

# EARLY LITERACY IN NORTH CAROLINA AND ITS LOWEST PERFORMING SCHOOLS

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## INTRODUCTION

The State of North Carolina has placed increasing emphasis on improving reading achievement in recent years. Central to this focus is ensuring that all students in early elementary grades achieve mastery of basic early literacy skills, such as the ability to sound out words or comprehend the meaning of a sentence, which serve as the building blocks for future reading skills and abilities. **Early literacy skills are the strongest predictor of later reading achievement.**<sup>1</sup>

The purpose of this research brief is to highlight notable trends and patterns in early-grade literacy in North Carolina and its lowest performing schools. We use data on students in grades kindergarten through third who participated in the mCLASS assessments in the 2014-15, 2015-16, 2016-17, and/or 2017-18 school years. The mCLASS assessment has two components: one focuses on early literacy [Dynamic Indicators of Basic Early Literacy Skills (DIBELS)] and the other on reading comprehension [Text Reading and Comprehension (TRC)]. The mCLASS assessment is administered three times per year (first at the beginning of the year, then in the middle, and finally at the end of the year). For the purposes of this brief, a student is considered to be “proficient” in early literacy or reading comprehension if they score at or above the benchmark goal for their grade and time of year.

In the following section, we summarize five notable findings related to early-grade literacy and conclude with a discussion of the benefits of assessing early-grade literacy.

## FINDINGS ON EARLY-GRADE LITERACY

- 1** Only **1 in 3 students** is **proficient** in both early literacy and reading comprehension **at the beginning of kindergarten.**
- 2** Approximately **60,000 students** are **no longer proficient** in early literacy and/or reading comprehension **after summer break each year.**
- 3** North Carolina Transformation (NCT) **school turnaround initiative** had **no effect** on early-grade literacy or comprehension.
- 4** Literacy and comprehension scores accurately **predict which students will or will not achieve proficiency** on the third-grade reading exam over **70 percent of the time.**
- 5** **Racial achievement disparities** on third-grade reading exams were **reduced** by approximately **22 percent** in the years after early literacy assessments began.

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## 1 Only 1 in 3 students is proficient in both early literacy and reading comprehension at the beginning of kindergarten.

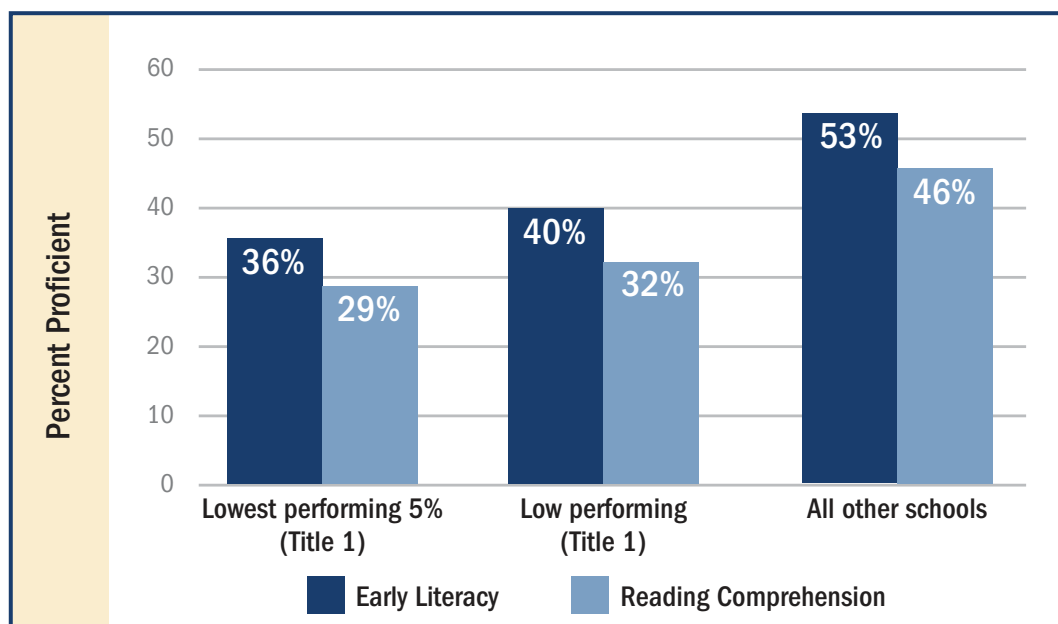
Students enter formal schooling with varying literacy and comprehension skills based on their family background and early childhood education experiences. Some students enter with the necessary skills to achieve proficiency in early literacy at the beginning of kindergarten, while others enter less prepared. In North Carolina, 54 percent of students are proficient in early literacy and 38 percent are proficient in reading comprehension on average at the beginning of kindergarten. Only 1 in 3 students is proficient in both early literacy and reading comprehension when they enter kindergarten.

