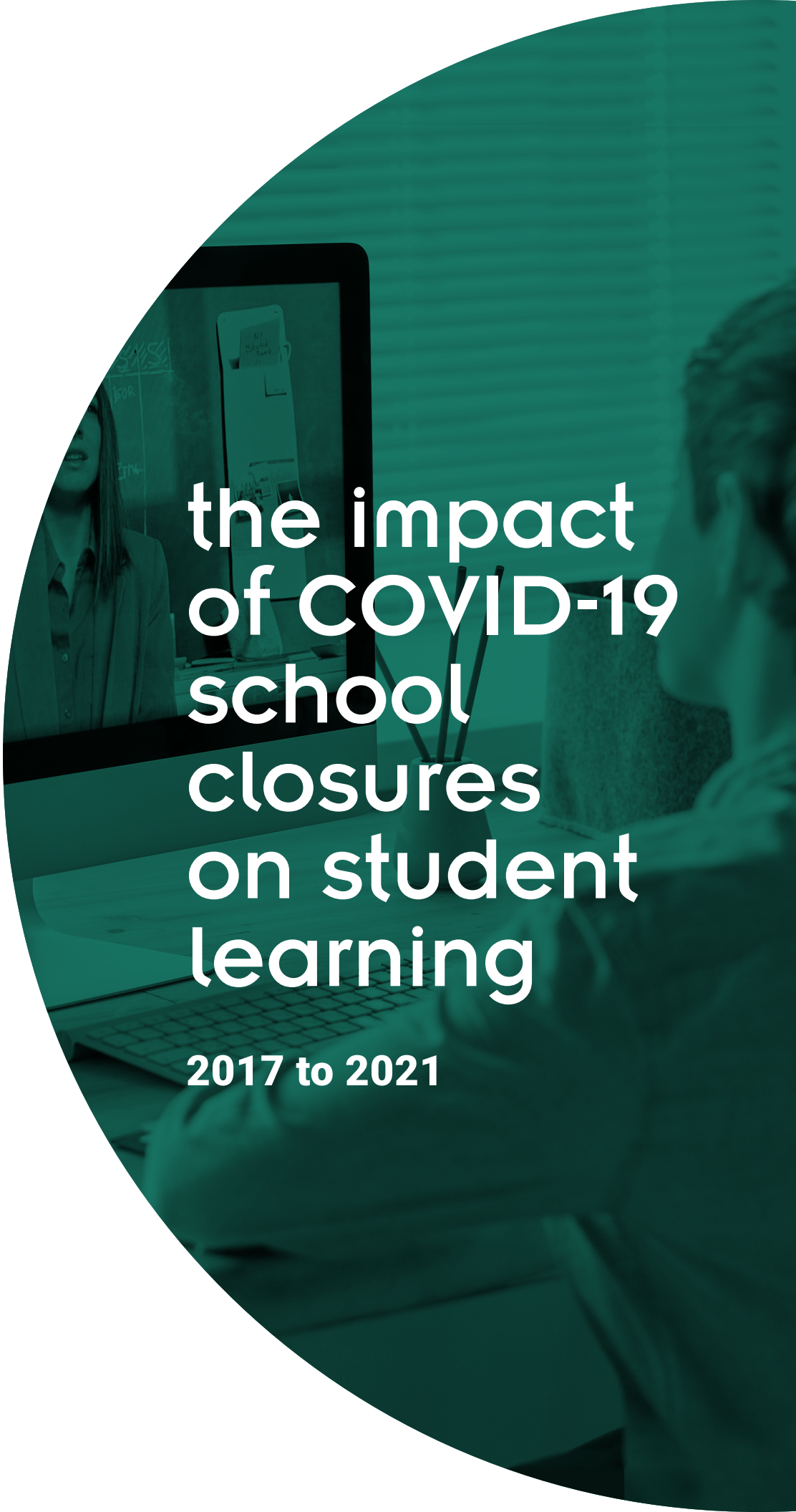

the impact of COVID-19 school closures on student learning

2017 to 2021

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Executive Summary

We examine the impact of pandemic-related disruptions in independent schools by comparing two-year CTP test score growth from 2017 – 2019 (pre-COVID) to growth from 2019 – 2021. Overall, the results of this analysis demonstrate that the COVID-era impact on rates of student learning in independent schools have been both modest and declining. The initial impact of campus closures in March 2020 is now greatly reduced, meaning that students since then have substantially recovered a more typical rate of learning growth. That said, there are differences in COVID impact by area of study and by grade level that are worth paying attention to as the COVID-normal pattern of instruction continues to develop.

Introduction

Since the beginning of the COVID-19 pandemic, ERB has published periodic papers detailing the impact of classroom disruption on student learning. During the initial months of the COVID-related school disruption that begin in March 2020 we found a 30% slowing of student growth in Math, Reading Comprehension and Writing Concepts and Skills. We found a more substantial slowing of growth—on the order of 50%—in our Verbal and Quantitative Reasoning measures. These slowed rates of learning growth affected weaker students most strongly, with the strongest students actually increasing their pace of learning during the at-home months of spring 2020.[1]

These results, though substantially less dire than the findings from several studies based on state-mandated testing in public schools, nonetheless showed a clear impact on student learning stemming from the sudden cessation of in-classroom instruction and the other disruptions to student lives that begin in March 2020.

