

Leveraging Mathematics Software Data to Understand Student Learning and Motivation

During the COVID-19 Pandemic

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RESEARCH QUESTION

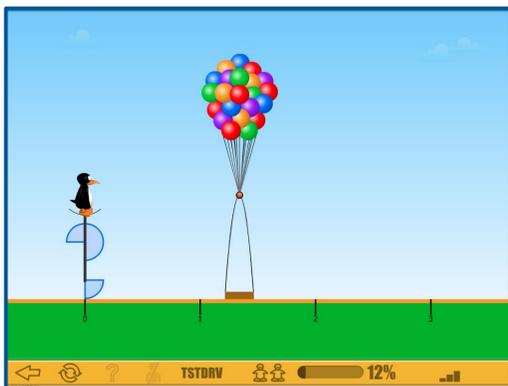
How does the pandemic associate with fourth grade student engagement, performance, and motivation within the ST Math software?

METHOD

One TX district

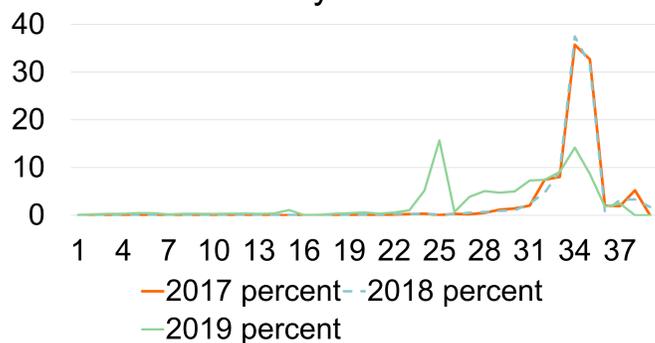
- 2,800 3rd→4th graders 2019-2020 (pandemic cohort)
- 2,653 3rd→4th graders 2018-2019 (prior cohort)
- 30% Hispanic/Latinx, 35% African American/Black, 22% White
- 12% ELL, 65% Free/Reduced Lunch

Difference in difference models comparing across grade and cohort for engagement with software, performance, and motivation.

