

Metro Atlanta Policy Lab for Education
Georgia Policy Labs

Grade Retention Policies and Student Success

July 2019

Kate Caton

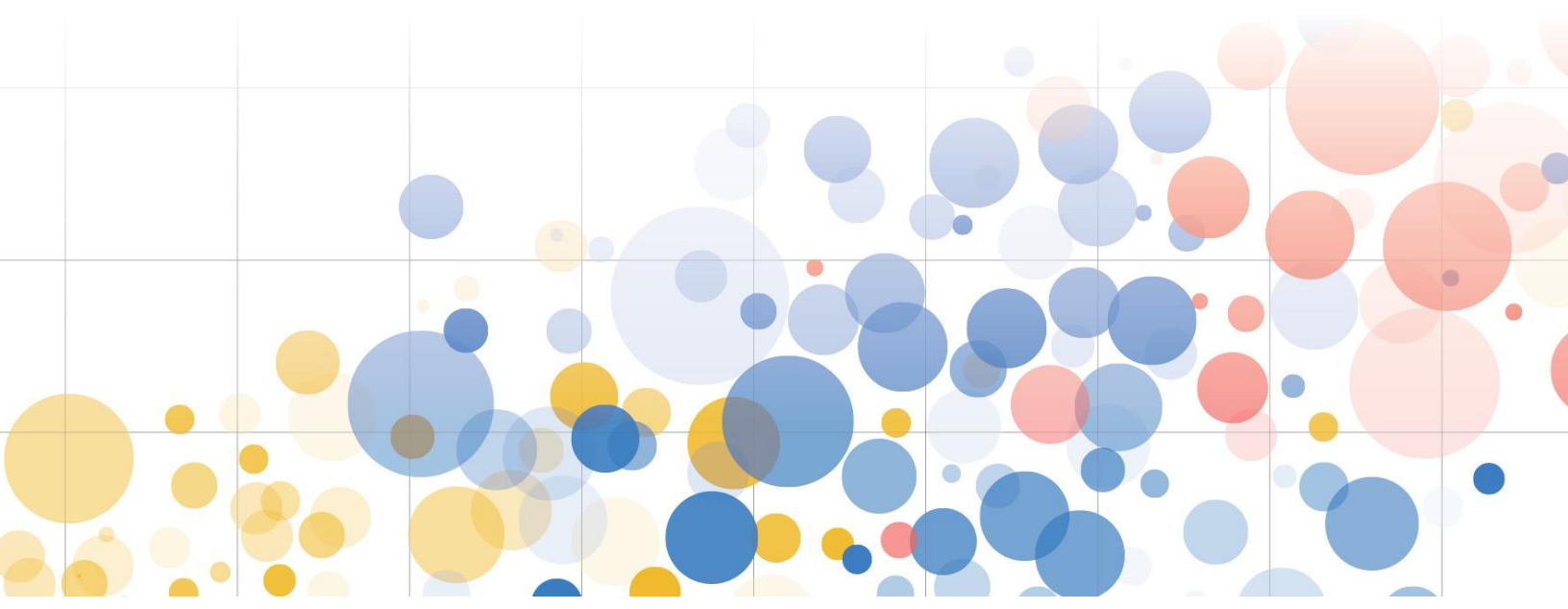
Georgia State University

Daniel Kreisman

Georgia State University

Camila N. Morales

Georgia State University



HIGHLIGHTS

- On average, 90 percent of those who do not demonstrate proficiency in reading, and 96 percent who are not proficient in math, move on to the next grade.
- Retention rates have been falling over time but remain highest in third grade for reading and eighth grade for math.
- Students are more likely to fail math than reading.
- While most students attempt a summer retake exam, less than 1 percent of students who failed initially pass the exam the second time.
- Student demographics largely do not predict placement or promotion beyond test scores.
- Students who fail either the spring exam or the summer retest and are placed into the next grade perform substantially worse and have more disciplinary issues than students who scored just above the minimum proficiency threshold.
- There is a stronger negative correlation between placement and achievement in earlier grades.

MOTIVATION

Retaining lower-performing students and requiring them to repeat a grade is a relatively common practice across the United States. According to the National Center for Education Statistics (NCES), 2.3 percent of students in grades kindergarten through eight were retained in grade in 2015. In principle, grade retention gives students a chance to improve on key performance indicators, and if retention is coupled with supplementary support services, these additional resources can also aid the student in catching up and achieving grade-level proficiency.