Subsequently, we examined the on-going impact of COVID disruption during the 2020 - 2021 school year. By then most ERB Member Schools were in hybrid mode, and some were able to offer in-person instruction for all or nearly all of the school year. Under those circumstances, we found a reduced but continued impact on learning growth. Learning growth in Math, Reading Comprehension and Writing Concepts and Skills was 19% lower in 2020-2021 than in the previous year, with a 9% slowing of growth in Verbal and Quantitative Reasoning. Students with lower test scores before the COVID crisis continued to be the most vulnerable to changed patterns of instruction, while students in the top quartile actually accelerated compared to their pre-COVID rate of growth.[2]

ERB Member Schools are now in the final months of Year Three coping with pandemic disruptions. The toll on students and staff continues to mount, with social-emotional and mental health considerations playing an ever-larger role in educational priorities. At the same time, and despite continually changing environmental conditions and legal regulations, decision-making surrounding infection protocols and hybrid learning has to some extent become institutionalized. Compared to the initial infection surge in March 2020, school leaders, teachers and students have all learned to cope with pandemic conditions.

[1] *https://cdn.erblearn.org/www/20210622200812/20200622_ERB_Covid-19_Learning_Impacts_Fall_2019_to_Fall_2020.pdf*

[2] *https://cdn.erblearn.org/www/20210622200841/20200621_ERB_Covid-19_Learning_Impacts_Spring-2020-to-Spring-2021_REV02.pdf*

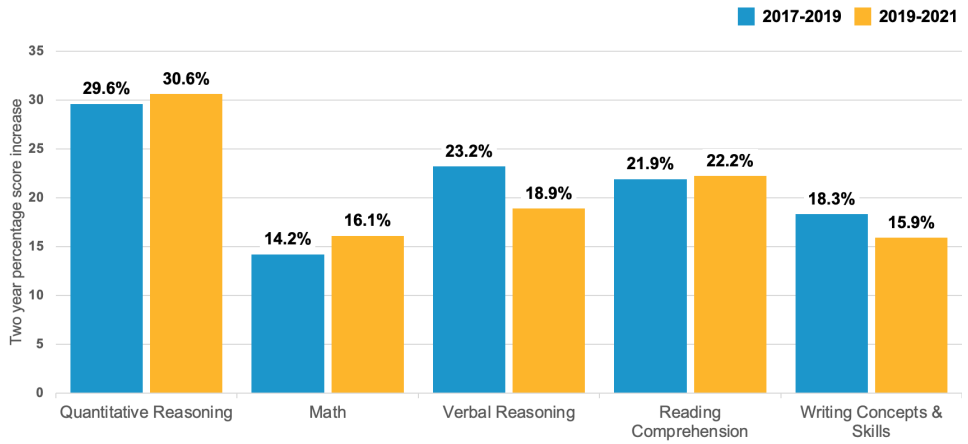
The development of a new normal in teaching and learning provides the context for this analysis, which is rooted in a longer view of student learning before and during the pandemic. In the data presented below, we include the entire group of students in a given grade as of 2017 and then measure their growth from 2017 to 2019. We then look at the entire group of students who started in that same grade in 2019 and identify their rate of growth through 2021. The analyses in this paper are based on approximately 65,000 student tests per CTP measure, drawn from over 1000 schools in each of the 2017 - 2019 and 2019 - 2021 periods.

