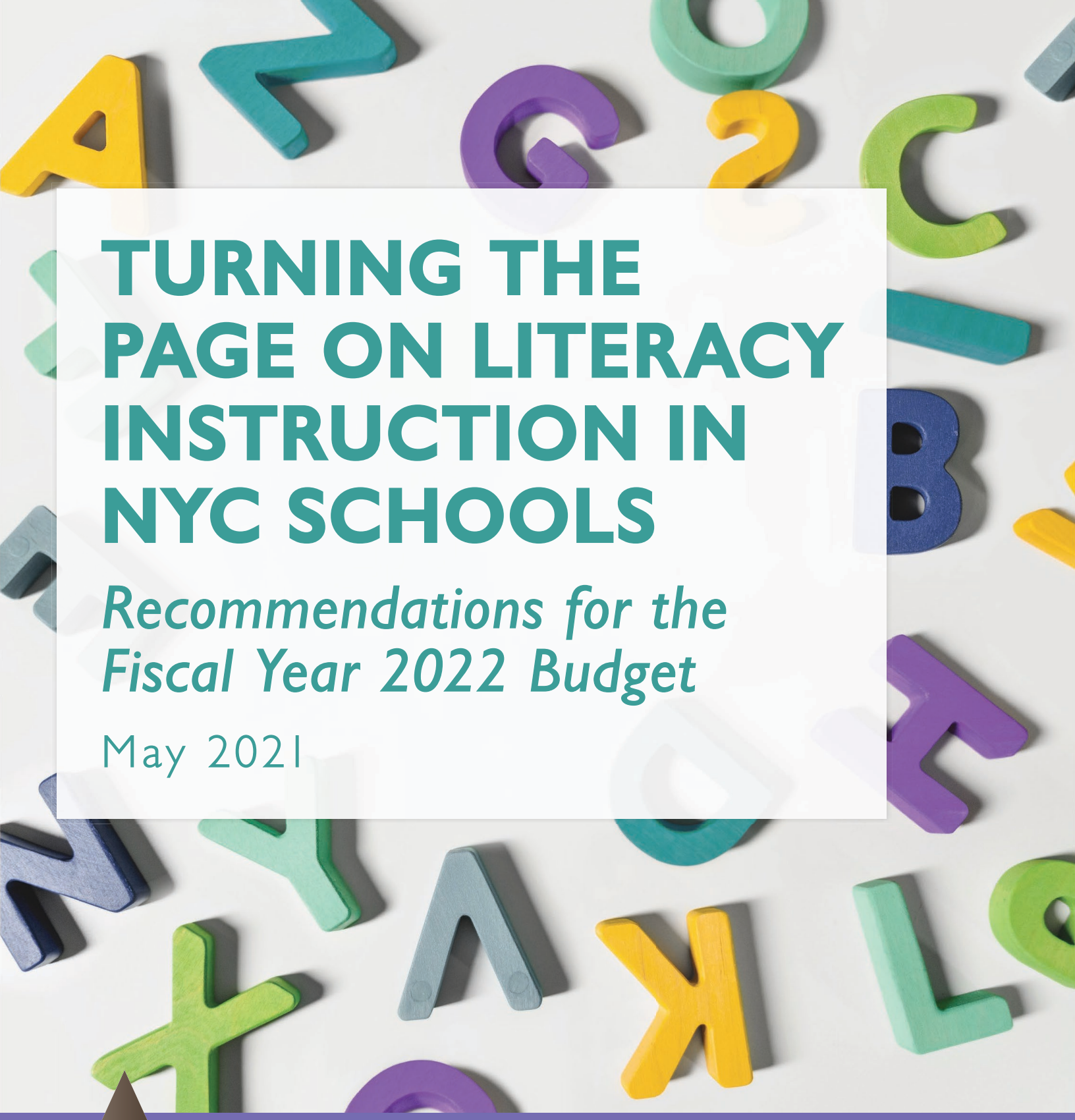


TURNING THE PAGE ON LITERACY INSTRUCTION IN NYC SCHOOLS

Recommendations for the Fiscal Year 2022 Budget

May 2021

ADVOCATES FOR CHILDREN OF NEW YORK

Protecting every child's right to learn

"He couldn't read on his own. I would have to read it over and over and over again for him to get some type of a concept of what the story was about. But he could never read it on his own… And he was just getting older, and the work was getting more complicated, and he was getting more frustrated because he knows that the work will always be harder, and he couldn't understand it…

At every meeting that we had [with the school], I continued to tell them how much [my son] was struggling in his reading, and that he needed additional help… I felt that I wasn't being heard, because the same thing was being given year after year, with no change at all… I felt, as a parent, like a failure."

