RESEARCH BRIEF

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# Mandatory Retention in Grade 3: Longitudinal Exploration

**At a Glance**

The effects of M-DCPS students' repeating grade 3 on their academic achievement in ELA and mathematics are large: after repeating grade 3, students score significantly higher in both ELA and mathematics components of the FSA than they did in the previous year. These effects, however, appear to dissipate quickly. When compared to academically and demographically similar M-DCPS students who were promoted to grade 4, students who repeated grade 3 demonstrate significantly smaller rates of annual academic growth in both ELA and mathematics as they progress through grade 4 and 5. As a result, their initial large academic advantage achieved at the end of the repeated grade 3 gets much smaller by the end of grade 5.

Florida law (1008.25(5) Florida Statutes) stipulates that third graders who score within Achievement Level 1 on the Florida Standards Assessment English Language Arts component (FSA ELA) must be retained in grade 3. There are certain exemptions to that mandatory retention requirement, called Good Cause exemptions. Good Cause exemptions apply to limited English proficient students who have had less than two years of instruction in the English for Speakers of Other Languages (ESOL) program, students with disabilities whose individual education plans indicate that participation in the statewide assessment program is not appropriate, certain other categories of students with disabilities, and students who have been previously retained for a total of two years or have been retained once in grade 3. In addition, students who are subject to mandatory retention can be promoted to grade 4 if they demonstrate an acceptable level of ELA performance through a student portfolio or an alternative reading/ELA assessment. Students who were retained in grade 3 but achieve the required reading level during the next school year may be promoted to grade 4 mid-year. Students who are retained in grade 3 receive intensive reading instruction designed to improve their reading skills and overcome reading deficiencies.

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This Research Brief has two goals: (1) describe the academic progress made during the additional school year by students who were retained in grade 3 in M-DCPS because of the State's mandatory retention policy, and (2) describe the academic growth made by the retained students and comparable promoted students as they progressed from grade 3 to 4 to 5.

## Retained Students

More than 6,000 M-DCPS students who were in grade 3 during the 2014-2015 school year scored within Achievement Level 1 on the 2015 FSA ELA and were subject to the mandatory retention in grade 3. Of those, 1,538 students were retained in grade 3, and 5,034 students were promoted to grade 4 either because they had Good Cause exemptions (1,897 students) or because they demonstrated an adequate level of English reading proficiency via student portfolio or an alternate assessment (3,137 students).

The majority of the 1,538 retained students were boys (64%); most of these students (93%) were eligible for the federal free/reduced price lunch program (FRL). About one-half (46%) of the retained students were English language learners (ELL) and almost one-third (29%) were students with disabilities (SWD). In terms of student racial/ethnic backgrounds, 37% of the retained students were Black, 58% were Hispanic, 3% were White and the rest (2%) came from other racial/ethnic backgrounds.

## Sample Selection

To enable comparisons of academic growth, M-DCPS students retained in grade 3 (repeating the grade during the 2015-2016 school year) were matched with academically and demographically similar students who were promoted to grade 4. Specifically, students were matched on their 2015 FSA scores in ELA and mathematics and on their other academic and demographic characteristics including students' gender, race/ethnicity, ESOL level (if any), SWD status, FRL status, and on whether students were retained in any of the previous grades.

Only the retained students who progressed through grades 3 to 4 to 5 during 2015-2016, 2016-2017, and 2017-2018 were included in the treatment group. Similarly, only the promoted students who moved through grades 3, 4, and 5 during 2014-2015, 2015-2016, and 2016-2017 were considered for possible matches in the comparison group. A propensity score matching algorithm was used to find matching students. It found 1,692 students equally split between the Treatment and Comparison Samples. Table 1 below demonstrates the closeness of the match between the students in the two samples.

Table 1
*Academic and Demographic Characteristics of Students in the two Samples*

| | Treatment Sample (n = 846) | Comparison Sample (n = 846) |
|---|---|---|
| *Percentage of Students who were* | | |
| Female | 35 | 36 |
| Black | 35 | 35 |
| Hispanic | 62 | 62 |
| Eligible for the FRL program | 95 | 95 |
| ELL | 52 | 53 |
| *Of those* | | |
| ESOL 1 | 20 | 24 |
| ESOL 2 | 25 | 24 |
| ESOL 3 | 6 | 6 |
| ESOL 4 | 0 | 0 |
| SWD | 27 | 26 |
| Retained in a previous grade | 20 | 23 |
| *Mean Scale Score (Standard Deviation) on the 2015 FSA* | | |
| ELA | 263 (12.3) | 263 (17.1) |
| Mathematics | 272 (14.2) | 273 (16.5) |