However, students are even more likely to begin kindergarten unprepared in low-performing schools. Families served by these schools often grapple with poverty-related challenges, such as homelessness or food insecurity, which can hinder learning opportunities prior to entering school. At the beginning of the 2017-18 school year, 36 percent of kindergarten students who attended the lowest performing schools (defined as the bottom 5% of Title 1 schools that were identified for Comprehensive Support and Improvement under the

Every Students Succeeds Act in October 2018) were proficient in early literacy (Figure 1). Even fewer, 29 percent of kindergarten students who attended a lowest performing school were proficient in reading comprehension at the start of the 2017-18 school year. This translates to only 1 in 5 kindergarten students being proficient in both early literacy and reading comprehension at the beginning of the school year in lowest performing schools.

High rates of unpreparedness at the start of kindergarten are concerning, especially considering that children who start out behind are less likely to achieve proficiency in reading in later grades. Only 36% of kindergarten students who were not proficient in early literacy and reading comprehension at the beginning of the 2014-15 school year scored proficient on the third-grade reading end-of-grade exam in 2017-18. This means that roughly 20,000 students who were identified as below proficient in kindergarten were not brought up to proficiency by the end of the third grade.

**FIGURE 1: Student proficiency at the beginning of kindergarten in the 2017-18 school year.<sup>2</sup>**



## 2

### Approximately 60,000 students are no longer proficient in early literacy and/or reading comprehension after summer break each year.

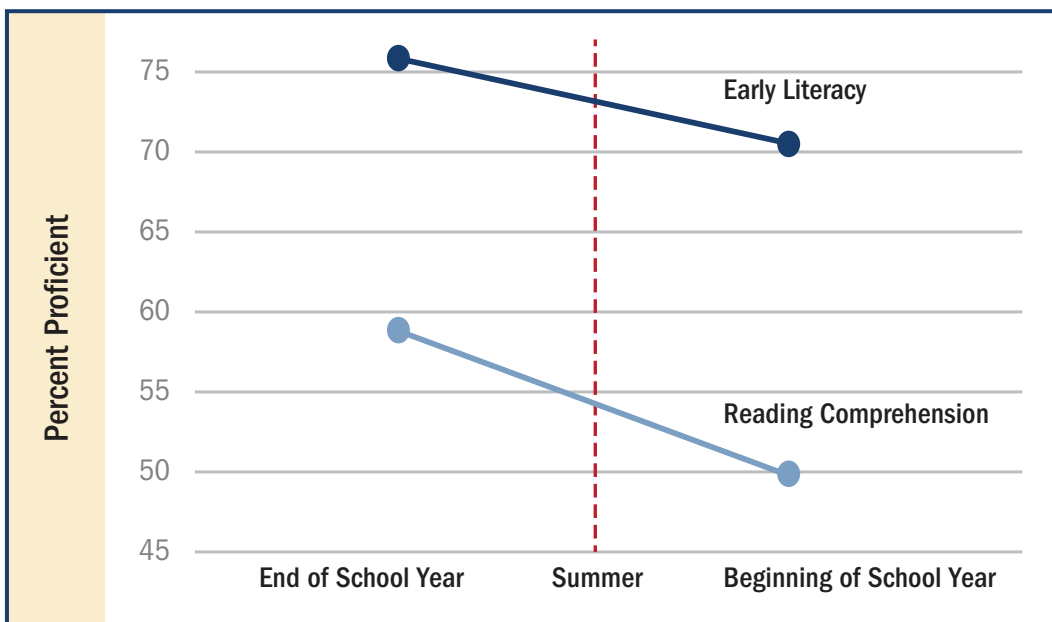
When students are given the same assessment at the end of one school year and the beginning of the next school year, they tend to score higher on the assessment that was given at the end of the school year prior to summer break. This tendency for students to return to school after the summer break with less knowledge or fewer skills is commonly referred to as “summer learning loss.” Almost all students, regardless of gender, race/ethnicity, or economic disadvantage, experience some level of summer learning loss in literacy and comprehension.

