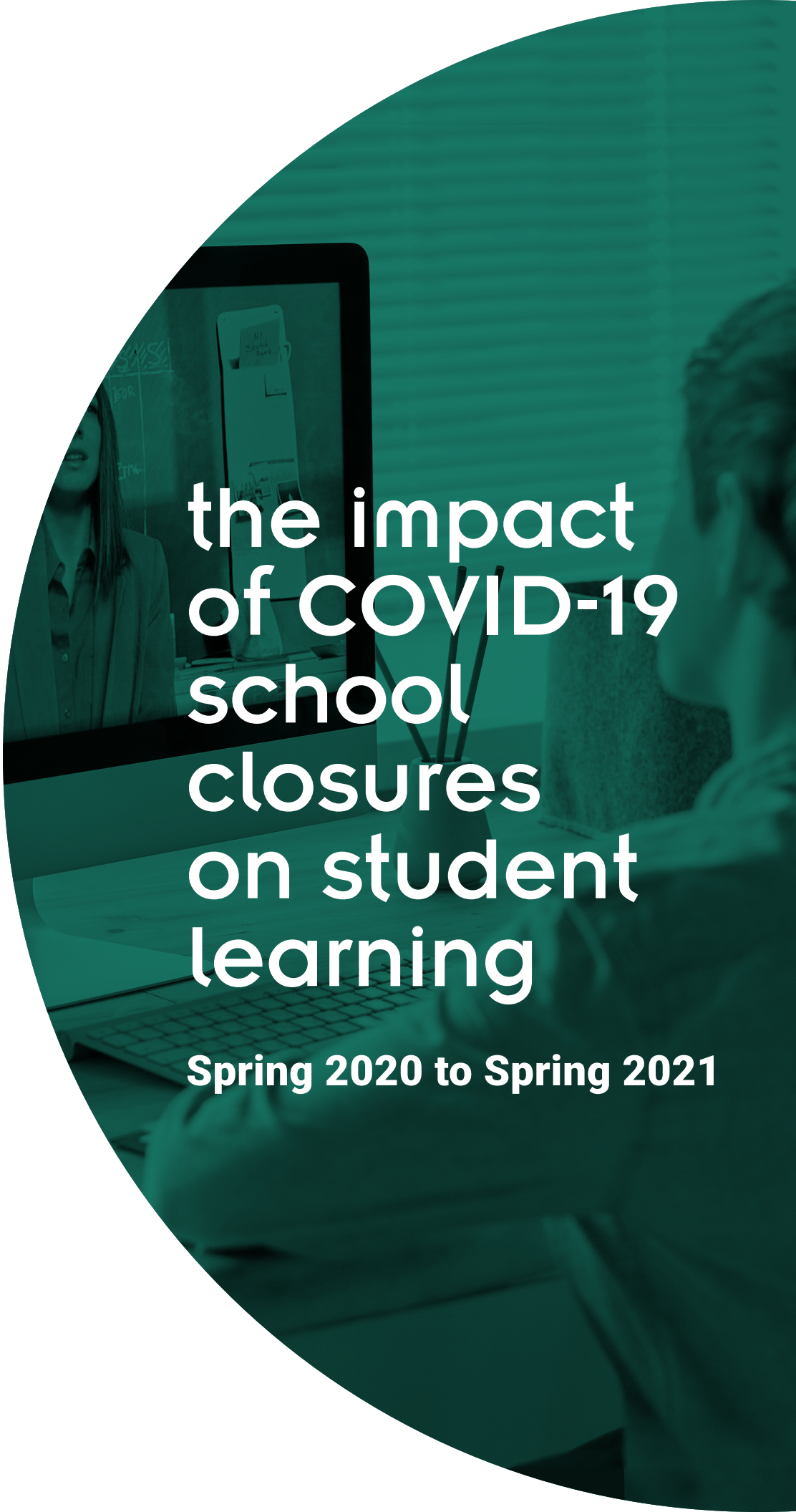

the impact of COVID-19 school closures on student learning

Spring 2020 to Spring 2021

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Executive Summary

We examine the impact of COVID-related disruptions in independent schools from March 2020 through the 2020-2021 school year by comparing test scores in spring 2019, spring 2020 and spring 2021 for independent school students who took ERB's CTP tests in all three years. For those students, learning growth in Math, Reading Comprehension and Writing Concepts and Skills was 19% lower in 2020-2021 than in the previous year. There was also a 9% slowing of growth in Verbal and Quantitative Reasoning. Most of the slowed growth took place during the school closures of spring 2020, with noticeable restoration of pre-COVID learning growth rates during the school year just ending. Students with lower test scores in 2019, before the COVID crisis, showed greater slowing in learning growth, while students in the top quartile actually accelerated their growth since March 2020.

