



**POLICY BRIEF**

# The Effects of Early Literacy Policies on Student Achievement

John Westall, *EPIC, Michigan State University*

Amy Cummings, *EPIC, Michigan State University*

June 2023

**EPIC**

Education Policy  
Innovation Collaborative  
RESEARCH WITH CONSEQUENCE

## ACKNOWLEDGMENTS

The authors wish to acknowledge the many people who graciously gave their time to support this effort. In particular, we thank Scott Imberman, Melinda Morrill, Katharine Strunk, and participants at the AEFP 2022 Annual Conference, the AERA 2023 Annual Conference, Abt Associates seminar, and workshops at Michigan State University for their helpful feedback, discussion, and comments. We also thank Emily Mohr and Meg Turner for coordinating and facilitating the project, Michelle Huhn for her support in developing graphics and formatting this brief, and Bridgette Redman for her excellent copy-editing.

## DISCLAIMER

The Education Policy Innovation Collaborative (EPIC) at Michigan State University is an independent, non-partisan research center that conducts original research using a variety of methods that include advanced statistical modeling, representative surveys, interviews, and case study approaches.

This policy brief is based on a working paper titled “The Effects of Early Literacy Policies on Student Achievement,” which can be found at <https://epicedpolicy.org/wp-effects-of-early-literacy-policies-on-student-achievement/>

The research reported here was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R305B200009 to Michigan State University. The opinions expressed are those of the authors and do not represent the views of the Institute or the U.S. Department of Education.