In North Carolina, summer learning loss reduces student proficiency in early-grade literacy and reading comprehension. The percent of students who are proficient in early literacy decreases by roughly 5 percentage points on average between the end of one school year and the beginning of the next (Figure 2).<sup>3</sup> The percent of students who are proficient in reading comprehension decreases by roughly 9 percentage points on

average over summer break. In terms of number of students, approximately 60,000 young students who were proficient in early literacy and/or reading comprehension at the end of the school year are no longer proficient after summer break on average each year.

At the school-level, both low- and higher-performing schools confront with summer learning loss. While the lowest-performing schools exhibit lower levels of student proficiency in literacy and comprehension at the end of the school year, the lowest-performing schools experience similar decreases in student proficiency over the summer break as higher-performing schools. Regarding differences in summer learning loss by school calendar, year-round schools appear to experience significantly lower rates of summer learning loss compared to traditional calendar schools.

**FIGURE 2: Proficiency in early literacy and reading comprehension before and after summer break.**



## 3 North Carolina Transformation (NCT) school turnaround initiative had **no effect** on early-grade literacy or comprehension.

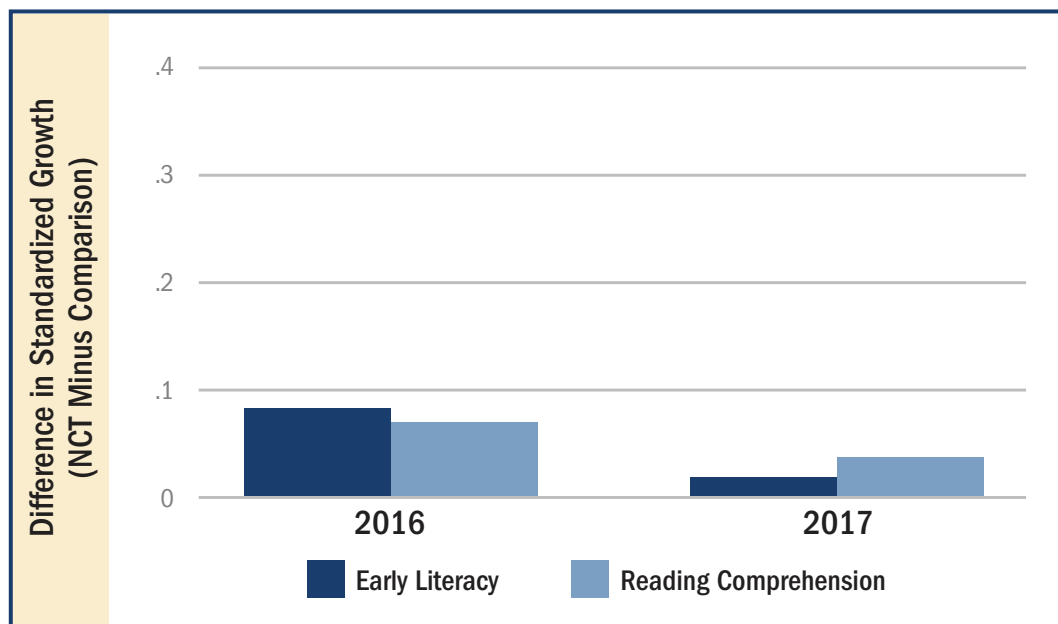
Improving early-grade literacy and comprehension in low-performing schools is central to closing achievement gaps and increasing rates of student reading proficiency in later grades. However, the North Carolina Transformation (NCT) school turnaround initiative that preceded current reform efforts under the Every Student Succeeds Act (ESSA) did not improve early literacy or reading comprehension in low-performing schools.

