

# The Impact of COVID-19 on Student Reading Development

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Dr. Jacob S. Gray and Dr. Kelly A. Powell-Smith are employees of Acadience Learning Inc. (ALI).

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## Webinar Agenda

- ▶ Introduction & Context
- ▶ Methodology
- ▶ Findings
- ▶ Implications
- ▶ Questions & Answers



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## Introduction

- ▶ School closures have been adopted as a ubiquitous intervention
  - ▶ And many schools that are open have opted for remote learning
- ▶ Natural disasters have a history of disrupting education
  - ▶ COVID-19 is a natural disaster writ large
  - ▶ 1.5 billion student's have had schooling disrupted
  - ▶ Largest disruption in history (UNESCO, 2020)



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## Pandemics and School Closures

- ▶ The recent Ebola and H1N1 pandemics also resulted in school closures
  - ▶ School closures in Guinea and Sierra Leone resulted in increased drop-out to this day (Smith, 2020)
  - ▶ No closures have been this widespread for so long
- ▶ The impact on the development of student skills is still to be determined
  - ▶ We are presenting preliminary answers to this question

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## Methods

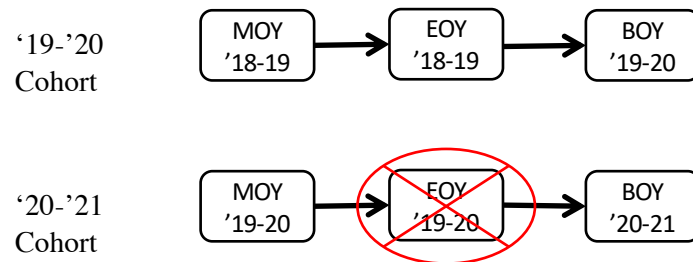
- ▶ The focal comparison was between Fall of the 2019-20 and 2020-21 school years
  - ▶ A comparison of raw means can be deceiving
  - ▶ Important to control for previous performance
  - ▶ Only included students who had MOY data of previous year through the next fall (see next slide)
- ▶ This provided a natural quasi-experiment
  - ▶ Fall of 2019 was our “control” group
  - ▶ Fall of 2020 was our “experimental” group

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## Cohorts

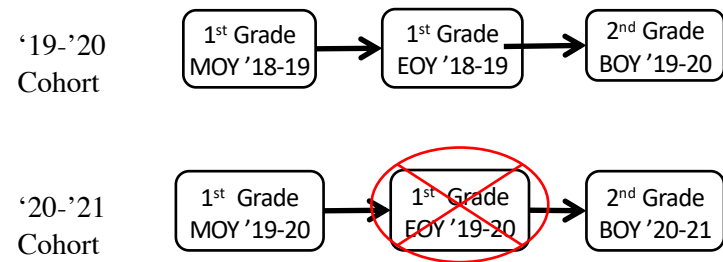


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## Cohorts- Second Grade Example



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## Sample Sizes

Grade	2019-2020	2020-2021	Total
First	153,503	108,407	261,910
Second	107,172	94,981	202,153
Third	95,170	78,885	174,055
Fourth	74,022	67,372	141,394
Fifth	62,819	58,267	121,086
Sixth	28,802	26,416	55,218

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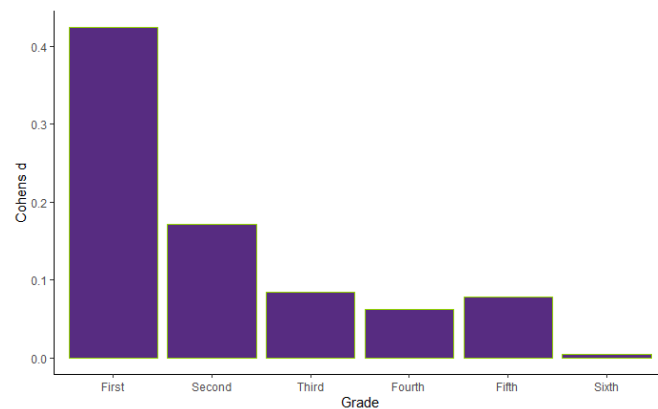
## Findings

- ▶ Students scored significantly worse the fall of 2020 than in 2019
- ▶ This effect was present for both benchmark status and the Reading Composite Score
- ▶ Effect was largest at earlier grades