It can be seen that the students in the two samples were well matched both academically and demographically

## Statistical Analysis

The academic performance of the Treatment Sample students (who repeated grade 3 during the 2015-2016 school year) on the FSA before and after repeating grade 3 was compared using the paired samples *t*-test, and the effect sizes were calculated. In addition, a two-level Hierarchical Linear Modeling (HLM) technique was used to construct students' academic growth trajectories as the students progressed through grades 3-5 in school years 2015-2016 through 2017-2018 for the Treatment Sample students and in academic years 2014-2015 through 2016-2017 for the Comparison Sample students. Student FSA scores nested within students constituted the first level of the model, while the individual student characteristics and a dichotomous variable indicating the membership in the treatment group constituted the second level of the model.

## Results

The results of the analyses are presented in two subsections. The first subsection presents the results of the analysis of the retained students' academic performance before and after repeating grade 3. The second subsection offers the results of the analysis of student academic growth from grade 3 to 4 to 5 for students in the two samples.

### Academic Achievement Results of Repeating Grade 3

Results of the pared samples *t*-test indicate that the mean scale scores of students repeating grade 3 during the 2015-2016 school year were significantly higher in 2016 than they were in 2015 in both ELA and mathematics components of the FSA. In ELA, the mean scale score improved by 16.0 scale score points between 2015 and 2016, while in mathematics it improved by 17.7 scale score points. In terms of the practical significance of these results, they represent large effect sizes. The standardized effect size (Cohen's *d*) was 1.3 in ELA and 1.2 in mathematics (using the 2015 standard deviations as the denominators). These effect sizes indicate that after repeating the grade about 90% of students in the Treatment Sample scored higher on FSA ELA than their previous year's average score and about 88% scored higher in FSA mathematics than their previous year's average score.

Given that the majority of students in the Treatment Sample were ELLs in 2014-2015, it is important to examine whether these large effects can be explained primarily by ELL students gaining English proficiency and thus being able to demonstrate what they know and can do. This turns out not to be the case. The same large effect sizes for repeating the grade were observed for ELL students as well as for English proficient students in the Treatment Sample.

Figure 1 and 2 below show the effects of repeating grade 3 in terms of achievement levels on the FSA.

Figure 1

*FSA ELA Achievement Levels Before and After Repeating Grade 3*

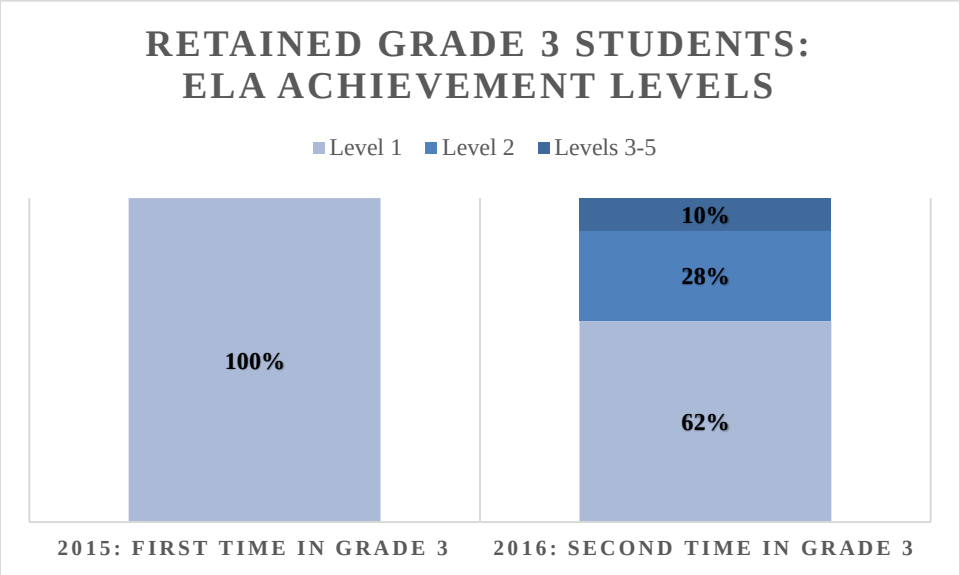
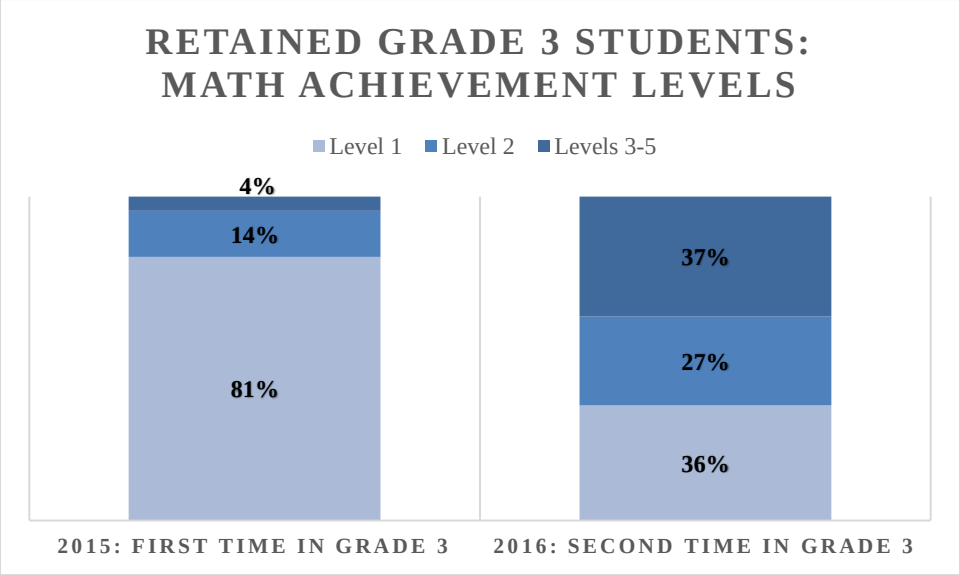