At the same time, retaining students in grade poses a number of risks to students and to school districts. For example, students lose their peer group and typically become older than most of their classmates, setting them on a path to graduate at a later age. Retention can potentially stigmatize students and increase stress for students and their families (Jackson, 1975; Jimerson, 2001b; Jimerson, 2001a; Pagani et al., 2001). The provision of supplemental services and an additional year of instruction for retained students can also increase costs in already resource-constrained districts.

Evidence on the efficacy of grade retention is mixed. Most correlational studies show no evidence that grade retention is beneficial to student achievement (Allen et al., 2009), and studies on early-grade retention show that repeating kindergarten can lead to short-run achievement losses of up to 27 percent (Fruehwirth, et al., 2016).

On the other hand, in a study of the retention policies in Chicago Public Schools, Jacob and Lefgren (2004) find that retention in third grade can increase performance in the short-run, although these gains did not persist two years after retention. Further, achievement gains as a result of the retention policy were concentrated among students in the middle of the achievement distribution, not those who are most academically disadvantaged (Neal and Schanzenbach, 2010).

In a similar evaluation of Florida's student retention policies, Greene and Winters (2007) find that retained students made significant gains in reading test scores. Moreover, English language learners retained under Florida's test-based policy reduced their time to English proficiency by half (Figlio & Özek, 2019).

School districts facing decisions on whether to retain students are left to balance these mixed findings while following state grade retention rules, making the implementation of retention policies a relatively complex issue. In this policy brief report, we examine the student retention policy of one of MAPLE’s partner school districts. Making use of historical individual-level data and prior retention policies that allowed for summer retest opportunities, we explore systematic correlations between specific policy characteristics and student outcomes in the short-term including test scores and disciplinary incidents.

BACKGROUND

Since 2004, grade retention policy in Georgia ties grade promotion to minimum performance standards on the End-Of-Grade (EOG) exams. Retention for third grade is based on grade-level achievement in reading performance alone, while retention in fifth and eighth grade incorporates performance in math in addition to reading.

While all districts are expected to adhere to the state-level retention policy, some are granted autonomy over their own retention policies. An important goal of our analysis is to assess the relationship between retention policies (as implemented) and student outcomes in the year after the retention decision. In order to achieve this, we classify students into four groups:

Marginally Ineligible	First 10 percent of students who passed spring exam
Promoted	Failed spring exam but passed on 2 nd attempt (summer retake); promoted to next grade
Placed	Failed spring exam and didn’t pass or take summer retest; placed to next grade
Retained	Failed spring exam and didn’t pass or take summer retest; repeats grade

By stratifying our analysis into these four groups, we extend beyond the basic classification of retention, and unpack differences in achievement across students who are directly and indirectly impacted by the grade retention policy.

RESEARCH QUESTIONS AND DATA

- 1) What are the shares of students who are promoted, placed, and retained? Do these shares vary over grades and subjects?
- 2) Do student characteristics predict retention, promotion, and placement beyond test scores? Are there differences across grades and subjects?
- 3) Are there achievement differences in reading and math across students who are retained, placed, or promoted?
- 4) Are there differences in disciplinary incidents across students who are retained, placed, or promoted?

To answer these questions, we utilize individual-level administrative data on all students in grades three through eight who were enrolled in public schools in one of MAPLE’s partner districts between 2008-14. These data allow us to determine the outcomes of students in reading and math End-of Grade (EOG) exams, key demographic characteristics (i.e., race/ethnicity, gender) and participation in specific programs such as Free or Reduced Price Lunch (FRL) and English language learner status (ELL).

We accessed data on summer retest scores in reading and math, and spring EOG test scores. We utilize both test scores to classify students into four

groups, which characterize direct and indirect participation in the retention policy.¹

As shown in Table 1, on average students in the district perform below the state average in both reading and math by approximately 0.3 standard deviations. In addition, roughly 8 percent of students in retention-eligible grades score below proficiency in the reading EOG exam, compared to 20 percent for math. Further, conditional on failing the spring exam, 85 and 93 percent of students retake the reading and math exams, respectively.