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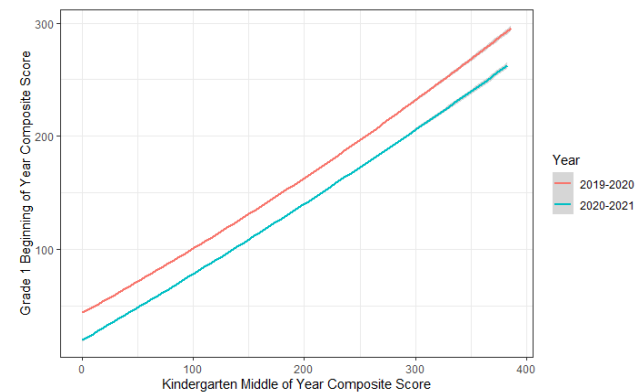
## Effects are largest at First Grade



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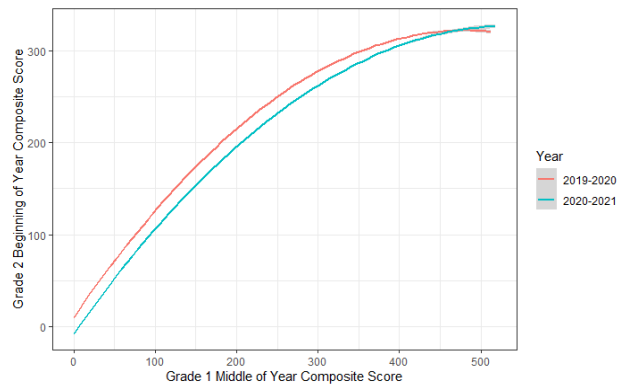
## RCS at G1 BOY 2019 vs 2020



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### RCS at G2 BOY 2019 vs 2020

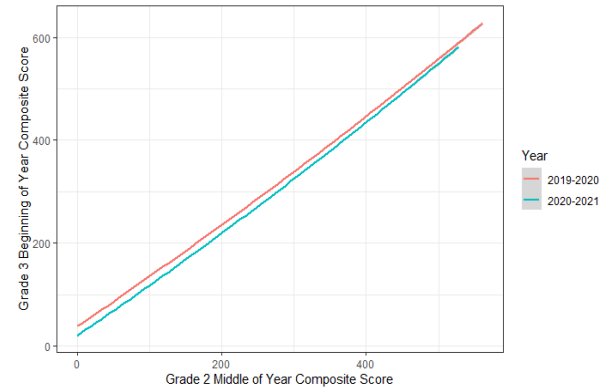


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### RCS at G3 BOY 2019 vs 2020

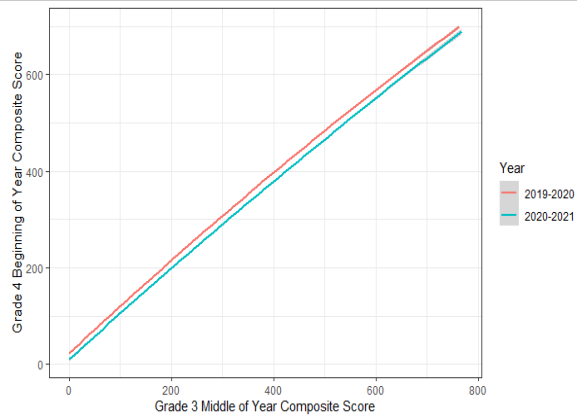


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### RCS at G4 BOY 2019 vs 2020

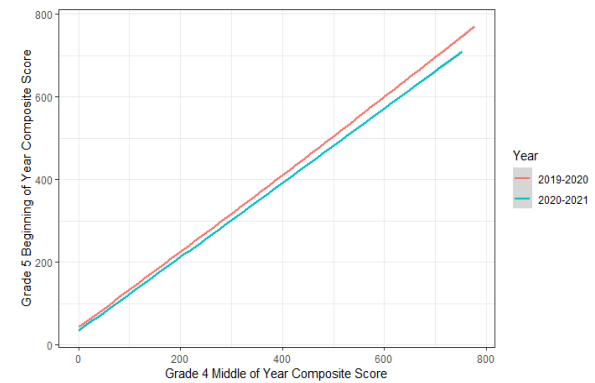


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### RCS at G5 BOY 2019 vs 2020