— Parent of a 12-year-old reading on a first-grade level, March 2019

* * *

Every year, Advocates for Children hears from hundreds of parents like this one—parents whose children are struggling with reading and are unable to get the help they desperately need at their public schools. We regularly work with middle and high school students who are still non-readers, unable to read picture books to their younger siblings, let alone age-appropriate literature or their academic textbooks. These young people do not lack the cognitive capacity to learn to read; they have simply never received appropriate, evidence-based instruction. When we take legal action to help them obtain intensive private tutoring or a specialized private school placement—just as wealthier families routinely do for their own children when they experience reading difficulties and are unable to find effective intervention in the public system—they grow by leaps and bounds.

But learning to read should not be a privilege reserved for children who are born in certain zip codes or who manage to find their way to an organization like ours. Literacy is the foundation for all future learning and a requirement for full participation in civic life. There also happens to be a mountain of scientific research on how children learn to read and a firm consensus as to the defining features of effective instruction; this is not an area where we are still trying to figure out what works. Yet far too many New York City students, particularly those from historically marginalized communities, are not becoming proficient readers; far too many teachers have never received the training and support they need to translate research into practice and help their students become literate; and far too many schools continue to use English language arts curricula that are grounded in discredited theories of reading development rather than in the scientific evidence.

The problem has now been further exacerbated by the pandemic and the challenges of remote learning. For many young children, it is inherently more difficult to master early reading skills through online instruction—and when children do not gain a strong foundation in the building blocks of literacy in early elementary school, they tend to fall further and further behind.[1] The City must act *now* to head off a spike in unnecessary special education referrals, increasing behavior challenges as students grow frustrated and embarrassed by their inability to read, and a growing number of administrative hearings as families seek private reading tutoring or special education schools.

The good news is that the historic influx of federal and state education funding headed to New York City provides an opportunity to finally turn the page when it comes to literacy instruction. Post-pandemic, we cannot simply return to "normal," as "normal" was not working for large swaths of the student population. **As the City plans for education recovery, it must invest in a comprehensive effort to revamp the way it provides reading instruction to all students and targeted interventions to those who need extra support.** Mayor de Blasio's budget for the coming school year proposes

using $500 million in federal COVID-19 relief funding for "academic recovery and student supports," but does not offer any specifics about how the City will use this funding. As described in more detail below, the fiscal year 2022 City budget should include:

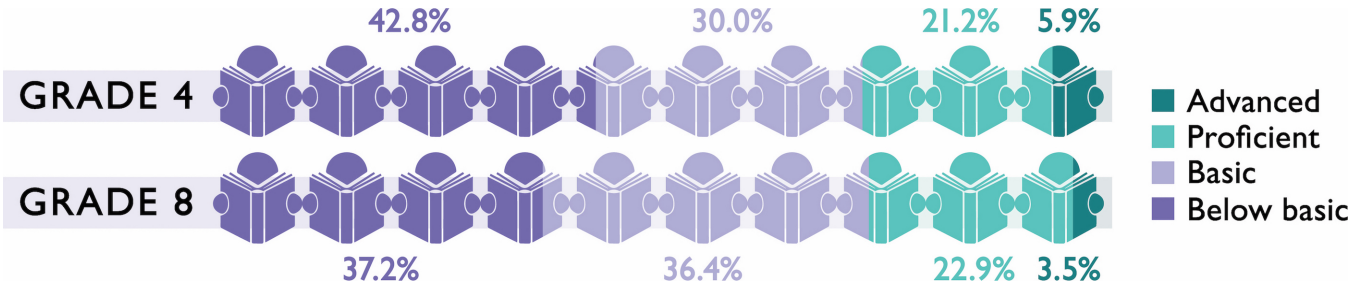
- **$50 million for evidence-based, culturally responsive reading curricula for core instruction**, as recommended in the City Council's response to the preliminary budget, to ensure all students receive the explicit, systematic instruction in foundational literacy skills that research shows is essential.
- **$150 million to provide targeted one-on-one or small-group intervention**, delivered by well-trained professionals, to students who need more help learning to read.