Table 1. Summary Statistics for Students in Grades 3, 5, and 8 (2008-14)

<i>Average normalized test score</i>	
Reading (SD)	-0.28
Math (SD)	-0.26
<i>Mean percent of students by category</i>	
Fail Spring Reading EOG	7.7
Fail Spring Math EOG	20.1
Take Reading Summer Retest	85.5
Take Math Summer Retest	92.6

Note: Reading and math test scores are normalized to mean zero and unit variance with respect to the statewide, grade and year specific test score distributions.

As seen in figures 1 and 2, there is important variation by grades and time in the percent of students who fail the spring exams. While there is a noticeable downward trend for all grades and subjects, the share of students who fail the math exam is significantly higher compared with reading. For example, while roughly 4.5 percent of students in fifth grade failed the reading exam in 2014, 15 percent failed the math exam. Similar differences across subjects can also be observed for students in eighth grade. One key difference is that failure rates for reading decline as students age (third grade failure is more likely than fifth or eighth), while for

math the likelihood of failure increases as students progress through school.

Figure 1. Percent of students Who Fail the Spring Reading Exam by Grades (2008-14)

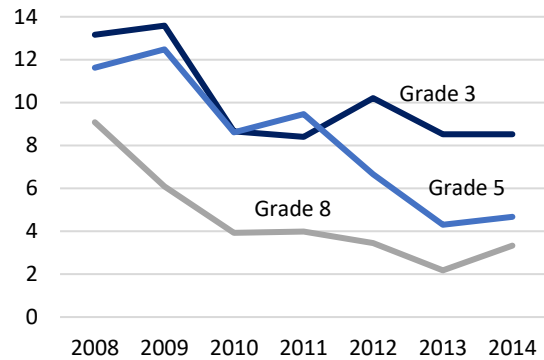
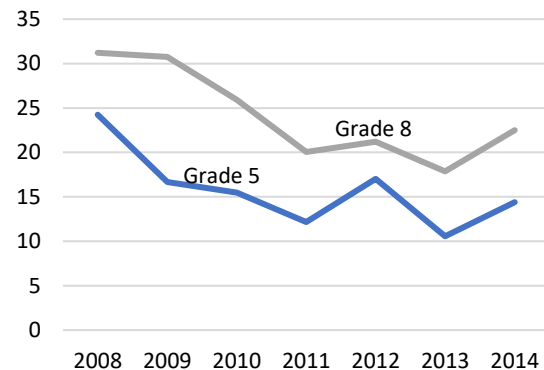


Figure 2. Percent of Students who Fail the Spring Math Exam by Grades (2008-14)



FINDINGS

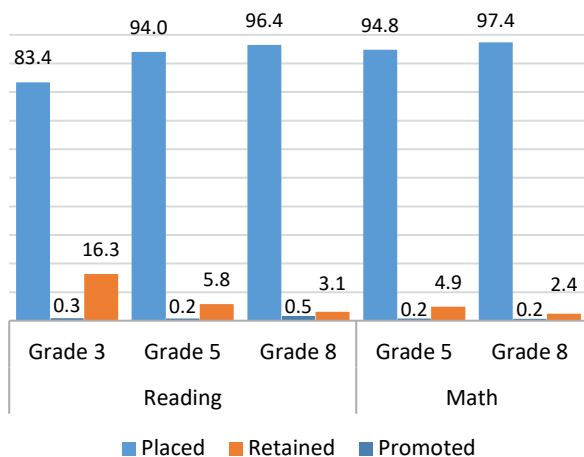
RESEARCH QUESTION #1

What share of students are promoted, placed, and retained, and do these shares vary over grades and subjects? On average, 9 percent of students who fail the spring EOG reading exam are retained compared to 3 percent of students who fail the spring EOG math exam, with noticeable differences across

¹ In order to identify students who are promoted, placed, or retained, we limit our sample to students who remain enrolled in the district during the year following a retention-eligible grade.

grades. As shown in Figure 3, conditional on failing the reading exam, retention rates are highest in third grade. Where 16 percent of students who fail reading in grade 3 are retained, only 6 and 3 percent are retained in fifth and eighth grade, respectively. Overall, retention conditional on failing the math exam is lower, with 5 percent and 2 percent of students repeating grades 5 and 8, respectively.

Figure 3: Average Percent of Students Retained, Promoted, and Placed by Grades and Subjects



Very few students pass the summer retest, leading to a low percent of students who are promoted. On average, less than 1 percent of students who take the summer retest pass the reading and math exams. At 0.3 and 0.2 percent passing respectively, the overall pass rate on the retest is virtually zero, despite the fact that most students attempt the retake.