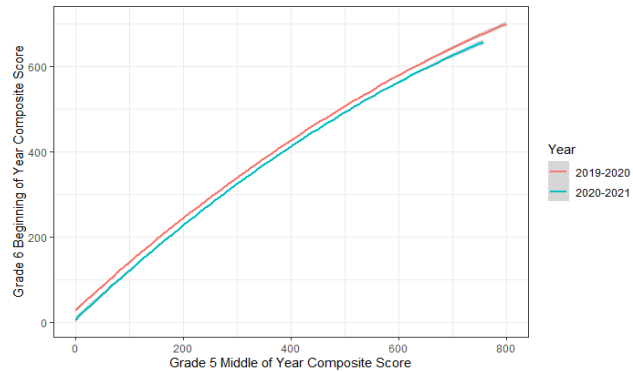


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## RCS at G6 BOY 2019 vs 2020



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## One Slide Benchmark Refresher

- ▶ One key criterion for each benchmark status has to do with the likelihood of meeting later reading goals
- ▶ At or Above Benchmark
  - ▶ 85-90% likelihood of meeting later goals
- ▶ Below Benchmark
  - ▶ 40-60% likelihood of meeting later goals
- ▶ Well Benchmark
  - ▶ 15-20% likelihood of meeting later goals

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## Predicting BOY First Grade Status

Status at MOY K	% At or Above at BOY First Grade 2019	% At or Above at BOY First Grade 2020	Risk Ratio
At or Above	80.4%	57.4%	.71
Below	39.2%	14.9%	.38
Well Below	12.5%	3.2%	.26

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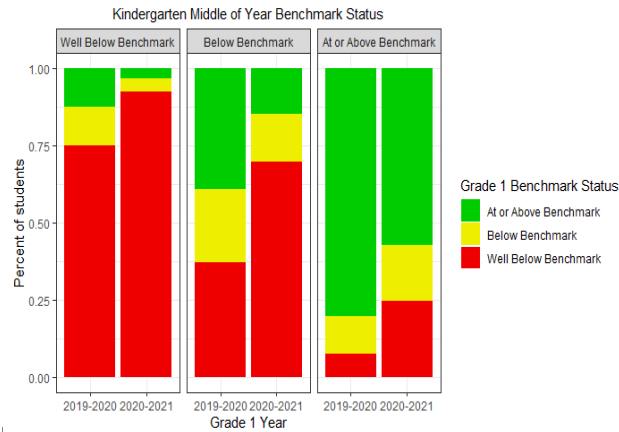
## Predicting BOY First Grade Status

Status at MOY K	% Well Below at BOY First Grade 2019	% Well Below at BOY First Grade 2020	Risk Ratio
At or Above	7.6%	24.7%	3.25
Below	37.1%	69.7%	1.88
Well Below	75.0%	92.4%	1.23

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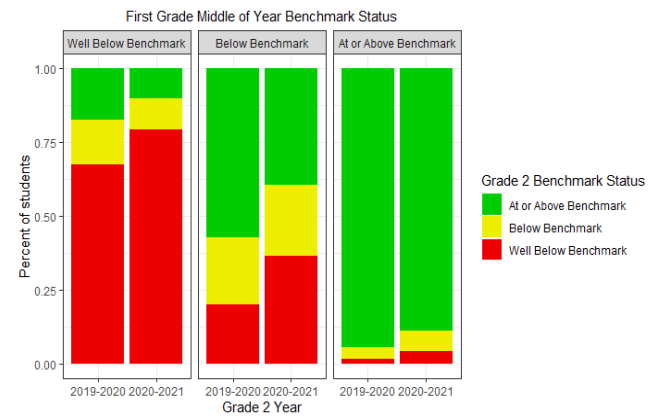
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## K to G1 Benchmark Status - Visualized



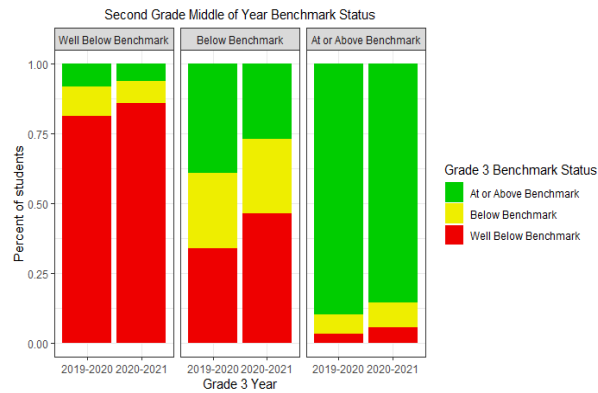
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## G1 to G2 Benchmark Status - Visualized