Figure 2

*FSA Mathematics Achievement Levels Before and After Repeating Grade 3*




It can be observed that while all students in the Treatment Sample scored within Achievement Level 1 on the FSA ELA in 2015, 28% scored within Achievement Level 2, and 10% scored within Achievement Levels 3-5 on the FSA ELA after repeating the grade. In addition, the percentage of students scoring within Achievement Levels 3-5 on the FSA mathematics increased from 4% to 37%.

## Academic Growth Results

Because students in the Treatment Sample made large gains by repeating grade 3 and because students in the two samples were matched on their academic and demographic characteristics, as explained previously, we can expect the analysis of the growth to show that Treatment Sample students have significantly higher grade 3 scores in both ELA and mathematics compared to the Comparison Sample students. The question is whether these initial gains are maintained through the elementary grades.

The results of the HLM academic growth analysis indicate that students in the Treatment Sample scored significantly higher on the grade 3 FSA in both ELA and mathematics in 2016 (after repeating grade 3) than their counterparts in the Comparison Sample scored on the grade 3 FSA in 2015. In ELA, the difference between the Treatment and Comparison Sample *adjusted* mean scale scores was 14.6 while in mathematics it was 16.1 scale score points. (Here, the term *adjusted* refers to the fact that the differences in the proportions of students with individual characteristics, such as gender, or ELL status, between the two samples were statistically adjusted for by entering these as grand-mean centered in the second level of the model.)

On the other hand, the adjusted average annual rates of academic growth for students in the Treatment Sample were significantly lower than those for students in the Comparison Sample in both ELA and mathematics. In ELA, that difference was 4.8, while in mathematics it was 3.5 scale scores per year.

These two findings, taken together, indicate that although students in the Treatment Sample had a significant initial lead in both academic disciplines compared with students in the Comparison Sample, that lead was waning with time. In fact, the initial advantage of 14.6 scale score points in ELA decreased to 3.9 scale score points by the end of grade 5. In mathematics, the initial advantage of 16.1 scale score points decreased to 6.5 scale score points during the same period. Figures 3 and 4 below demonstrate the findings regarding the academic performance of students in the two samples.