Introduction and Analysis

Last fall, ERB published an analysis of student learning in independent schools during the initial months of the COVID-related school disruption that begin in March 2020. Based on CTP testing data from fall 2018 through fall 2020, we found a 30% slowing of student growth in Math, Reading Comprehension and Writing Concepts and Skills in the 2019-2020 school year, compared to the year before. We found a more substantial slowing of growth—on the order of 50%—in Verbal and Quantitative Reasoning. 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. These results, though substantially more positive than the findings from several studies based on state-mandated testing in public schools, nonetheless show a clear impact due to the sudden cessation of in-classroom instruction in March 2020.

ERB Member Schools have now completed an additional year of education under pandemic influences. Some schools had students in the classroom all year and some were 100% virtual, but most employed a hybrid of the two. No matter what instructional format was adopted in a given school, the pandemic left its marks on the personal, as well as professional, lives of students, teachers and staff. In response, social-emotional and mental health considerations often played a larger role in educational priorities. This reallocation of time naturally made it difficult to cover the usual range of academic material during the 2020-2021 school year.

For these reasons, we repeated our previous analysis, this time based on test data from spring 2019 through spring 2021. By following the same students before and after the initial COVID-related disruptions of spring 2020, we are able to determine the impact on students' academic growth stemming from the many changes forced by the pandemic[1]. All spring 2020 CTP tests used in this analysis were administered prior to the nation-wide closure of school facilities in March 2020. The 2020 to 2021 growth analysis therefore encompasses the entire period of COVID-related disruption to date[2].

[1] *CTP assessments, administered to students in grades 1 through 9, are scored on a vertical scale that allows measurement of student growth from year to year. The data are organized in a way that makes it possible to track individual students over time rather than just examining aggregate change in the population of test takers. The analysis in this paper tracks students who took CTP tests in spring 2019, spring 2020 and spring 2021.*

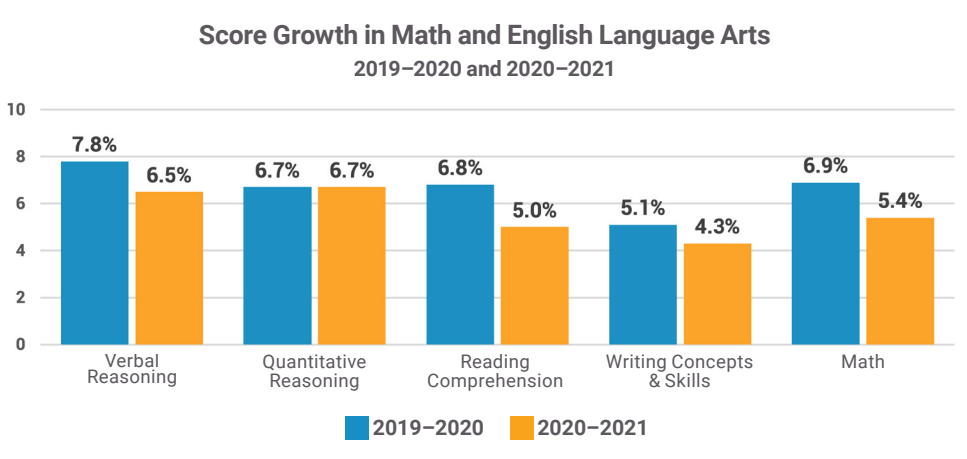
[2] *The analysis presented here is based on spring 2021 test results scored as of May 20. Spring test results continue to come in; we will update these data on or before August 1.*

Figure 1 shows the difference between one-year growth in student learning from just before the pandemic (spring 2019 to spring 2020) to the year of the pandemic itself (spring 2020 to spring 2021). Data from grades 2 through 7 are combined in this graph, though inspection of the results for each grade shows a great deal of consistency.