**Education Policy  
Innovation Collaborative**  
RESEARCH WITH CONSEQUENCE

June 2023

# The Effects of Early Literacy Policies on Student Achievement

John Westall and Amy Cummings

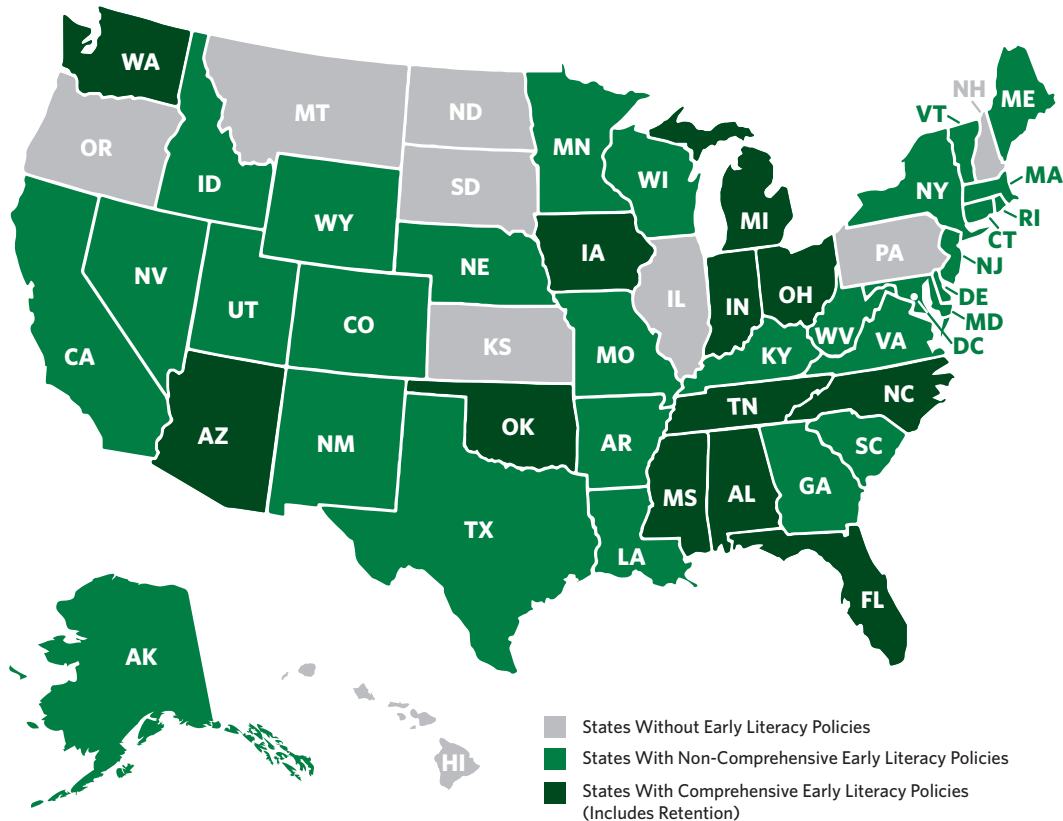
## Introduction

As of 2020, only one-third of fourth and eighth graders could read proficiently, according to the National Assessment of Educational Progress (NAEP).<sup>1</sup> These rates declined even further over the course of the COVID-19 pandemic, with nine-year-olds' average reading performance dropping five points—the largest decline in three decades.<sup>2</sup> Children who struggle to read not only have lower academic achievement but also face adverse social and economic outcomes throughout their lives, including being more likely to drop out of school, experience mental health issues, and be incarcerated or unemployed.<sup>3</sup>

Due to the critical role that early literacy plays in students' long-term success, 41 states and the District of Columbia (see Figure 1) have adopted early literacy policies to improve K-3 reading achievement. While the specifics of these policies vary from state to state, many states' policies share common components. Twelve states have implemented "comprehensive" early literacy policies that encompass 16 possible policy components, including support for teachers and policy implementation, diagnostic assessments and parent notification, evidence-based instruction and intervention, and retention and intensive intervention for students who are still behind in reading at the end of 3<sup>rd</sup> grade.<sup>4</sup>

---

FIGURE 1. Map of States' Early Literacy Policies



Note: Map is based on data from *ExcellinEd*.<sup>5</sup>

Early literacy policies can be expensive for states to implement, with estimates ranging from \$50 million to \$450 million per year.<sup>6</sup> However, despite significant investments by most states, there is limited evidence these policies effectively improve students' literacy achievement or learning. Existing research is limited to single-state settings and relies on high-stakes testing outcomes, which are often criticized for failing to capture genuine student learning.<sup>7</sup>

Our [working paper](#) investigates the effects of early literacy policies on high- and low-stakes reading and math assessments and whether these effects depend on the content of states' policies. We also explore the equity implications of these policies, including whether they affect socioeconomic or racial test-score gaps. This brief summarizes selected findings from the working paper.<sup>8</sup>

## DATA AND METHODS

We use the Stanford Education Data Archive (SEDA) for high-stakes test scores and NAEP for low-stakes scores. In addition, we use *ExcellinEd*'s early literacy database for details on state-level early literacy policies.<sup>9</sup> Our analysis uses differences in the timing and content of early literacy policies across states to see how they affect student achievement. By comparing test scores before and after policies were passed and comparing states with and without early literacy policies, we can estimate how much of an effect early literacy policies had on student performance. We first evaluate how having any early literacy policy, regardless of which components it includes, affects

high-stakes reading outcomes. Second, we examine whether comprehensive policies, which provide a wide range of supports for teachers and students and include third-grade retention mandates, explain any of the effects of these policies.<sup>10</sup>