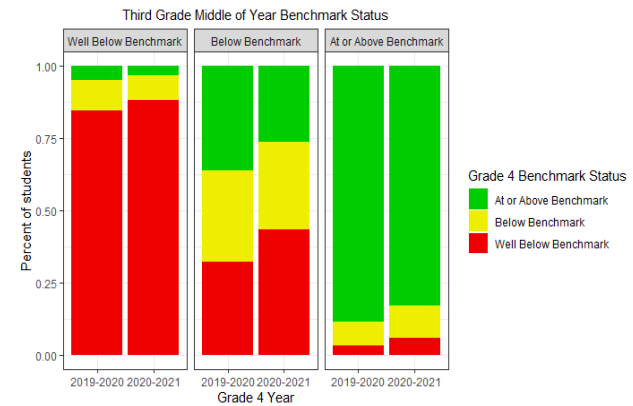
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## G2 to G3 Benchmark Status - Visualized



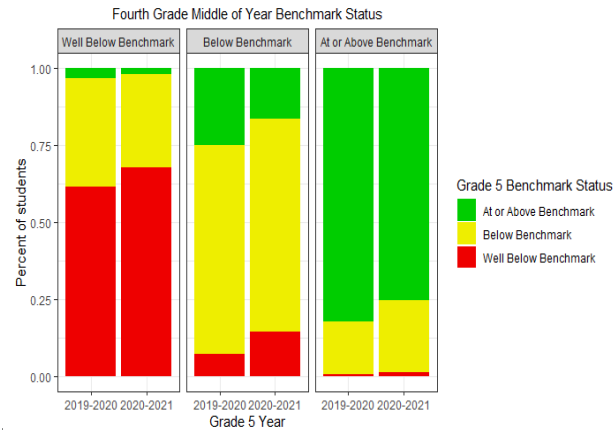
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## G3 to G4 Benchmark Status - Visualized



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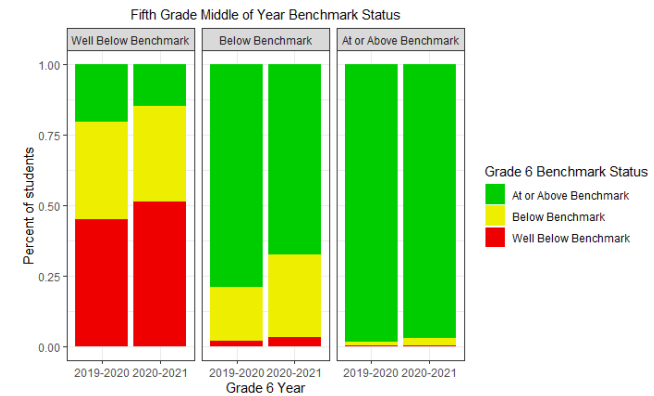
## G4 to G5 Benchmark Status - Visualized



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## G5 to G6 Benchmark Status - Visualized



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## Discussion – Implications

- ▶ Focus attention on those things over which we might be able to exercise some control
- ▶ Refer to the steps of the Outcomes-Driven- Model
- ▶ Approach to data collection may need adjustment
- ▶ Be thoughtful and reflective when setting goals at the system- and school-levels
- ▶ Consider instructional context when making decisions about where to intervene. Tier 1 may be most reasonable target.
- ▶ When making intervention/instructional changes, consider what variables are alterable

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## Outcomes-Driven Model

ODM Step	Question(s)	Data
1. Identify Need for Support	Are there students who may need support? How many? Which students?	Benchmark data: Histograms, Box Plots, Class List Report
2. Validate Need for Support	Are we confident that the identified students need support?	Benchmark data and additional information: Repeat assessment, use additional data, knowledge of information about student
3. Plan and Implement Support	What level of support for which students? How to group students? What goals, <b>specific skills</b> , curriculum/program, <b>instructional strategies</b> ?	Benchmark data and additional information: Individual student booklets, <b>additional diagnostic information</b> , knowledge of information about student
4. Evaluate and Modify Support	Is the support effective for individual students?	Progress Monitoring data: Individual student progress graphs, class progress graphs
5. Review Outcomes	As a school/district: How effective is our core (benchmark) support? How effective is our supplemental (strategic) support? How effective is our intervention (intensive) support? Are we making progress from one year to the next?	Benchmark data: Histograms, Cross-Year Box Plots, Summary of Effectiveness Reports

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## Setting Goals and Monitoring Progress

- ▶ Goals must reflect the need to accelerate learning
  - ▶ Examine Pathways for individual students and at the classroom level
- ▶ Data collection serves as the feedback loop
  - ▶ Frequent progress monitoring for highest need students; consider mid-benchmark for others
  - ▶ Schedule time to review and act
- ▶ Adjust instructional elements when the data indicate that is needed
- ▶ Celebrate accomplishments