COVID-related disruptions did reduce the rate of student learning from March 2020 through May 2021. Figure 1 shows that student growth from 2020 to 2021 in Math, Reading Comprehension, and Writing Concepts and Skills was just over 80% of the amount of growth in those same students from 2019 to 2020. Our previous findings on the impact of the initial COVID disruption in March through June 2020 found a 30% slowing of typical growth compared to the 20% found here for the 2020-2021 academic year. *This means that student learning growth during the just-concluded school year recovered at least one-third of the momentum lost during the initial period of distance learning.*

Figure 1

Percentage change in student scores.



[3] *In our previous analysis we commented that, "As private and independent schools master the art of hybrid programming, […] it will be important to incorporate instructional elements designed to compensate for the loss of momentum in […] quantitative and verbal reasoning skills—not just knowing the subject material but being able to use that material to solve new problems." This has clearly happened!*

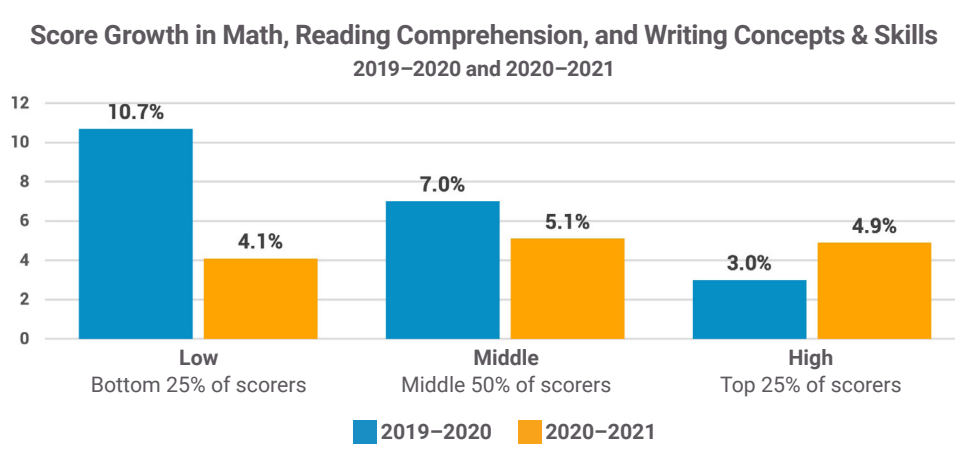
Our analysis of the spring 2020 disruption also found that learning growth was cut in half in our measures of Quantitative Reasoning and Verbal Reasoning. In contrast to the impact of the initial March 2020 school disruption, Figure 1 shows that growth in reasoning skills was little impaired during the 2020-2021 school year. Student growth in Verbal Reasoning was 17% less than the pre-COVID year of 2019-2020, while growth in Quantitative Reasoning in 2020-2021 was the same as in the previous year. Whether utilizing in-person instruction, distance learning, or some combination of the two, independent schools have been able to overcome the challenges of effective education during the pandemic[3].

The educational success profiled in these findings do not, of course, apply to every student. Studies of COVID-related impacts on learning—including our study of the spring 2020 disruption—found a disproportionate impact on students with the greatest learning challenges prior to the pandemic. That continues to be the case.

Figure 2 shows that students who scored in the bottom quartile of independent school performance in spring 2019 had test score growth of over 10% in thee CTP subject tests during the following pre-COVID school year, 2019 - 2020. This compares to test score growth of 7% among students in the middle two quartiles and just 3% among students in the top quartile. This is the usual pattern of growth from one year to the next, reflecting the fact that learning growth is never linear. Some students in the low performing group in any given year are ready to accelerate their growth, aided of course by the fact that teachers and learning specialists are paying special attention to their needs. Students in the bottom quartile also have more opportunity for growth, since there is more to be learned at their grade level.

Figure 2

Percentage change in student scores by performance bucket.

