Evaluating the Impact of COVID-19 on Student Learning

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What were the predictions?

What do the Fall results show?

Are Test Scores and Norms Valid?

How will we know we’ve disrupted the prediction?
Why look back?
50% households with one device per student

Use of technology has improved

Instruction time decreased 75%

Spotty internet

Abrupt and universal

Trouble-shooting issues

Instruction time decreased 75%
What were the predictions?
The Predictions

Two Sources: “Summer Slide” Research & National Growth Data

Summer Slide

→ Based on summer reading program research
  ◆ Meta-analytic studies
  ◆ Broad reading achievement flat to slight decline
  ◆ By income level
    ● flat to slight increase for middle to high income households
    ● decline of 1-2 mos for low income households

→ National published norms
Adaptive Reading Mean Scores

Grades K-8 from fall 2018-fall 2019
Projecting Learning Loss

FastBridge Cohort Analysis

- Track performance of student cohorts from fall 2018–fall 2019
- Calculate the learning attributed to classroom instruction between spring and fall screening
- Estimate of total learning loss due to the COVID-19 school closures
Projecting Learning Loss (Reading)

Grades K-1 experience largest losses

Grades 4 + small losses

Grades K-3 could be about two months behind

Older students could less than one month behind
Projecting Learning Loss (Math)

Substantial losses across all K-5 grades

Relative to prior years, students could be three to four months behind
Fall 2020 Data

Modeling Growth Relative to Prior Years

- aReading & aMath Universal Screening Data From Fall: 2017, ‘18, ‘19, and ‘20

- Matched Students Across Adjacent Years
  - Fall 2017 to Fall 2018
  - Fall 2018 to Fall 2019
  - Fall 2019 to Fall 2020 (Covid year)

- Calculated Difference of Median Scores between years
  - Yearly growth

- 2017-18 and 2018-19 constitute baseline
- Compared 2019-20 Yearly Growth to Baseline
Median Scores by Grade: aReading

Matched sample Year 1 to Year 2

- Year 1 is initial grade (*combining data from prior years*)
- Year 2 is next highest grade (*combining data from prior years*)
- Year 1c is fall 2019
- Year 2c is fall 2020
- The “error bar” is the SD of the scores
- Compare gain from Year 1 to Year 2 vs Year 1c to Year 2c
Median Scores by Grade: aReading

Matched sample Year 1 to Year 2

Closer look at Grade 4
Median aReading Scores: Grade 4

Matched sample Year 1 to Year 2

- Similar baseline (Year 1 & Year 1c) performance
- Year 2 (same students in grade 5) is noticeably higher than Year 2c
- The difference represents learning loss

2017/2018 Grade 4 Median

Learning Loss
Median Scores by Grade: aMath

Matched sample Year 1 to Year 2

- Year 1 is initial grade (combining data from prior years)
- Year 2 is next highest grade (combining data from prior years)
- Year 1c is fall 2019
- Year 2c is fall 2020
- The “error bar” is the SD of the scores
- Compare gain from Year 1 to Year 2 vs Year 1c to Year 2c
Median Scores by Grade: aMath

Matched sample Year 1 to Year 2

Closer look at Grade 6
Baseline (Year 1) performance is slightly higher in 2019.

Year 2 (same students now in grade 7) is noticeably higher than Year 2c.

The difference between Year 2 and Year 2c plus the difference (Year 1c - Year 1) represents learning loss.

2017/2018 Median
aReading Annual Gains by Grade

Matched sample Year 1 to Year 2

- Average annual fall-to-fall gain by grade
- pre-Covid: 2017-19
- During Covid: 2019-20
- Standard error of the mean (error bar) using typical school counts by grade
- The difference represents learning loss
aReading Annual Gains by Grade

Matched sample Year 1 to Year 2

- Average annual fall-to-fall gain by grade
- pre-Covid: 2017-19
- During Covid: 2019-20
- Standard error of the mean (error bar) using typical school counts by grade
- The difference represents learning loss
aMath Annual Gains by Grade

Matched sample Fall to Fall

- Average annual fall-to-fall gain by grade
- pre-Covid: 2017-19
- During Covid: 2019-20
- Standard error of the mean (error bar) using typical school counts by grade
- The difference represents learning loss
KG Fall Scores: aReading

All Students Tested Through October

- Median Scores by Year
- About a 1 point variation (trivial) across 2017-19
- Noticeably higher performance in 2020
  - Note: we are seeing evidence of student’s being aided during remote testing
**KG Fall Scores: aMath**

All Students Tested Through October

- Median Scores by Year
- <0.5 point variation (trivial) across 2017-19
- Noticeably higher performance in 2020
  - Note: we are seeing evidence of student’s being aided during remote testing
Learning Loss Relative to Monthly Growth Rates

- **Reading**
  - Less than 1 mos loss Grades 1 - 4
  - 1 - 3 mos loss Grades 5 - 8
- **Math**
  - Less than 1 mos loss Grades 1 - 3
  - >3 mos loss Grades 4 - 8
Are Assessments Valid?

Does the anticipated performance decline invalidate the norms?

- Assessment procedures have changed
  - **Claim:** Assumes the changes impact performance
  - Where appropriate, procedures have been modified to accommodate distance assessments.
- Main threats to validity are: connectivity, motivation, and increased probability of someone helping the examinee answer questions
  - Preponderance of evidence suggests scores are valid
  - Some evidence of unusually high scores on computer delivered tests (e.g., aReading/aMath)
Are Norms Valid?

Does the anticipated performance decline invalidate the norms?

- Norms represent the performance of a student population under *typical* circumstances and *standardized* administration procedures
  - **Claim**: The current circumstances are not typical, so norms are invalid
    - The meaning of the norms has not changed
      - Assumes instruction and learning will be permanently degraded
    - Adjusting norms now will lower expectations AND will quickly become invalid
Next Steps

- **For Illuminate R&D**
  - Continue to evaluate data from a national perspective
  - Use data analytics to account for the variation in learning loss
  - Monitor trends
  - Communicate findings to customers

- **For Customers**
  - Carefully review Fall Screening results
    - Look for atypically large losses and gains
    - Triangulate results
    - Compare to national results
  - Stay focused on Tier 1 instruction
  - Conduct winter screening
How will we know we have disrupted the prediction?
## The Critical Need for Data

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<th>How Assessment Data are Used</th>
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Conduct Fall Screening
Build Strong Core Instruction
Provide Social Emotional Supports
Monitor Progress
Focus on Growth over Remediation
“Do No Harm”
Understand Risk Factors
Thank you for attending!

Want to learn more? Reach out to us at: illuminateed.com/disrupt