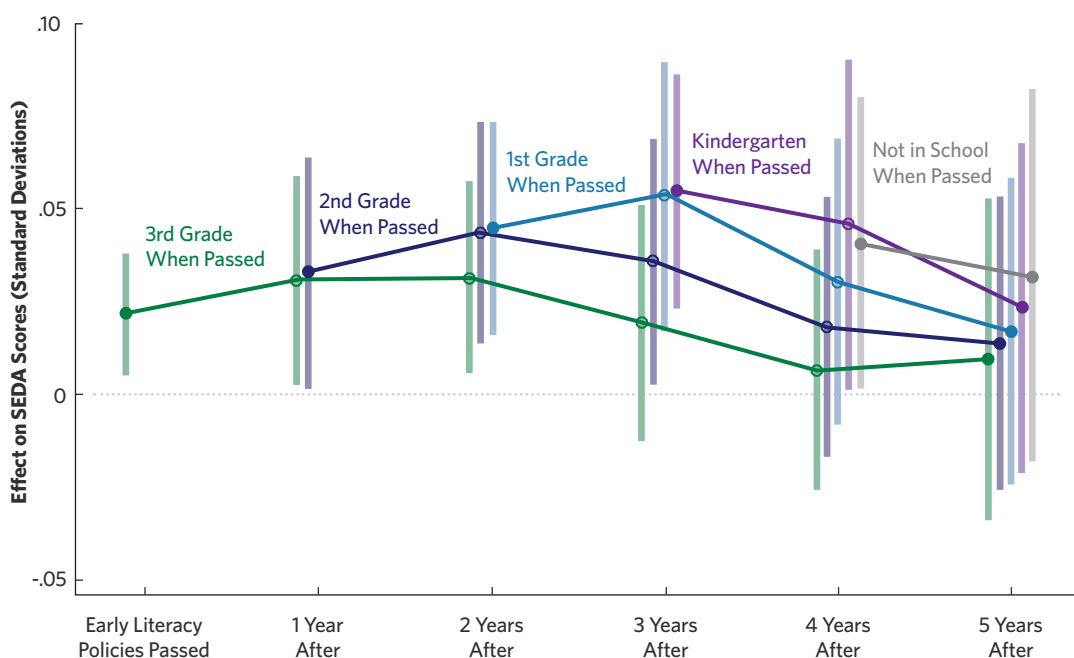
## FINDINGS

### Early Literacy Policies Improve Elementary Students' Performance on High-Stakes Reading Assessments

When states first pass a policy that contains at least one of the 16 common components found in standard early literacy policies, they see accompanying increases in reading achievement on high-stakes tests for students in elementary school. Figure 2 shows this effect on states' high-stakes reading assessments for students who were exposed to an early literacy policy when they were in 3<sup>rd</sup> grade or below.

We find that students exposed to early literacy policies for a longer period of time before taking the 3<sup>rd</sup>-grade test experience larger test score gains. For instance, students who were enrolled in 3<sup>rd</sup> grade when their state passed an early literacy policy (and were therefore exposed to the policy for only one year) had small improvements in reading achievement in 3<sup>rd</sup> through 5<sup>th</sup> grades. In contrast, students who were in 1<sup>st</sup> grade or kindergarten when the policy was passed (and were therefore exposed to the policy for multiple years) experienced larger reading score gains in 3<sup>rd</sup> through 5<sup>th</sup> grade. However, these positive test score effects diminished as students enter middle school.