Analysis

Overall, the results of this analysis demonstrate that the COVID-era impact on rates of student learning continues to decline. The substantial impact felt after campus closures in March 2020 is now greatly reduced, meaning that students have since then recovered toward a more typical rate of learning growth. That said, there are differences in COVID impact by area of study and by grade that are worth paying attention to as the COVID-normal pattern of instruction continues to develop.

Figure 1

Two Year Test Score Growth in Math and English Language Arts (ELA)



In Quantitative Reasoning and Math, student growth during 2019 - 2021 was slightly greater than it had been during 2017-2019—by 3% in Quantitative Reasoning and 13% in Math. That was not true for our ELA tests. Growth rates declined by 18% in Verbal Reasoning and 13% in Writing Concepts and Skills during the COVID period, compared to the two years prior. Growth rates in Reading Comprehension were unchanged.

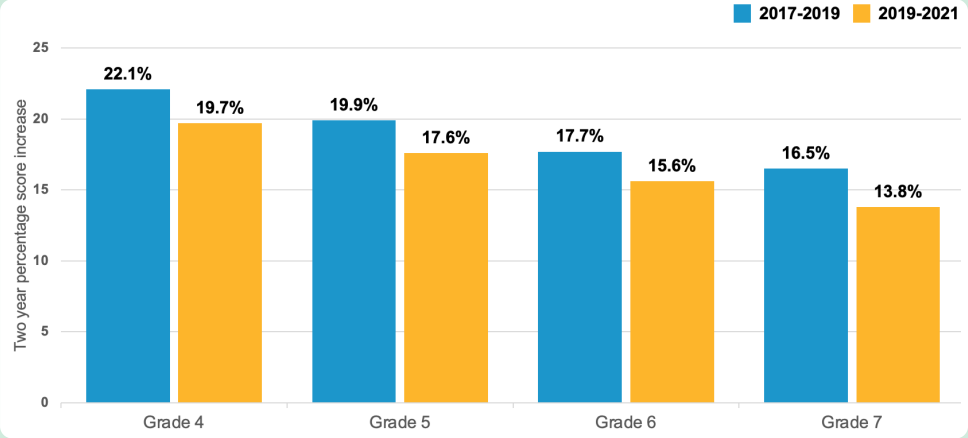
Boys and girls showed the same pattern of growth rates on every measure but one, Writing Concepts and Skills. Among boys, learning growth in Writing Concepts and Skills slowed by 25%, while among girls the rate of growth was unchanged.

A number of studies have confirmed the observations of teachers and education experts that children in the early grades are more affected by disruption of teacher contact and classroom routines than are older students.[3] Our findings do not bear out these concerns about early-grade students. As seen in Figure 2, the decline in rate of growth in ELA was about the same—between 10 and 12 percent—for students who started grades 4, 5 and 6 in 2019. Those students who started 7th grade in 2019 had a larger decline in growth rates over the following two years, by 17%.