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## High-Priority Tier 1 Instructional Targets

- ▶ Grade K: phonemic awareness, apply basic decoding skills to read grade appropriate words, build vocabulary, oral language, and comprehension skills
- ▶ Grade 1: accurately read words in grade appropriate connected text, build vocabulary, oral language, and comprehension skills
- ▶ Grades 2 & 3: accurately read words in grade appropriate connected text; demonstrate knowledge of vocabulary, oral language, and comprehension of grade appropriate text

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## Alterable Variables for Instructional Planning

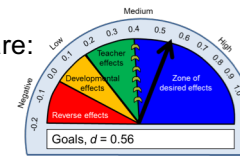
- ▶ Focus or skill addressed
- ▶ Teaching strategy(ies)
- ▶ Personnel
- ▶ Materials
- ▶ Instructional arrangements (grouping, group size)
- ▶ Time allocated
- ▶ Number of opportunities to respond
- ▶ Goals, frequency of feedback & progress monitoring
- ▶ Motivational strategies

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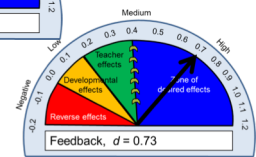
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## The Power of Goal Setting, Progress Monitoring and Formative Evaluation

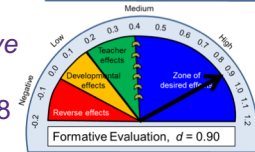
Desirable Goals are:  
Meaningful,  
Attainable,  
Ambitious



Feedback to teachers & students:  
Is what we are doing working?



Progress Monitoring and Formative evaluation is the 3<sup>rd</sup> largest effect on student achievement out of 138 possible influences.



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## Discussion – Next Steps in Our Research

- ▶ Examine school-level factors & demographic characteristics (e.g. FRL %)
- ▶ Examine state-level differences
- ▶ Examine other academic skill areas (e.g., math)
- ▶ Examine Winter data to know what adjustments have been made



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## Conclusions

- ▶ The COVID-19 Pandemic has created a dramatic disruption to nearly every aspect of life globally, including schooling.
- ▶ We found a dramatic impact on students' reading skill development, particularly in the early grades.
- ▶ Despite concerning findings, educators have tools at their disposal for:
  - ▶ gauging students' skills
  - ▶ setting meaningful, ambitious, and attainable goals, and
  - ▶ tracking student progress toward important educational outcomes and adjusting instruction when needed.
- ▶ Federal money (ESSER-II) is available to schools to support efforts to address learning losses related to the pandemic (e.g., summer or after-school programs, assessments, instructional resources, technology).

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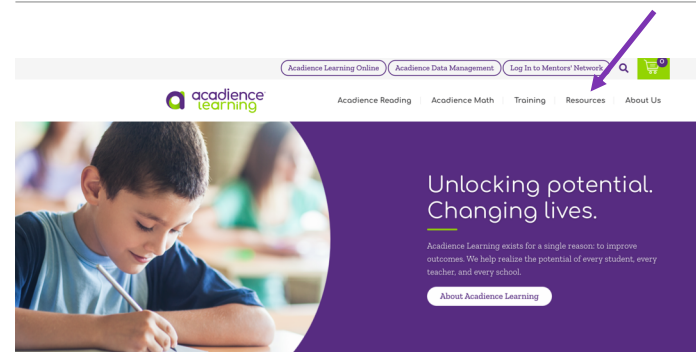
## Questions



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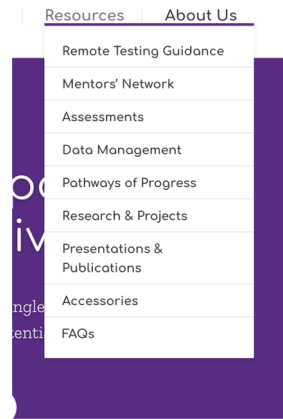
## Read Our Technical Brief



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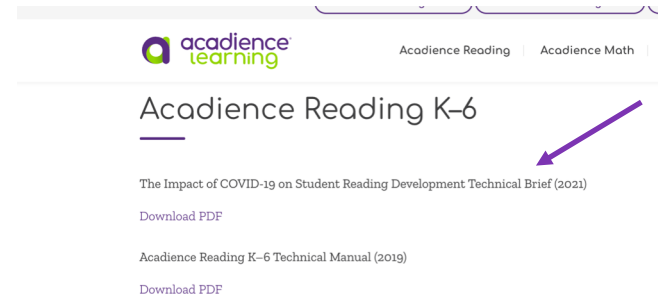
## Read Our Technical Brief



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## Read Our Technical Brief



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## Read Our Technical Brief

ACADIENCE LEARNING INC.