Figure 3

*Growth in FSA ELA Achievement in Elementary Grades*

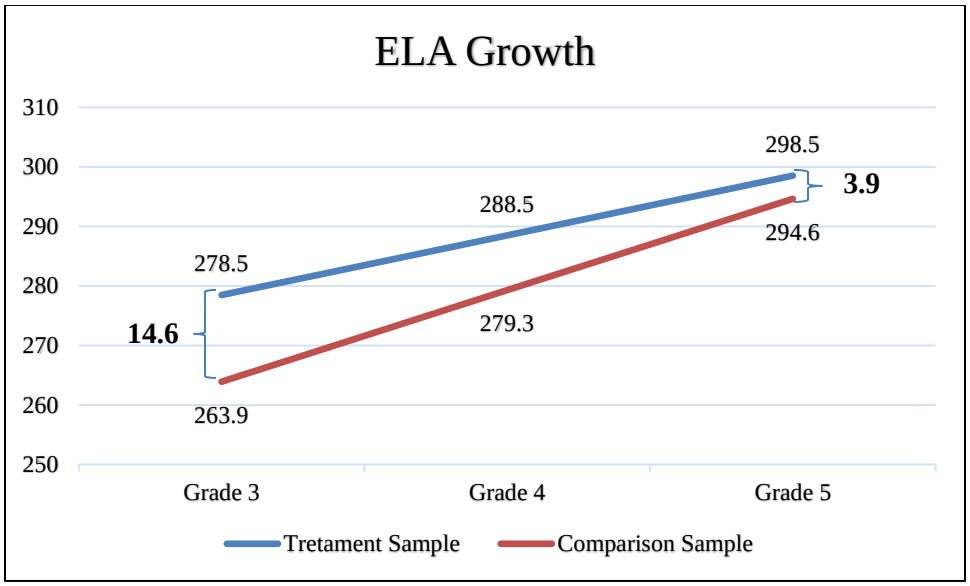
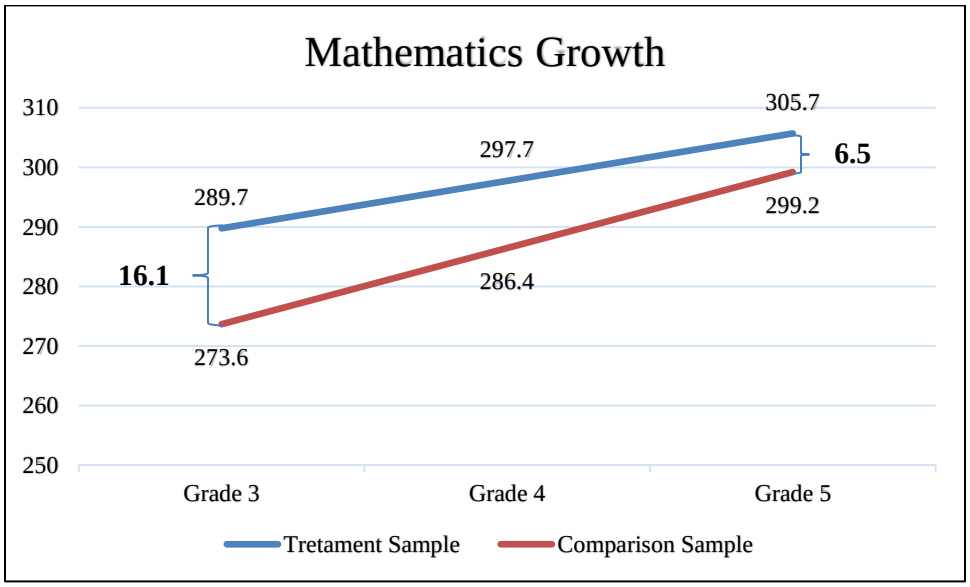



Figure 4

*Growth in FSA Mathematics Achievement in Elementary Grades*




## Discussion

The results of the analyses demonstrate two realities related to the policy of mandatory retention of students in grade 3:

1. The effects of students' repeating grade 3 on their academic achievement in ELA and mathematics are large. After repeating grade 3, students score significantly higher in both the ELA and mathematics components of the FSA than they did in the previous year.
2. These effects, however, appear to be fleeting. When compared to academically and demographically similar students who were promoted to grade 4, students who repeated grade 3 demonstrate significantly smaller rates of annual academic growth in both ELA and mathematics as they progress through grade 4 and 5. As a result, their initial large academic advantage achieved at the end of the repeated grade 3 gets much smaller by the end of grade 5. If this trend were to continue in grade 6, this initial advantage would completely disappear in ELA and would almost disappear in mathematics by the end of grade 6.

These results, taken together, suggest that the policy of mandatory retention of students in grade 3 has positive short-term effects on student achievement in ELA and mathematics in grade 3. However, these effects are not sustained in the long run.