

THE ALABAMA DEPARTMENT OF EARLY CHILDHOOD EDUCATION

First Class Pre-K

Issue Brief 8, February 2020

Cost Savings Associated with Differences in Retention in Grade for First Class Pre-K Students and Non-First Class Pre-K Students

Key Findings from this Study

- *Students who attended First Class Pre-K are less likely to be retained.*
- *First Class Pre-K students are 3.2 percentage points less likely to be retained, representing more than a one-fourth reduction in retention compared to their peers who did not attend First Class Pre-K.*
- *The difference in retention equals potentially 13,763 fewer children retained across grades K-7th if they had received First Class Pre-K, saving the state nearly \$126.8 million in K-12 education costs.*

Background

The mission of the Alabama Department of Early Childhood Education is to inspire, support, and deliver cohesive, comprehensive systems of high-quality education and care so that all Alabama children thrive and learn. Housed within the Department of Early Childhood Education, the Office of School Readiness administers Alabama's diverse-delivery, voluntary, high-quality, state-funded Pre-K program.

Classrooms are funded through a competitive grant process in which sites must meet specific quality assurances and abide by rigorous operating guidelines. Alabama's First Class Pre-K program has been awarded the highest quality rating by the National Institute for Early Education Research (NIEER) for the past 13 years. The multi-disciplinary First Class Pre-K Research Evaluation Team – including faculty and staff from the UAB School of Public Health, UAB School of Education, and the Public Affairs Research Council of Alabama – provides ongoing, rigorous assessment of the program's effectiveness.

Introduction

Retention is the practice of having a student repeat a grade as opposed to being promoted to the next school year with same-age peers. This is a complex decision made jointly by administrators, teachers, and parents, often based on a perceived lack of social/behavioral readiness, poor academic performance, and/or failure to meet an established benchmark on standardized assessments. Research on immediate and long-term impacts of retention in the early elementary grades is mixed. Some studies suggest that retention supports improved academic achievement¹, while others consider more negative effects on a child's future academic and social success, including lower performance on standardized tests, dislike for school, and high school dropout prior to graduation²⁻⁴ for students who were retained compared to peers who were not retained. In addition, retention obligates state and local government to an additional year of funding for each child who repeats a grade, increasing overall costs for educational systems. The purpose of this issue brief is to examine differences in retention between students who received First Class Pre-K and those who did not and to estimate cost savings associated with fewer children being retained in grade.

Methods

All students who attended Kindergarten in the Alabama public school system were classified into cohorts based on the year they completed Kindergarten. Children who received First Class Pre-K the previous year were identified. Grade placement data were analyzed as of the beginning of the 2018-2019 school year for eight separate cohorts of children, expected to be in 1st to 8th grades based upon when they entered Kindergarten. Students were classified as retained if they had ever been held back in a grade (retention could have occurred in Kindergarten through correct grade for age based on when the student entered Kindergarten). Number and percent retained were calculated for each student group (First Class Pre-K and No First Class Pre-K) for each cohort.

By applying the lower retention rate observed for First Class Pre-K to the full population of students, we estimated the number of children who would not have been retained had they received First Class Pre-K (i.e., assuming all students had retention rates equal to those observed for First Class Pre-K). Potential cost savings from reduced retention were calculated based on cost per student per year (\$9,213, most recent available data⁵) multiplied by the number of students who would not have been retained. Findings are cumulative for eight different groups of children. Rates are based on the population in each cohort that remains observable in the 2018-2019 school year data (i.e., did not leave the public school system). Results do not include calculations for students retained multiple times during their academic career. Data were aggregated across all eight cohorts.

Findings

Statewide, 11.6% of children in grades 1-8 had been retained at least once as of Fall 2018. Students who attended First Class Pre-K had statistically significant lower rates of retention (8.7% retained compared to 11.9% retained in the No First Class Pre-K group; $p < 0.001$). The 3.2 percentage point difference represents more than a one-fourth reduction in retention compared to peers who did not receive First Class Pre-K.

Table 1: Cumulative Retention, First Class Pre-K compared to No First Class Pre-K, all students in Alabama public schools grades 1-8 (as of Fall 2018)

	First Class Pre-K		No First Class Pre-K		All Students Statewide	
	Number	Percent	Number	Percent	Number	Percent
Ever Retained (K-7th grades)	3,479	8.7*	51,035	11.9*	54,514	11.6
Total Number in Group	39,790		428,414		468,204	

*The 3.2% difference between First Class Pre-K and No First Class Pre-K retention rates is statistically significant at $p < 0.001$ by Chi-square analyses

Applying the observed retention rate for First Class Pre-K to the No First Class Pre-K group of students (meaning we would expect to see the same 3.2 percentage point lower retention rate), potentially 13,763 fewer students would have been retained, avoiding the need of an additional year of school that costs on average \$9,213 per student. The reduced retention would save the state \$126,798,519 in K-12 education costs. This is likely an underestimate as multiple retentions for the same student are not included in these analyses.

Table 2: Cost savings associated with reduced retention rates for students who attended First Class Pre-K, for 1st-8th graders as of Fall 2018 (retained at least once in K-7th grades)

	Total Number of Students	Percent Detained	Difference in Percent Retained	Actual Number Retained	Predicted Number Retained (If no First Class Pre-K group had attended First Class Pre-K)	Potential Difference in Number Retained	Potential Cost Savings (Based on \$9,213 annual per pupil expenditure.) ⁵
First Class Pre-K	39,790	8.7	3.2	3,479	Reference group		
No First Class Pre-K	428,414	11.9		51,035	37,272	13,763	\$126,798,519

Implications

Findings from analyses presented in this issue brief suggest that students who received First Class Pre-K were less likely to be retained (i.e., to repeat a grade) compared to those who did not receive First Class Pre-K. Potential costs savings are conservative estimates based on eight groups of students observed for a portion of their academic careers. Further, costs only included educational year expenditures and did not include additional, long-term social and financial costs that may be associated with retention, such as school drop out.² Expanding First Class Pre-K is a strategy for reducing the number of students retained and also represents an opportunity for substantial K-12 educational costs savings.

References:

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