**The Impact of COVID-19 on Student Reading Development**

Jacob S. Gray  
Kelly A. Powell-Smith

Acadience Learning Inc.  
Technical Report No. 29

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## For Additional Information...

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## Resources

- ▶ More information on federal funds available:
  - ▶ [Fact Sheet on ESSER and ESSER-II](#)
  - ▶ [10 Questions About the Stimulus for Schools, Answered](#)
- ▶ More information on Explicit Instruction
  - ▶ <https://explicitinstruction.org/>
- ▶ More information on diagnostic assessment
  - ▶ <http://www.acadiencelearning.org/acadience-reading/diagnostic/>
- ▶ More information on using data to inform instruction
  - ▶ <http://www.acadiencelearning.org/training/>

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- Smith, W. C. (2020). Potential long-term consequences of school closures: Lessons from the 2013-2016 Ebola pandemic.
- UNESCO. (2020). Global monitoring of school closures caused by COVID-19. UNESCO.  
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outcomes for students,  
teachers and schools.**

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**Table 3***Percentage Making Adequate Progress and Relative Risk by Prior Benchmark Status and Year*

	Percent of students At or Above Benchmark on beginning-of-year Reading Composite Score based on previous middle-of-year status for 2019-2020	Percent of students At or Above Benchmark on beginning-of-year Reading Composite Score based on previous middle-of-year status for 2020-2021	Relative Risk
First Grade			
-At or Above Benchmark	80.4%	57.4%	.71
-Below Benchmark	39.2%	14.9%	.38
-Well Below Benchmark	12.5%	3.2%	.26
Second Grade			
-At or Above Benchmark	94.4%	90.0%	.95
-Below Benchmark	57.2%	39.5%	.70
-Well Below Benchmark	17.6%	10.2%	.58
Third Grade			
-At or Above Benchmark	90.0%	85.5%	.95
-Below Benchmark	39.2%	27.0%	.69
-Well Below Benchmark	8.1%	6.2%	.76
Fourth Grade			
-At or Above Benchmark	88.6%	83.1%	.94
-Below Benchmark	36.1%	26.2%	.73
-Well Below Benchmark	4.8%	3.3%	.69
Fifth Grade			
-At or Above Benchmark	82.3%	75.5%	.92
-Below Benchmark	25.1%	16.8%	.67
-Well Below Benchmark	3.3%	2.1%	.64
Sixth Grade			
-At or Above Benchmark	98.4%	97.0%	.98
-Below Benchmark	79.3%	67.6%	.85
-Well Below Benchmark	20.4%	14.7%	.72

**Table 4***Percentage Needing Intensive Support and Relative Risk by Prior Benchmark Status Year*

	Percent of students Well Below Benchmark on beginning-of-year Reading Composite Score based on previous middle-of-year status for 2019-2020	Percent of students Well Below Benchmark on beginning-of-year Reading Composite Score based on previous middle-of-year status for 2020-2021	Relative Risk
First Grade			
-At or Above Benchmark	7.6%	24.7%	3.25
-Below Benchmark	37.1%	69.7%	1.88
-Well Below Benchmark	75.0%	92.4%	1.23
Second Grade			
-At or Above Benchmark	1.5%	4.3%	2.87
-Below Benchmark	20.1%	36.4%	1.81
-Well Below Benchmark	67.6%	79.3%	1.17
Third Grade			
-At or Above Benchmark	3.2%	5.4%	1.70
-Below Benchmark	33.9%	46.4%	1.37
-Well Below Benchmark	81.4%	85.9%	1.06
Fourth Grade			
-At or Above Benchmark	3.3%	5.9%	1.78
-Below Benchmark	32.3%	43.3%	1.34
-Well Below Benchmark	84.6%	88.2%	1.04
Fifth Grade			
-At or Above Benchmark	.6%	1.3%	2.19
-Below Benchmark	7.2%	14.5%	2.00
-Well Below Benchmark	61.6%	67.6%	1.10
Sixth Grade			
-At or Above Benchmark	.09%	.18%	2.01
-Below Benchmark	1.7%	4.7%	2.75
-Well Below Benchmark	45.2%	51.3%	1.35