Math Learning Trends & the COVID-19 Pandemic

Background

Zearn is the nonprofit educational organization behind Zearn Math, the top-rated math learning platform used by 1 in 4 elementary students nationwide and one million middle school students. Millions of students have solved over 11 billion math problems on Zearn's platform, which offers real-time data and unique insight into how students learn.

Since March of 2020, data from Zearn's nonprofit online math platform have been used by **Opportunity Insights,** co-founded by Harvard and Brown University researchers. The Opportunity Insights Economic Tracker combines data from partners across sectors with independent academic analysis to give a real-time look at American economic activity. Two of the key indicators are math participation and math progress, for which Zearn has provided aggregated and anonymized data that is nationally representative.

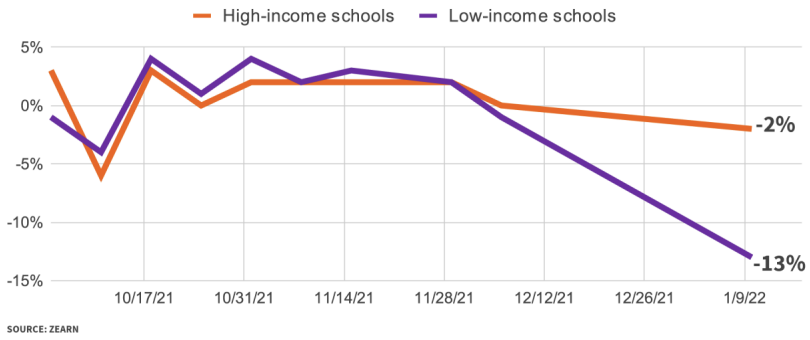
Visibility into math learning during the pandemic

Prior to school closures, no gap existed in Zearn usage between students in low-income versus high-income schools. Yet, when schools across the country closed in March 2020, a significant opportunity gap emerged: participation and progress on Zearn dropped notably for students across all economic backgrounds – and the drop was sharpest for students from lower-income schools. By the end of the 2019-2020 school year, participation among kids in high-income areas had mostly recovered, but usage among students from low-income areas was down 40 percent.

Throughout the pandemic, Zearn data published real-time through Opportunity Insights has provided visibility into how the pandemic is impacting math learning by socioeconomic status and geography. In some communities - counties, metros, and states - the opportunity gap increased dramatically. In others, there was no noticeable difference in math participation and progress between students from low-income and high-income backgrounds.

In January 2022, new research from Zearn showed that a new shock to math learning had emerged midst the Omicron surge, comparable to inequitable trends last seen at the outset of the pandemic. Working with Emily Oster, professor of economics at Brown University, Zearn researchers found students from low-income communities experienced a new and significant impact to their learning during the Omicron surge while students in more affluent communities were largely unaffected.

Figure 1: *Nationwide* change in weekly student participation in online math learning on Zearn, relative to Fall 2021 baseline



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As a nonprofit that believes all kids are math kids, a fundamental part of Zearn's mission is analyzing data, identifying insights and sharing findings to spark progress and equitable innovation. Learn more: ***Platform Insights at Zearn.***