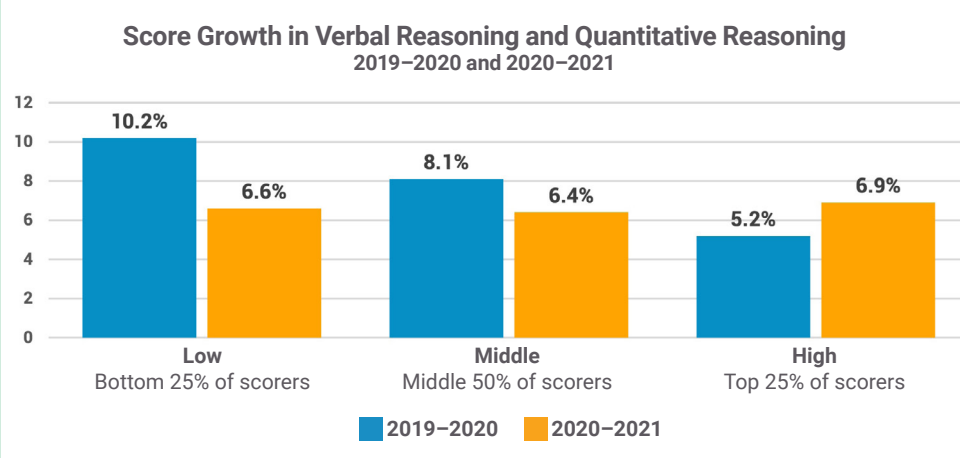


In the pandemic-disrupted period that began in March 2020, however, that typical pattern of growth changed significantly. The amount of test score growth over that period was almost indistinguishable between the three groups, ranging from 4.1% in the lowest group to 4.9% in the highest group. While the consistency in learning growth across student performance levels may at first seem gratifying, it is important to note that the lowest performing student group was actually the most disadvantaged compared to the growth they would have experienced without COVID-related disruption. The strongest students proved to be most flexible in adapting to a changed learning environment. Students in the top quartile of performance actually accelerated their learning during the 2020-2021 school year, compared to the year before.

The same pattern appears in student growth in quantitative and verbal reasoning. The strongest students seem not to rely on teacher interaction as much as others to incorporate new knowledge into their reasoning process, and in their ability to employ new information in problem-solving success.

Figure 3

Percentage change in student scores by performance bucket.



Studies of COVID learning loss based on test data from public school systems have consistently found greater learning disruption among students from underrepresented groups and among girls, particularly in math. Although ERB does not require CTP test takers to specify their racial or ethnic identities, we are able to look for pandemic-related learning differences related to gender.

As we saw in Figures 2 and 3, COVID-related disruption of instruction and other aspects of student life had the greatest impact on learning among the lowest-achieving students. Figure 4 shows that this is about equally true of girls and boys, though learning growth among girls in the lower and middle quartiles suffered slightly less than among boys. Top quartile students accelerated their learning growth during 2020-2021 compared to the previous year, and that was particularly true of high achieving girls. We found no difference between Math and English Language Arts, contrary to the COVID learning loss data from public school systems that has generally found a more significant impact on math scores.

Figure 4

Percentage change in student scores by performance bucket.

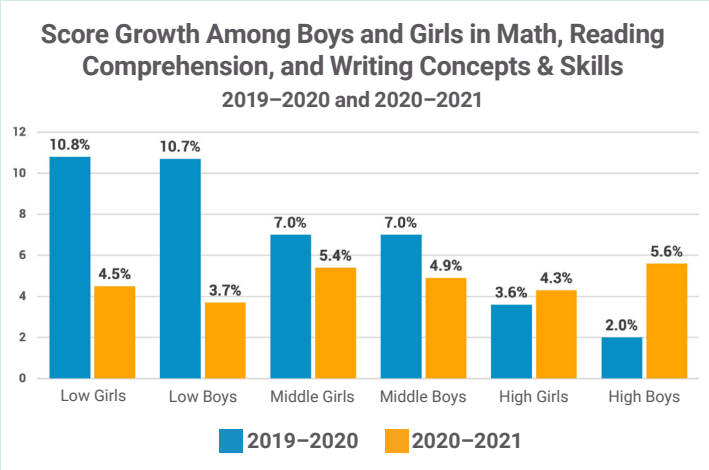
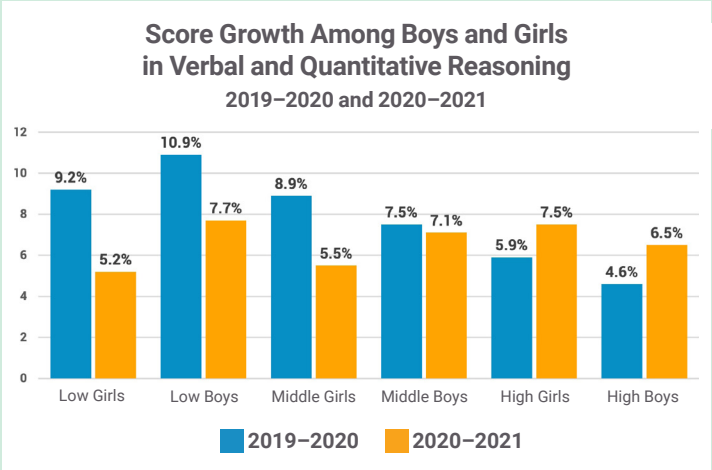