**FIGURE 2. Effect of Any Early Literacy Policies on High-Stakes Reading Scores**

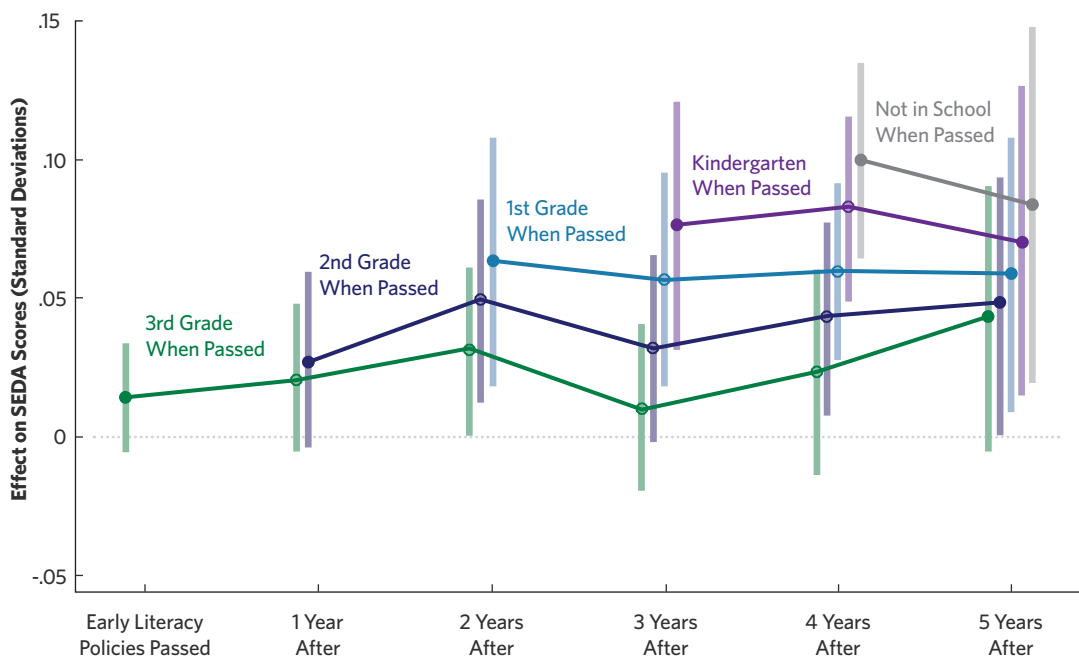


Note: Data are from overall average SEDA reading scores, 2009-2018. The figure only includes cohorts of students who were exposed to an early literacy policy in any of grades K-3. Each line in the figure represents the test score effects of early literacy policies for a particular cohort of students as they progress from 3<sup>rd</sup> to 8<sup>th</sup> grade. More information on the sample can be found in the full working paper.

## Positive Effects of Early Literacy Policies Are Driven by Comprehensive Policies

As indicated in the map in Figure 1, some states’ policies are comprehensive, meaning they include all 16 of the **individual components** of early literacy policies in ExcelinEd’s dataset.<sup>11</sup> Figure 3 illustrates that states with these comprehensive policies experience significant gains in high-stakes reading scores, surpassing the overall effect in states that pass any policy at all. In contrast, states with non-comprehensive policies (i.e., those that include fewer than 16 components) experience positive effects, but these are seldom significant (see figure 4 in the working paper). This suggests that the effectiveness of early literacy policies is contingent on their content, and that the more comprehensive policies lead to more improved outcomes, at least as measured by states’ own high-stakes summative assessments.

**FIGURE 3. Effect of Comprehensive Early Literacy Policies on High-Stakes Reading Scores**



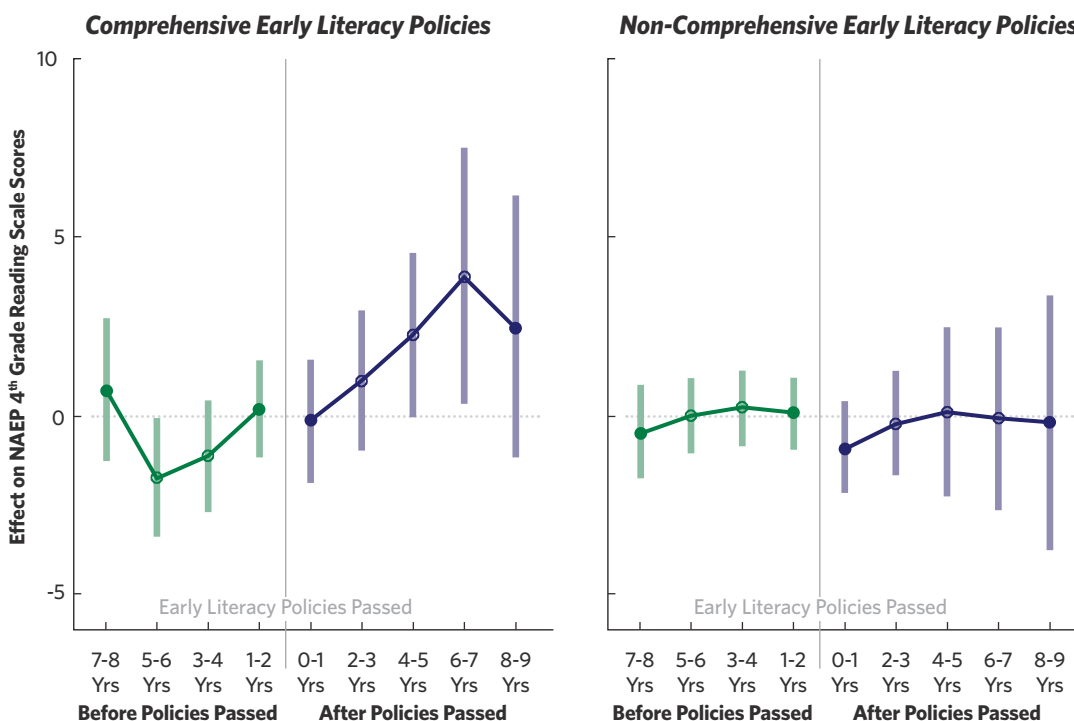
*Note: Data are from overall average SEDA reading scores, 2009-2018. The figure compares states with comprehensive policies to those that never passed an early literacy policy during this period. More information on how these figures were constructed can be found in the full working paper.*