During the 2015-16 and 2016-17 school years, the NCT initiative sought to improve the performance of 75 of the state's lowest performing schools. While NCT had a negative effect on student reading growth in grades 4 and older in the 2016-17 school year,<sup>4</sup> the initiative did not affect early literacy or reading

comprehension growth in kindergarten through third grades. Students in grades K-3 in NCT schools made similar gains in early literacy and reading comprehension as their peers in similar schools across the two-year intervention (Figure 4).

Why did NCT not improve early-grade literacy and comprehension? Data collected from site visits suggest that because early grades are not the focus of the state accountability system (literacy and comprehension scores do not count toward a school's proficiency or growth rate), it is unlikely that supports provided under NCT, such as instructional coaching, were focused on early-grade teachers and their students.

**FIGURE 3: Differences in early literacy and reading comprehension growth between NCT and comparison schools.**



# 4

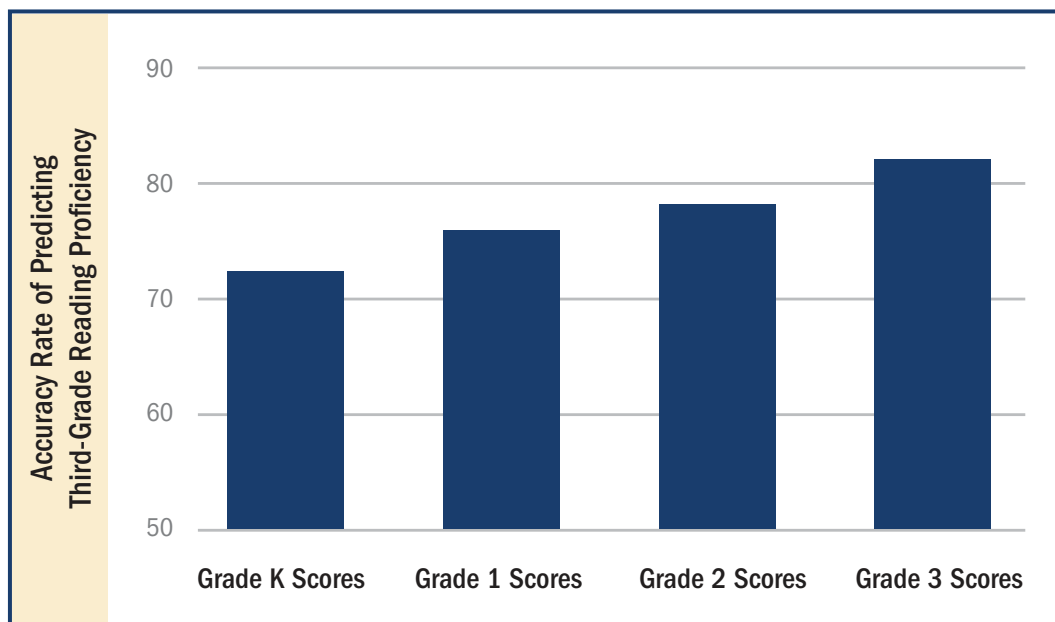
## Literacy and comprehension scores accurately predict which students will or will not achieve proficiency on the third-grade reading exam over 70 percent of the time.