THE STATE OF READING PROFICIENCY IN NYC

"She just kept asking me [why] she wasn't learning, [saying] that she wanted to learn. She was very frustrated. And I was frustrated as a parent, because at home, doing homework and everything, I didn't know how to help her… She wasn't recognizing her letters. I tried helping her as a mom, you know, reading to her… She kept [telling] me, 'Mommy, I want to learn, I want to read.'"

— Parent of a third grader, August 2020

The City's current approach to literacy instruction has failed to ensure that our schools fulfill one of their most fundamental responsibilities: teaching children how to read. **According to the National Assessment of Educational Progress (NAEP)—also called the "Nation's Report Card"—a larger percentage of New York City students are reading below a basic level than are reading proficiently.** In 2019, fewer than three in ten City students—27.1% of fourth graders and 26.4% of eighth graders—scored at or above proficient on the NAEP reading test.[2]



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP). Retrieved via the NAEP Data Explorer: https://www.nationsreportcard.gov/ndecore/xplore/NDE

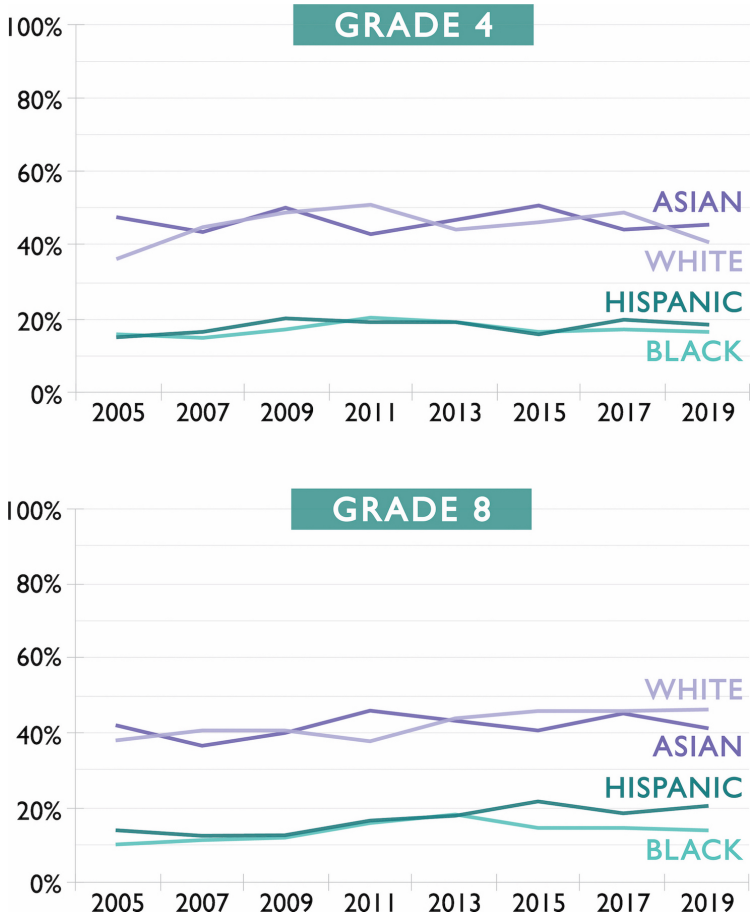
As the NAEP directly assesses only reading comprehension skills, the National Center for Education Statistics (NCES) gave an additional oral reading test to a nationally representative sample of fourth-graders in 2018 to better understand the source of reading difficulties. In a recently-released study, they reported that students performing below basic were more likely than their peers reading at a NAEP basic or proficient level to have under-developed word recognition and decoding skills.[3] This suggests that many of the more than 40% of City fourth-graders who are unable to read at the NAEP basic level may well be struggling to gain meaning from text because they lack the necessary skills to get the words off the page quickly and effortlessly.