## Only Comprehensive Early Literacy Policies Affect Low-Stakes Reading Scores

Furthermore, we find that low-stakes reading scores are only positively affected by early literacy policies in states with a comprehensive policy. High-stakes assessments have been criticized for not accurately measuring student learning, as accountability requirements may encourage “teaching to the test” or changes to tested materials themselves.<sup>12</sup> However, NAEP reading scores are not linked to state accountability requirements and therefore may be a more accurate measure of student

learning. As illustrated in Figure 4, early literacy policies only have significant positive effects on low-stakes reading scores when they are comprehensive. In contrast, early literacy policies that are not comprehensive have essentially no effect on low-stakes reading outcomes. This suggests that the effect of early literacy policies is primarily driven by comprehensive policies.

**FIGURE 4. Effect of Comprehensive Early Literacy Policies on Low-Stakes Reading Scores**



Note: Data are from overall average NAEP fourth-grade reading scale scores, 2003–2019. The figure on the left compares states with comprehensive early literacy policies to a comparison group of states that have never passed an early literacy policy during this period. The figure on the right compares states with early literacy policies that are not comprehensive with the same comparison group of states that never passed an early literacy policy during this period. More information on how these figures were constructed can be found in the full working paper.

## CONCLUSIONS & POLICY IMPLICATIONS

Our study demonstrates the positive effect of early literacy policies on high-stakes reading outcomes in elementary school. Comprehensive early literacy policies that provide a wide range of supports to both teachers and students, including third-grade retention, have the largest effects. Our findings also indicate that early literacy policies have little effect on low-stakes assessments in most cases, except for comprehensive policies, which lead to significant gains on low-stakes reading tests. These findings emphasize the importance of early literacy policies' content in determining their success.

Based on these findings, we propose two key recommendations for policymakers:

1. Provide students and teachers with the literacy support they need to succeed by making comprehensive early literacy policies a priority.
2. Ensure early literacy policies are effective by investing in their implementation.