Figure 5

Percentage change in student scores by performance bucket.



High performing girls were also more successful than boys in advancing their Verbal and Quantitative Reasoning skills during the pandemic disruption. Once again, the changed learning environment was felt most keenly by the low and middle student achievement groups. See Figure 5.

Conclusion

While presenting the results of our earlier analysis of student learning during the March to June 2020 closure of schools, we tended to be met by equal parts fascination and resistance to the idea that school success during the pandemic should be defined in terms of an unchanged rate of student learning.

We could not agree more with the latter sentiment. A school environment must be more than a factory for the acquisition of a standardized body of information, as Olaf Jorgenson and Percy Abram phrased it in their polemic "The Dark Side of Rigor[4]." They support an approach to rigor defined not by the volume of work assigned but instead by challenge, engagement, and intellectual richness. That emphasis, which surely no one would dispute, relies on reaching student hearts as well as minds. Engaging the whole student, in turn, requires attentiveness to the student's well-being, their physical and emotional preparedness to participate in a compelling learning environment that results in intellectual enrichment and empowerment. As we know, student well-being took a significant hit during the pandemic for many reasons that extend well beyond the reduced level of contact with teachers and peers. Educators adjusted appropriately.

We regard our findings on student learning during the 2020-2021 academic year, then, not as a report card on school performance but rather as a sign-post indicating where educational leaders need to focus as the physical and emotional constraints of the COVID-19 pandemic are gradually relaxed. Our data point to two primary considerations: repairing the damage done to the weakest students, and refining the successful experiment of independence for the strongest students.

Classroom and instructional limitations had the greatest impact on the weaker students in independent schools. The reasons for this may well extend to family and other personal circumstances beyond the school's control, but it is also reasonable to believe that such students benefit most from the consistency and discipline of a daily class schedule. We should not overstate the extent of slowed learning momentum, which was modest even among students in the bottom quartile of independent school performance. Even so, teachers and administrators will need to be particularly attentive in the coming year to those students who already needed the most assistance before the pandemic struck.

The experience of students in the top quartile of independent school performance was very different—their learning actually accelerated during the disruption that began in March 2020 and continued through the 2020-2021 school year. It is apparent that the relative independence afforded in virtual and hybrid instructional models resulted in a further blossoming for those students who were already the most adept learners. While a full-time return to an unpartitioned classroom will surely be a blessing for all, teachers and administrators will want to consider how to retain some of the independence and challenge that came with COVID-era restrictions.

[4] *Independent School Magazine, Summer 2021: https://www.nais.org/magazine/independent-school/summer-2021/the-dark-side-of-rigor*

Of course, each student is unique and no individual is defined by their CTP test score stanine. Some of the lower-performing students maintained or accelerated their learning during the COVID-influenced school year, and some of the top-performing students struggled. There is no substitute for a teacher's understanding of the learning environment most supportive for each individual student. Broadly speaking, though, the instructional stresses created by the COVID-19 pandemic reinforced the lesson that schools must focus on their weaker students during times of disruption, while the strongest learners show a high degree of flexibility with respect to learning environments.

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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