While the pre-pandemic status quo was not working particularly well for anyone, it was *especially* detrimental for the City's Black and Hispanic students. In 2019, **only 16.7% of Black fourth graders and 18.1% of Hispanic fourth graders scored at or above proficient** on the NAEP, compared to 40.9% of White fourth graders and 45.6% of Asian fourth graders; 13.9% of Black students and 20.3% of Hispanic students in grade 8 were reading proficiently, compared to 46.3% of White eighth graders and 41.3% of Asian eighth graders.

The City's failure to teach students to read is even worse for Black and Hispanic students with disabilities. **Only 3.5% of Black fourth graders with Individualized Education Programs (IEPs) and 4.4% of Hispanic fourth graders with IEPs were reading proficiently in 2019**, while more than eight out of ten performed below basic. Similarly, just 4.4% of Black eighth graders and 7.2% of Hispanic eighth graders with disabilities scored at or above proficient; about three-quarters of Black students and more than two-thirds of Hispanic students with IEPs in grade 8 were reading below a basic level.

Moreover, **the City's performance on the NAEP has been largely stagnant for the past 15 years, and there has been no meaningful progress towards reducing racial disparities**. For each of the four racial/ethnic groups, fourth-grade proficiency rates in 2019 were not significantly different from those seen in any of the seven preceding test administrations.[4] Hispanic eighth graders saw a small increase in reading proficiency in 2019, relative to performance on the NAEP in 2007 and 2009, but no other year-to-year fluctuations in eighth grade proficiency rates between 2005 and 2019 were statistically significant.

% of New York City students scoring at or above proficient in reading on the NAEP, by race/ethnicity