## NOTES

1. National Center for Education Statistics. (2020). Reading performance. In *The Condition of Education 2020*. [https://nces.ed.gov/programs/coe/pdf/coe\\_cnb.pdf](https://nces.ed.gov/programs/coe/pdf/coe_cnb.pdf)
2. National Assessment of Educational Progress. (2022). *Reading and mathematics scores decline during COVID-19 pandemic*. National Center for Education Statistics. <https://www.nationsreportcard.gov/highlights/ltt/2022/>
3. Cunningham, A. E., & Stanovich, K. E. (1997). Early reading acquisition and its relation to reading experience and ability 10 years later. *Developmental Psychology*, 33(6), 934-945. <https://doi.org/10.1037/0012-1649.33.6.934>; Daniel, S. S., Walsh, A. K., Goldston, D. B., Arnold, E. M., Reboussin, B. A., & Wood, F. B. (2006). Suicidality, school dropout, and reading problems among adolescents. *Journal of Learning Disabilities*, 39(6), 507-514. <https://doi.org/10.1177/00222194060390060301>; Fiester, L. (2013). *Early warning confirmed: A research update on third-grade reading*. The Annie E. Casey Foundation. <https://assets.aecf.org/m/resourcedoc/AECF-EarlyWarningConfirmed-2013.pdf>; Fiester, L., & Smith, R. (2010). *Early warning! Why reading by the end of third grade matters* (ED509795). ERIC. <https://files.eric.ed.gov/fulltext/ED509795.pdf>; Hernandez, D. J. (2011). *Double jeopardy: How third-grade reading skills and poverty influence high school graduation* (ED518818). ERIC. <https://files.eric.ed.gov/fulltext/ED518818.pdf>; Sparks, R. L., Patton, J., & Murdoch, A. (2014). Early reading success and its relationship to reading achievement and reading volume: Replication of '10 years later.' *Reading and Writing*, 27, 189-211. <https://doi.org/10.1007/S11145-013-9439-2>.
4. ExcelinEd. (2021). *Comprehensive early literacy policy: State-by-state analysis of fundamental principles*. [https://excelined.org/wp-content/uploads/2021/10/ExcelinEd\\_PolicyToolkit\\_EarlyLiteracy\\_StatebyStateAnalysis\\_2021.pdf](https://excelined.org/wp-content/uploads/2021/10/ExcelinEd_PolicyToolkit_EarlyLiteracy_StatebyStateAnalysis_2021.pdf)
5. ExcelinEd. (2021). *Comprehensive early literacy policy: State-by-state analysis of fundamental principles*. [https://excelined.org/wp-content/uploads/2021/10/ExcelinEd\\_PolicyToolkit\\_EarlyLiteracy\\_StatebyStateAnalysis\\_2021.pdf](https://excelined.org/wp-content/uploads/2021/10/ExcelinEd_PolicyToolkit_EarlyLiteracy_StatebyStateAnalysis_2021.pdf)
6. Miller, C. (2021, October 22). *Literacy policy, initiatives, investments and results* [PowerPoint]. Panel discussion on reading improvement, Florida Department of Education. [https://www.flsenate.gov/Committees/Show/AED/MeetingPacket/5300/9502\\_MeetingPacket\\_5300.pdf](https://www.flsenate.gov/Committees/Show/AED/MeetingPacket/5300/9502_MeetingPacket_5300.pdf); Strunk, K. O., Wright, T. S., Kilbride, T., Zhu, Q., Cummings, A., West, J., Turner, M., & De Voto, C. (2021). *Michigan's Read by Grade Three Law: Year one report*. Education Policy Innovation Collaborative. [https://epicedpolicy.org/wp-content/uploads/2021/03/Year\\_One\\_RBG3\\_Report.pdf](https://epicedpolicy.org/wp-content/uploads/2021/03/Year_One_RBG3_Report.pdf)
7. Greene, J. P., & Winters, M. A. (2004). *An evaluation of Florida's program to end social promotion* (ED483340). ERIC. <https://files.eric.ed.gov/fulltext/ED483340.pdf>; Greene, J. P., & Winters, M. A. (2006). *Getting farther ahead by staying behind: A second-year evaluation of Florida's policy to end social promotion* (ED508980). ERIC. <https://files.eric.ed.gov/fulltext/ED508980.pdf>; Greene, J. P., & Winters, M. A. (2007). Revisiting grade retention: An evaluation of Florida's test-based promotion policy. *Education Finance and Policy*, 2(4), 319-340. <https://doi.org/10.1162/edfp.2007.2.4.319>; Greene, J. P., & Winters, M. A. (2009). The effects of exemptions to Florida's test-based promotion policy: Who is retained? Who benefits academically? *Economics of Education Review*, 28(1), 135-142. <https://doi.org/10.1016/j.econedurev.2008.02.002>; Jacob, B. A. (2005). Accountability, incentives and behavior: The impact of high-stakes testing in Chicago public schools. *Journal of Public Economics*, 89(5-6), 761-796. <https://doi.org/10.1016/j.jpubeco.2004.08.004>; Popham, W. J. (2001). Teaching to the test? *Educational Leadership*, 58(6), 16-20. <http://olms.cte.jhu.edu/olms2/data/ck/file/TeachingtotheTest-Popham.pdf>; Schwerdt, G., West, M. R., & Winters, M. A. (2017). The effects of test-based retention on student outcomes over time: Regression discontinuity evidence from Florida. *Journal of Public Economics*, 152, 154-169. <https://doi.org/10.1016/j.jpubeco.2017.06.004>; Slungaard Mumma, K., & Winters, M. A. (2023). *The effect of retention under Mississippi's test-based promotion policy* (Working Paper No. 2023-1). Wheelock Educational Policy Center. <https://wheelockpolicycenter.org/high-quality-education/ms-read-by-grade-three/>; Strunk, K. O., Wright, T. S., Kilbride, T., Zhu, Q., Cummings, A., West, J., Turner, M., & De Voto, C. (2021). *Michigan's Read by Grade Three Law: Year one report*. Education Policy Innovation Collaborative. [https://epicedpolicy.org/wp-content/uploads/2021/03/Year\\_One\\_RBG3\\_Report.pdf](https://epicedpolicy.org/wp-content/uploads/2021/03/Year_One_RBG3_Report.pdf); Strunk, K. O., Wright, T. S., Westall, J., Zhu, Q., Kilbride, T., Cummings, A., Utter, A., & Mavrogordato, M. (2022). *Michigan's Read by Grade Three Law: Year two report*. Education Policy Innovation Collaborative. [https://epicedpolicy.org/wp-content/uploads/2022/02/RBG3\\_Rpt\\_Yr2\\_Feb2022.pdf](https://epicedpolicy.org/wp-content/uploads/2022/02/RBG3_Rpt_Yr2_Feb2022.pdf); Winters, M. A., & Greene, J. P. (2012). The medium-run effects of Florida's test-based promotion policy. *Education Finance and Policy*, 7(3), 305-330. [https://doi.org/10.1162/EDFP\\_a\\_00069](https://doi.org/10.1162/EDFP_a_00069)
8. For more detailed information on the data and methodology, please see the full [working paper](#).