The vast majority of students who fail either the spring or summer tests are placed into the next grade. On average, 90 percent of those who do not demonstrate proficiency in reading move on to the next grade, compared to 96 percent of those who fail the math exam. Placement rates increase by grade for both reading and math; while 83 percent of students who fail the reading exam in third grade

are placed, this percent climbs to 96 for students in eighth grade.

RESEARCH QUESTION #2

Do student characteristics predict retention, promotion, and placement beyond test scores?

Student demographic characteristics largely do not predict whether a student will repeat a grade, conditional on reading test scores. In particular, there is no differential likelihood of retention across gender or race/ethnicity. Only FRL and ELL status predict retention beyond demonstrated reading ability. In particular, low-income students are less likely to be retained, while ELL students have a higher chance of repeating a grade, though differences are small.

Similarly, few student demographic characteristics predict placement, conditional on reading test scores. In direct contrast to the findings on retention, low-income students are more likely to be placed, while ELL students have a lower chance of moving to the next grade conditional on failing the reading exam.

The results for math parallel those for reading. Conditional on failing the math EOG exam, students with a higher test score are less likely to repeat a grade and more likely to be placed. However, we do observe differential retention and placement across student demographics, beyond demonstrated math proficiency. In particular, conditional on failing the math exam, girls are less likely to be retained, as well as black and Hispanic students, but these differences are quite small.

RESEARCH QUESTION #3

Are there achievement differences in reading and math across students who are retained, placed, or promoted? Students who fail either the spring EOG exam or the summer retest and are placed into the

next grade perform worse than students who scored just above the minimum proficiency threshold.

In particular, conditional on failing the reading exam, being placed into the next grade is associated with a 0.21 standard deviation decrease in the reading test score in the grade after the retention decision. We further analyze differences in achievement across grades and find that there is a stronger negative correlation between placement and achievement in earlier grades.

Similarly, conditional on failing the math exam, being placed into the next grade is correlated with a 0.07 standard deviation decrease in the math test score in the grade after the retention decision.

As shown in Table 2, for students who are either promoted or placed to the next grade, we find that those who fail both the reading and math exams have lower test scores in the grade following the retention decision compared to those who only fail one of the exams. In addition, there are no differences in math scores between students who fail only one of the exams.

Table 2. Average Sixth Grade Test Scores in Reading and Math by Test Failed in Fifth Grade (Promoted or Placed Only)

Failed in Grade 5	Reading Score Grade 6	Math Score Grade 6
Reading Only	-1.52	-1.20
Math Only	-1.17	-1.20
Reading and Math	-1.60	-1.35

Note: Reading and math test scores are normalized to mean zero and unit variance with respect to the statewide, grade and year specific test score distributions.

Due to the small sample of students who are either promoted or retained, we are unable to provide conclusive evidence on the achievement

² We define serious incidents as those that lead to any form of suspension, either in-school or out-of-school.

differences between those who are retained or placed, and students who score just above minimum proficiency in either reading or math.

RESEARCH QUESTION #4

Are there differences in disciplinary incidents across students who are retained, placed, or promoted?

Compared to student who score just above minimum proficiency, students who are placed into the next grade level have a higher number of disciplinary incidents by 0.2 incidents on average (20 percent) and 0.4 (30 percent), conditional on failing the reading and math exams, respectively. We also find a positive correlation between number of disciplinary incidents and students who are retained, conditional on failing the math exam.

Moreover, students who are placed into the next grade level are 0.03 and 0.07 percentage points more like to have a serious disciplinary incident, conditional on failing the reading and math exam, respectively.²

SUMMARY

Making use of historical individual-level data and prior retention policies that allowed for summer retest opportunities, we explore systematic correlations between specific policy characteristics and student outcomes in the short-term including test scores and disciplinary incidents.

On average, 9 percent of students who fail the spring EOG reading exam are retained compared to 3 percent of students who fail the spring EOG math exam. The vast majority of students are placed into the next grade despite failure to demonstrate grade-level proficiency.

Most demographic characteristics are not predictive of retention, promotion, or placement, conditional on failing the reading exam. While we do find that, conditional on failing the math exam, girls are less likely to be retained, as well as black and Hispanic students, these differences are quite small.