[3] *"Children in Early Grades at Risk from Pandemic Learning Loss," Education Week December 20, 2020; "How COVID-29 Affects the Youngest Learners," Nancy Mugele, Independent Ideas Blog, NAIS, November 19, 2021.*

Figure 2

Two Year Growth by Grade in English Language Arts (ELA)

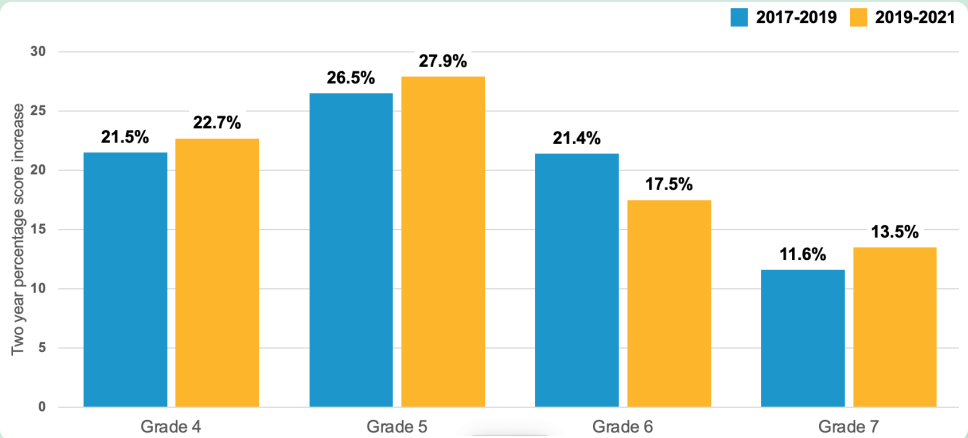


Similarly, Figure 3 shows that the youngest students at the start of the pandemic were not more vulnerable to learning disruption in mathematics. Students who began fourth and fifth grade in 2019 had approximately a 5% greater rate of learning growth over the next two years than their peers who started those grades two years earlier. Students who began 7th grade in 2019 had a 16% greater rate of learning growth than their predecessors in 2017. Only the 6th graders in 2019 appear to have suffered from the pandemic, with an 18% slowing in two-year rate of growth compared to 6th graders in 2017.[4]

[4] *This was the sole instance of non-linearity that we found in the data. It would be valuable to understand whether there is anything in the typical 6th and 7th grade math curriculum that may have been especially vulnerable to COVID disruption.*

Figure 3

Two Year Growth by Grade in Math



Other studies, including our own analysis of COVID influences on learning growth in the first stages of the pandemic, have indicated that weaker students are especially at risk when the normal patterns of teacher and learning support interaction are disrupted. The longer-term view of pandemic influences on learning growth in this analysis shows that the vulnerability of weaker students has also moderated over time. Figure 4 shows that weaker students—those who scored in the 22nd percentile and below on CTP tests prior to the pandemic—experienced less slowing of growth in ELA during the pandemic compared to their more high-performing peers.

In Quantitative Reasoning and Math, high-performing students, particularly those in the top three stanines (78th percentile and above), account for most of the acceleration of learning growth that we observed in Figure 1. Even so, students in the lowest three stanines have not suffered appreciably in learning growth compared to their counterparts in the two years just before the pandemic. In short, the relationship between prior student performance and growth during the pandemic is both muted and inconsistent.

Figure 4A

Difference in Percentage Growth by Gender, Field, and Pre-Pandemic Performance Levels 2017-19 and 2019-21, English Language Arts (ELA)

