Student Achievement Gap due to COVID Pandemic

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Abstract

We are analyzing data collected during the COVID-19 pandemic and the related student achievement gaps. Our research includes questions such as "how does COVID-19 impact students?", "why are some students falling behind?", and "how is student success compared online vs in person?" We also study teachers' challenges on how they maintain control in a virtual setting and their creativity with their lessons. We address how the pandemic had a large impact on systemic inequalities and lower income households. We compare statistics of achievement before, during, and after COVID-19 protocols to see how it has affected students' learning. We examine data on the support students received during the pandemic that include academic, behavioral, social-emotional, and physical support. We assess the impact of the COVID-19 pandemic on school budgets and programs. Lastly, we analyze the data collected on how schools plan to address the adverse impacts of COVID-19 and their plan to rebuild and move forward.

Problem

One of the main issues that was brought to light from the pandemic was a lack of a contingency plan due to a natural disaster or pandemic:

- Many schools were unprepared for move to online learning with many teachers needing to learn how to use certain applications for the first time.
- Students with lower incomes had many issues with owning a computer, having a stable internet connection, or having a quiet place to study.
- Those that do have access to computers also struggle with the transition from using it for leisure purposes to studying, with many distractions coming from online gaming, social media, and surfing the web.
- The pandemic also affected everyday living with low income families struggling with health, work crises, and providing support for students online learning.
- Distance learning is harder to implement for students in certain groups, including students in the youngest grades, students with disabilities, and students learning English.
- Students have had their graduation delayed because of the pandemic:
  - The four-year graduation rate shows a slight decline of 0.6%. The graduation rate is now 84.2%
  - The five-year graduation rate increased slightly by 0.3%. It is now 87%

There are many studies that show the toll the pandemic has caused to student learning such as CORE Data Collaborative, MAP and STAR Assessments:

- CORE Data Collaborative findings in Grades 4-10 in 18 school districts had two key factors
  - There has been significant learning loss in both English Language Arts (ELA) and Math, with students in earlier grades most affected.
  - The equity impact is severe—certain student groups, especially low-income students and English language learners (ELLs), are falling behind more compared to others.
- Year to year, students are expected to learn new content and develop new skills; formative assessments are designed to measure student growth throughout the year towards grade-level standards. Concerns about "learning loss" are concerns that students aren't learning content and mastering skills at the same rate that they typically would be as if they were in school.
- There has been significant learning loss in both English Language Arts and Math, with students in earlier grades most affected
- What was compared: "learning during COVID" (Fall 2019 to Fall 2020) vs Fall-to-Fall learning in three prior years.

  Analysis Include:

  - 6 Districts in California that administer the MAP Assessment.
    - MAP Assessment: assessment for measuring achievement and growth in K–12 math, reading, language usage, and science
  - 12 Districts in California that administer the STAR Assessment.
    - STAR Assessment: assess for reading, math and early literacy

The pandemic caused a ripple effect that affected not only learning habits, but also living habits. As school moved to online learning many of the school benefits have become unavailable:

- Many low-income families not only had students going to school to learn but also a place for students to stay while the parents or guardians worked.
- Many low-income families also benefited from the school providing school lunches to feed the students, and when the schools were closed they suffered from the loss of free lunches.
- For children who were already living in cramped and less-than-ideal situations, having all family members in the house makes the regular challenges of daily life much greater. Increased incidences of abuse due to confinement, stress, and lack of access to outside support further affirm the urgency of addressing the stressors that are affecting families and, in turn, their children's development and ability to learn.
- Due to inequitable access to healthcare, income inequality, and disproportionate employment in high-risk, "essential" jobs, low-income, Black, and Latinx communities are suffering most from the health and economic impacts of the pandemic.

Research

Figure 2 displays the overall learning change results by grade, subject, and assessment in scale score points on the MAP or STAR assessment scale.

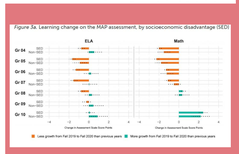


Figure 3 displays the learning change on the MAP Assessment and the STAR Assessment by socioeconomic disadvantage.

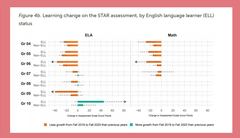
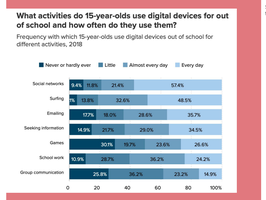
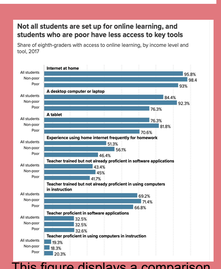


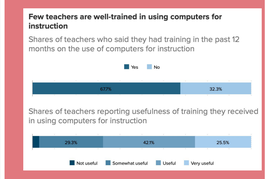
Figure 4 displays the learning change on the MAP Assessment and STAR Assessment by English Language Learners (ELL)



This figure displays theresults of "What activities do 15-year-olds use digital devices for out of school and how often do they use them?"



This figure displays a comparison between poor and non-poor students on online learning disadvantages



This figure shows the results of teachers who said they had been trained in the past 12 months on the use of computers for instruction and how useful the found the training they received

Conclusions

In this analysis, we used data from 18 districts in the CORE Data Collaborative to try to shed light on the inequalities in learning that have been introduced as a result of the pandemic.

In California, the COVID-19 pandemic had school opportunity gaps that disproportionately affected low-income students and English Language Learners (ELL).

There was substantial "learning loss" in both ELA and Math in schools in California.

Assessment scores, chronic absenteeism data and graduation rates underscore the challenges of a year when most students accessed their education through remote learning.

The State Superintendent of Public Instruction, Tony Thurmond said they will "continue to focus [their] energy and resources in supporting our students, families, and educators so they not only recover from the impacts of COVID-19 but thrive in days ahead".

Funding

Governor Newsom signed a $123.9 billion education package that provided "the highest level of K-12 funding in history, including the expansion of after-school and summer programs to accelerate learning and the creation of full-service community schools to address student mental health and wellness needs."

The state of California also received a waiver and removal of the penalty for the "English language arts and mathematics state indicators for participation rates of less than 95%".

Governor Newsom signed "Assembly Bill 86" on March 5, 2021, which "provided $4.6 billion($6.6 billion in total funding) to expand student support". This funding provides "new learning opportunities over the summer, including learning acceleration (e.g., high-dose tutoring), enrichment, and mental health services".

Moving Forward

Going forward there should be contingency plan in placed in case of pandemics or natural disasters. A study shows that we can be better prepared with a properly funded three stage process called the three R's. (Relief, Recovery, and Rebuilding)

Specifically, this three-pronged plan requires making the necessary investments to:

1) put school systems on a solid footing to provide effective remote instruction and supports at scale as the crisis continues to play out (the "relief" phase)

2) make new investments to help schools and students compensate for lost time and ground during the period of quarantine (during the "recovery" phase)

3) lay the foundations for a shift toward an education system that understands the complexity of education production and its multiple components, untaps children's talents, works equally for all students, and reflects the value we place on education as a society (in the "rebuilding" phase)

Literature Cited

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