Compared to students who score just above minimum proficiency, students who are placed are likely to have lower scores in both math and reading in the grade following the retention-decision. These students also have a higher number of disciplinary incidents, and a higher likelihood to engage in a serious offense.

REFERENCES

- Allen, C. S., Chen, Q., Willson, V. L., & Hughes, J. N. (2009). Quality of Research Design Moderates Effects of Grade Retention on Achievement: A Meta-Analytic, Multilevel Analysis. *Educational Evaluation and Policy Analysis*, 31(4), 480-499.
- Figlio, D. N. & Özek, U. (2019). An Extra Year to Learn English? Early Grade Retention and the Human Capital Development of English Learners. NBER Working Paper 25472. Cambridge, MA: National Bureau of Economic Research.
- Fruehwirth, J. C., Navarro, S., & Takahashi, Y. (2016). How the Timing of Grade Retention Affects Outcomes: Identification and Estimation of Time-Varying Treatment Effects. *Journal of Labor Economics*, 34(4), 979-1021.
- 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.
- Jackson, G. B. (1975). The Research Evidence on the Effects of Grade Retention. *Review of Educational Research*, 45(4), 613-635.
- Jacob, B. A., & Lefgren, L. (2004). Remedial Education and Student Achievement: A Regression Discontinuity Analysis. *The Review of Economics and Statistics*, 86(1), 226-244.
- Jimerson, S. R. (2001a). A Synthesis of Grade Retention Research: Looking Backward and Moving Forward. *California School Psychologist*, 6, 46-59.
- Jimerson, S. R. (2001b). Meta-Analysis of Grade Retention Research: Implications for Practice in the 21st Century. *School Psychology Review*, 30(3), 420-437.
- Neal, D. & Schanzenback, D. (2010). Left Behind by Design: Proficiency Counts and Test-Based Accountability. *Review of Economics and Statistics*, 92(2), 263-283.
- Pagani, L., Tremblay, R. E., Vitaro, F., Boulerice, B., & McDuff, P. (2001). Effect of Grade Retention on Academic Performance and Behavioral Development. *Development and Psychopathology*, 13(2), 297-315.

ABOUT THE AUTHORS

Kate Caton is an educational policy studies – research, measurement and statistics Ph.D. student in the College of Education and Human Development (CEHD) at Georgia State University. Kate’s research interests include program evaluation and administration, and the impacts of race, class and gender on students. Their current work focuses on rural school spaces. Prior to pursuing their Ph.D., they earned an M.P.A. in international inspection and oversight from CUNY John Jay College of Criminal Justice and a B.A. in mass communications from the University of Delaware.

Daniel Kreisman is an assistant professor of economics at Georgia State University. His research addresses topics at the intersection of labor economics, education finance and education policy. Dan is also the founding faculty

director of CTE_x – a consortium of researchers and state partners working to inform the future of career and technical education policy with cutting edge research.

Camila N. Morales is an economics Ph.D. candidate at Georgia State University and a graduate research assistant with the Georgia Policy Labs. Her research interests lie at the intersection of education economics, labor economics, and immigration policy. Her current work focuses on the educational outcomes of refugee and immigrant students, second language learners, and their peers. Prior to pursuing her Ph.D., Camila earned a B.S. in economics and a minor in mathematics from Georgia State University.

ABOUT THE GEORGIA POLICY LABS

The Georgia Policy Labs (GPL) is a collaboration between Georgia State University and a variety of government agencies to promote evidence-based policy development and implementation. Housed in the Andrew Young School of Policy Studies, GPL works to create an environment where policymakers have the information and tools available to improve the effectiveness of existing government policies and programs, try out new ideas for addressing pressing issues, and decide what new initiatives are promising enough to scale up. The ultimate goal is to help government entities more effectively use scarce resources and make a positive difference in people’s lives. GPL contains three focus areas: The Metro Atlanta Policy Lab for Education works to improve K-12 educational outcomes in metro Atlanta; the Career and Technical Education Exchange focuses on high-school-based career and technical education in multiple U.S. states; and the Child and Family Lab looks at issues of the whole child and whole family with Georgia’s state agencies. In addition to conducting evidence-based policy research, GPL will serve as a teaching and learning resource for state officials and policymakers, students, and other constituents. See more at gpl.gsu.edu.