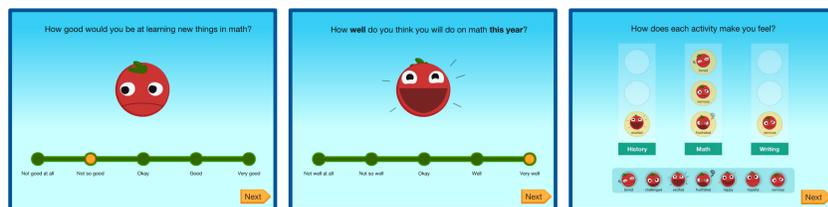


Gameplay within ST Math

Percent of Students' Last Login Date by Weeks

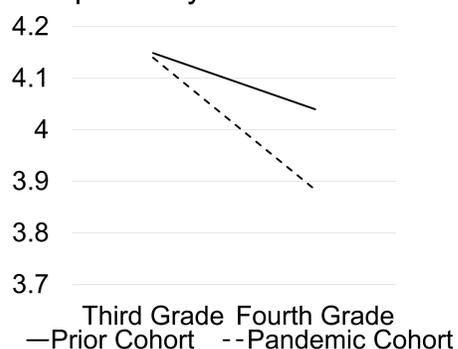


Motivation Results

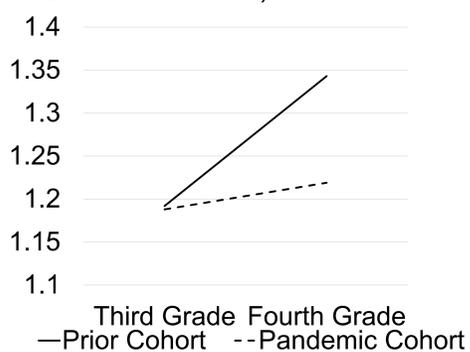


Motivation Measures

Expectancy for Mathematics



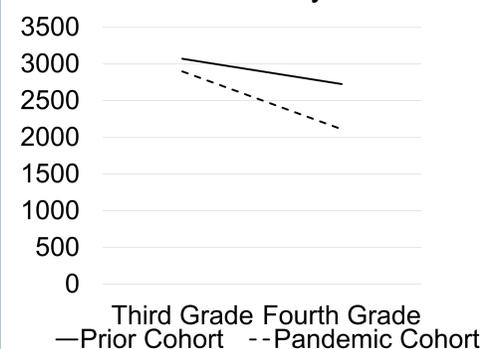
Emotional Cost, Mathematics



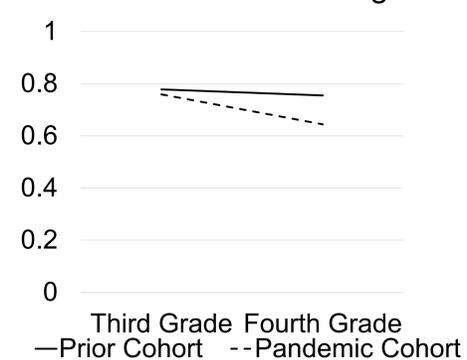
RESULTS

Engagement Results

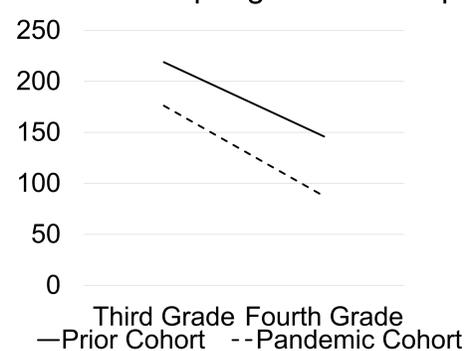
Total Minutes Played All Year



Total Year Content Progress

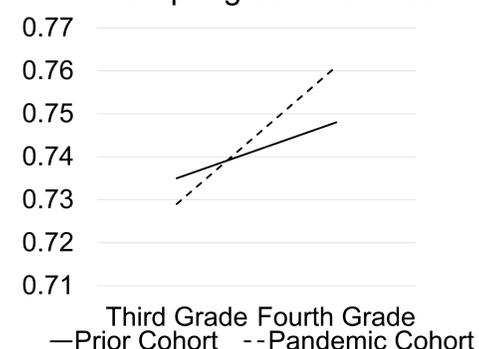


No. of Spring Level Attempts

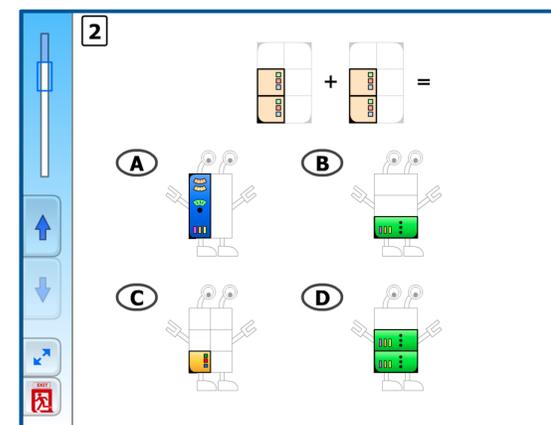
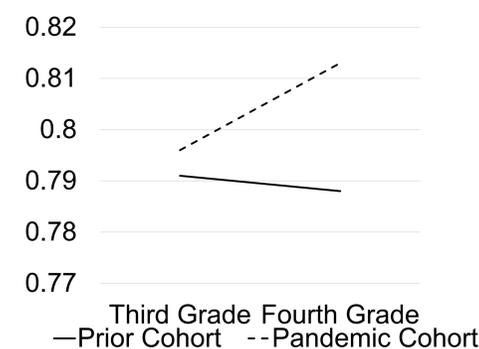


Performance Results

Ave Spring Level Scores



Posttest Ave Score



Posttest Quiz Question

Take-Home Message

Students played less during the pandemic spring, but those who played performed better. Self-efficacy for math went down, but so did negative emotions.

Funding provided by the National Science Foundation, grant #1845584