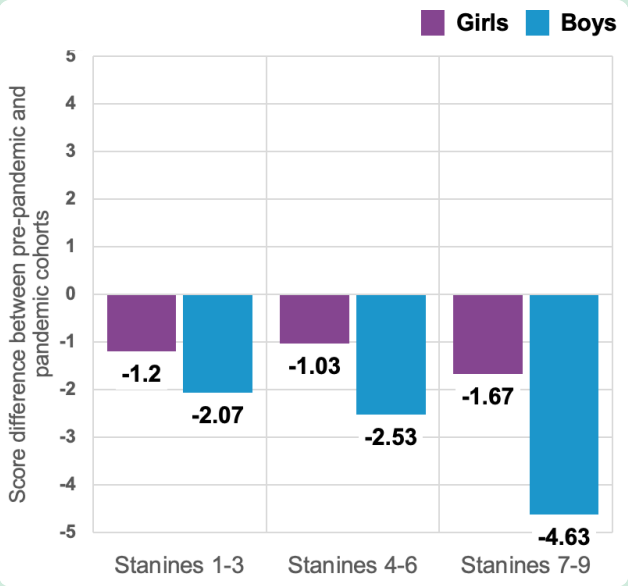
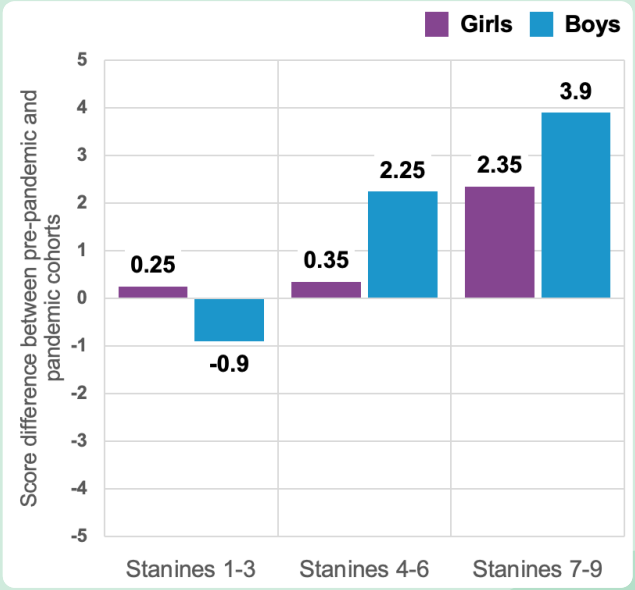


Figure 4B

Difference in Percentage Growth by Gender, Field, and Pre-Pandemic Performance Levels 2017-19 and 2019-21, Math



Conclusion

Although the initial impact of the pandemic was significant as schools closed their doors on very short notice, the longer-term magnitude of the impact can be characterized as "a blip, not a chasm." Independent schools and their students have made a near-complete adjustment to the changed circumstances of teaching, learning and peer interaction during COVID. In the area of mathematics learning growth has, if anything, accelerated since the pandemic began. In a reversal of our findings on the initial impact of the pandemic, the strongest students have been most affected in their relative rates of growth. As schools continue to define a new normal with respect to teaching and learning, however, we may expect these effects to continue to diminish over time.

Test scores, of course, tell only part of the story of student growth and flourishing during the pandemic. Other aspects of student development, such as emotional well-being, academic curiosity and engagement, and sense of fairness and belonging all have heightened importance when normal teacher and peer relationships are disrupted.[5]

Even so, academic achievement remains the cornerstone of the independent school experience, particularly in lower and middle school where the foundations are laid for lifelong learning and effective engagement of the world. Our comparison of CTP data from before and during COVID shows that teachers and students have successfully adapted to COVID-restricted circumstances, enabling learning to continue at the levels that were previously characteristic of independent schools.

For schools planning to test during the coming months, in spring 2022, these findings set a context for what their results might look like. Comparisons of average scores by class or by grade may not line up with the pre-COVID experience to the third decimal, but they will be similar.

Of course, no two students experience a major change in teaching and learning patterns in quite the same way. Spring 2022 test results will be more important than ever at the individual student level in order to understand where each student is and what they need to continue to reach their maximum potential.

[5] *ERB Member Schools have the opportunity to assess these aspects of student thriving through the Check-In Survey.*

Interested in exploring your school's data with the ERB experts?

Each school creates its own distinctive learning environment. Please contact ERB at insights@erblearn.org if you would like to understand more about the impact of virtual and hybrid instruction on the learning growth of students in your school.

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