Early literacy skills are the best predictor of later reading achievement.<sup>1</sup> As such, early-grade literacy scores can be used to identify which students will or will not likely achieve reading proficiency in later grades.

In North Carolina, a student’s likelihood of passing the third-grade reading end-of-grade exam can be predicted using their early literacy and reading comprehension scores from grades kindergarten through third. In fact, these early-grade literacy and comprehension scores correctly predict whether or not a student will be proficient on the third-grade reading exam over 70 percent of the time (Figure 5). For example, student scores in early literacy and reading comprehension at the end of first grade predict proficiency on the third-grade reading exam with 76 percent accuracy.

Early identification of students at risk of not being proficient in third grade is key to them achieving proficiency by the end of third grade. If a student is identified as being at risk of not passing the third-grade reading exam based on their early-grade literacy scores, more targeted instruction or additional supports in the form of tutoring or after-school assistance could be provided to them. Further, students who are identified as at risk earlier in the schooling process, and thus are able to receive extra assistance from the start and for longer periods of time, are more likely to achieve proficiency in later grades. Students are approximately three times more likely to achieve proficiency on the third-grade reading end-of-grade exam if they are identified as non-proficient at the beginning of kindergarten versus the beginning of third grade.

**FIGURE 4: Accuracy rate of predicting proficiency on the third-grade reading exam by grade of early literacy and comprehension scores.**



## 5 Racial achievement disparities on third-grade reading exams were reduced by approximately 22 percent in the years after early literacy assessments began.

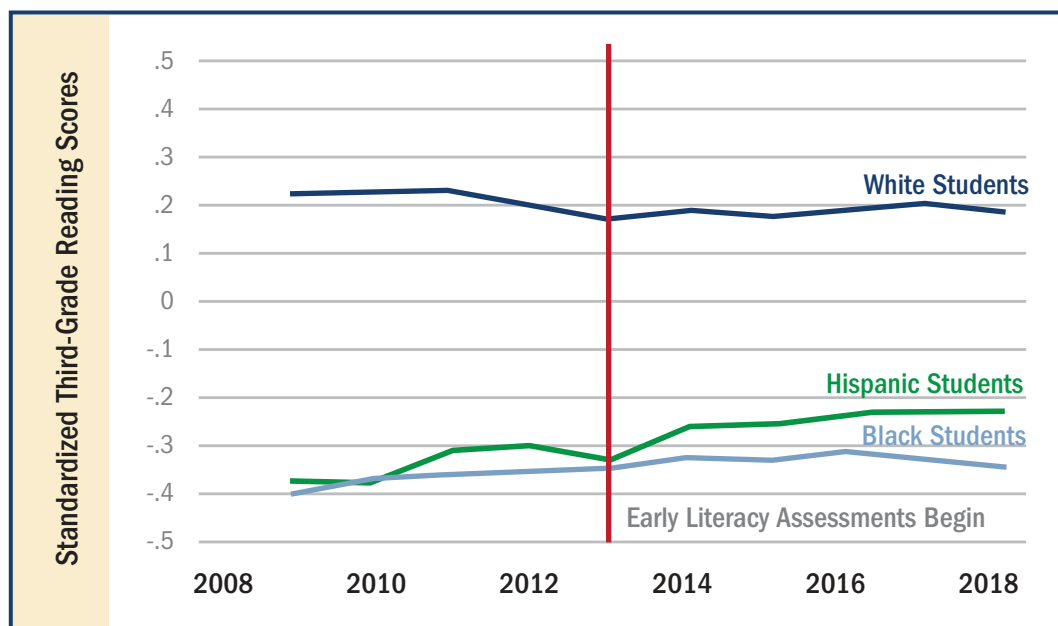
Reducing racial/ethnic disparities in student achievement is central to achieving educational equality for all students; yet, reducing such disparities can be difficult to accomplish. Thus, it is rather noteworthy that racial disparities in reading achievement decreased significantly in the years after teachers began to assess the literacy and comprehension skills of early-grade elementary students in North Carolina.