## NOTES

9. ExcelinEd. (2021). *Comprehensive early literacy policy: State-by-state analysis of fundamental principles*. ExcelinEd. [https://excelined.org/wp-content/uploads/2021/10/ExcelinEd\\_PolicyToolkit\\_EarlyLiteracy\\_StatebyStateAnalysis\\_2021.pdf](https://excelined.org/wp-content/uploads/2021/10/ExcelinEd_PolicyToolkit_EarlyLiteracy_StatebyStateAnalysis_2021.pdf)
10. We follow ExcelinEd (2021) in defining a comprehensive early literacy policy as one with all 16 policy components listed [here](#). However, it is important to note that ExcelinEd updated their dataset in 2022, introducing two key differences compared to the previous version. First, the new dataset includes an indicator for whether states use three-cueing, which ExcelinEd defines as "a flawed literacy instructional practice and should be eliminated." Second, more states are counted as having an early literacy policy in the 2022 dataset due to their use of ESSER funds for early literacy efforts. However, we consider the 2021 version to be more reliable in accurately accounting for states that have implemented early literacy policies because the use of ESSER funds for early literacy efforts is temporary. It is worth noting that the 2021 version of the dataset is not accessible through a static link. Therefore, if you follow the link in the references, it will direct you to the new version of the dataset.
11. ExcelinEd. (2021). *Comprehensive early literacy policy: State-by-state analysis of fundamental principles*. ExcelinEd. [https://excelined.org/wp-content/uploads/2021/10/ExcelinEd\\_PolicyToolkit\\_EarlyLiteracy\\_StatebyStateAnalysis\\_2021.pdf](https://excelined.org/wp-content/uploads/2021/10/ExcelinEd_PolicyToolkit_EarlyLiteracy_StatebyStateAnalysis_2021.pdf)
12. Jacob, B. A. (2005). Accountability, incentives and behavior: The impact of high-stakes testing in Chicago public schools. *Journal of Public Economics*, 89(5-6), 761-796. <https://doi.org/10.1016/j.jpubeco.2004.08.004>; Popham, W. J. (2001). Teaching to the test? *Educational Leadership*, 58(6), 16-20. <http://olms.cte.jhu.edu/olms2/data/ck/file/TeachingtotheTest-Popham.pdf>



**Education Policy Innovation Collaborative**

MICHIGAN STATE UNIVERSITY  
236 Erickson Hall | 620 Farm Lane  
East Lansing, MI 48824

(517) 884-0377  
[EPICedpolicy@msu.edu](mailto:EPICedpolicy@msu.edu)  
[www.EPICedpolicy.org](http://www.EPICedpolicy.org)