In the 2013-14 school year, North Carolina began assessing kindergarten through third-grade students' early literacy and reading comprehension skills.<sup>5</sup> In the years following, the disparity or "gap" in reading end-of-grade exam scores between white and non-white (black and Hispanic)

third-grade students has diminished (Figure 5). By the 2017-18 school year, reading disparities between white and non-white students had shrunk from .58 standard deviations to .45 standard deviations. This translates to an approximately 22 percent reduction in the racial achievement gap.

Further, it is important to note that racial/ethnic disparities on the third-grade reading exam diminished due to the rising scores of black and Hispanic students. Non-white students made greater gains in their third-grade reading scores compared to white students when their early literacy skills were assessed in multiple years between kindergarten and third grade.

**FIGURE 5:** Third-grade reading end-of-grade exam scores over time by student race/ethnicity.



# Benefits of Assessing Early-Grade Literacy

The final section of this brief summarizes the benefits that have emerged from assessing early-grade literacy in North Carolina. These benefits may help to inform the state's efforts to improve reading achievement moving forward.

**Identify struggling students.** Assessing early literacy and reading comprehension skills enables teachers to more accurately identify which early-grade students are struggling and thus tailor instruction to their specific needs. Assessing early literacy at multiple time points throughout the school year also allows for the identification of at-risk students at critical time periods, such as the beginning of kindergarten or after summer break.

**Predict future reading proficiency.** North Carolina's assessments of early literacy and reading comprehension that were used from 2014-15 to 2017-18 have been shown to accurately predict which students will or will not achieve proficiency on the third-grade reading exam. The ability to predict future reading proficiency is central to targeting instruction and providing additional supports to at-risk students as soon as possible in the schooling process, as well as enabling administrators to determine whether individual classrooms, schools, or districts are on track to achieve reading proficiency goals.

**Reduce racial disparities in achievement.** Reading achievement disparities between third-grade white and non-white students in North Carolina decreased in the years after teachers began assessing early-grade literacy and comprehension. Such reductions of achievement gaps suggest that early-grade literacy assessments play a key role in promoting educational equity, especially for students of color.

**Assess impact of interventions on early-elementary grades.** States that do not administer early-grade assessments often struggle to determine the impact of interventions, such as school turnaround initiatives, on achievement in lower-elementary grades. This is concerning, especially considering that interventions may affect lower- and upper-elementary grades differently. As demonstrated by the finding that the NCT school turnaround initiative had no effect on reading achievement in early-elementary grades yet a negative effect on reading achievement in older grades, administering early-grade assessments is crucial to providing a complete picture of how interventions impact all students in elementary schools.



## ENDNOTES

- 1 Duncan, G., Dowsett, C., Classens, A., Magnuson, K., Huston, A., Klebanov, P, . . . Japel, C. (2007). School Readiness and Later Achievement. *Developmental Psychology*, 43(6), 1428– 1446.
- 2 Lowest performing (Title 1) includes the bottom 5% of Title 1 schools that were identified as Comprehensive Support and Improvement schools under the Every Students Succeeds Act in October 2018. Low performing (Title 1) includes Title 1 schools that were designated with a school performance grade of D or F in 2018.
- 3 Includes only students who had early literacy and reading comprehension scores at: a) the end of kindergarten and beginning of first grade; b) the end of first grade and beginning of second grade; and/or c) the end of second grade and beginning of third grade.
- 4 Henry, G., & Harbatkin, E. (2019). The Next Generation of State Reforms to Improve their Lowest Performing Schools: An Evaluation of North Carolina's School Transformation Initiative (EdWorkingPaper: 19-103).
- 5 A pilot study of the early literacy and reading comprehension mCLASS assessments was conducted in a portion of North Carolina elementary schools in the 2013-14 school year. These early-grade assessments were administered statewide to all students in grades kindergarten through third starting in the 2014-15 school year.



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