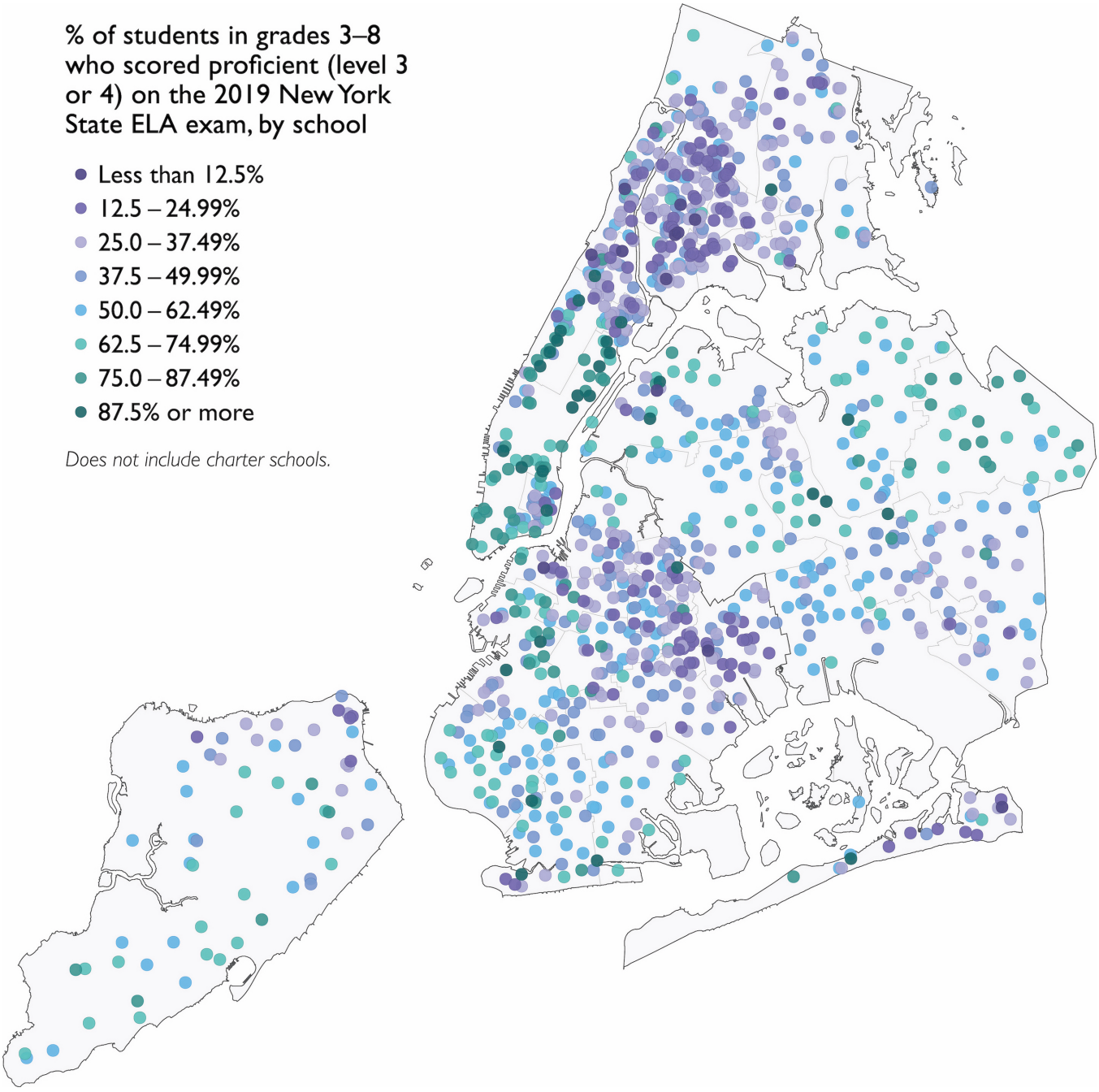


Assessment results are based on a representative sample of students, each of whom completed only a subset of the entire test; proficiency rates are therefore estimates, and apparent differences between years or between demographic groups are not always statistically significant (i.e., differences in proficiency rates are within the margin of error).

SOURCE: NCES NAEP Data Explorer

Similarly, student performance on the grades 3–8 New York State English Language Arts (ELA) exam shows alarming disparities based on race, disability, and housing status. Overall, less than half (47.4%) of the City's third through eighth graders, and only 36.0% of Black and Hispanic students, 29.4% of students experiencing homelessness, and 16.1% of students with disabilities, were reading proficiently

in 2019 according to this exam.[5] Reading proficiency also varies widely across the five boroughs—and **students attending schools in low-income communities of color are disproportionately struggling to obtain the literacy instruction and intervention they need.** At 152 schools*, less than a quarter of tested students scored proficient (level 3 or 4) on the most recent state test; these schools are particularly concentrated in the central and south Bronx and in Brownsville and East New York in Brooklyn.



* One of these 152 schools has since closed and is not included on the map.

SOURCE: New York City Department of Education (DOE), School-level results on the New York State English Language Arts (ELA) exam (grades 3–8), 2013–2019. Retrieved from: https://infohub.nyced.org/reports/academics/test-results.

The ultimate consequences of the failure to provide effective reading instruction are seen in the disturbingly low literacy rates among adult New Yorkers. **New York State has the tenth-lowest average reading score of any state in the nation on the Program for the International Assessment of Adult Competencies (PIAAC)**. Half of Bronx residents between the ages of 16 and 74, as well as one in three adults in Brooklyn, read at or below this assessment's lowest level of proficiency (PIAAC level 1), meaning they can generally find specific information in a piece of writing or perform simple tasks like filling out a form, but are unable to understand complex text or draw inferences from what they read; some individuals scoring below level 1 are functionally illiterate. **Only 23 counties in the United States have a higher percentage of their residents scoring at or below PIACC level 1 than the Bronx**.[6]

UNDERSTANDING THE CHALLENGE

"You spend all your time during the day teaching [your child] and praying for a miracle and hoping that he catch on somehow, and then at night, you wonder what the hell's going to happen to him when you're no longer around to help him, because he cannot read. How can you function in this world if you cannot read or you cannot write?… I don't expect him to have A's. I don't expect him to do that, but I just want him to be able to read an instruction, read a direction, spell his name. I think I'm entitled to that. And I think he's entitled to that as well."

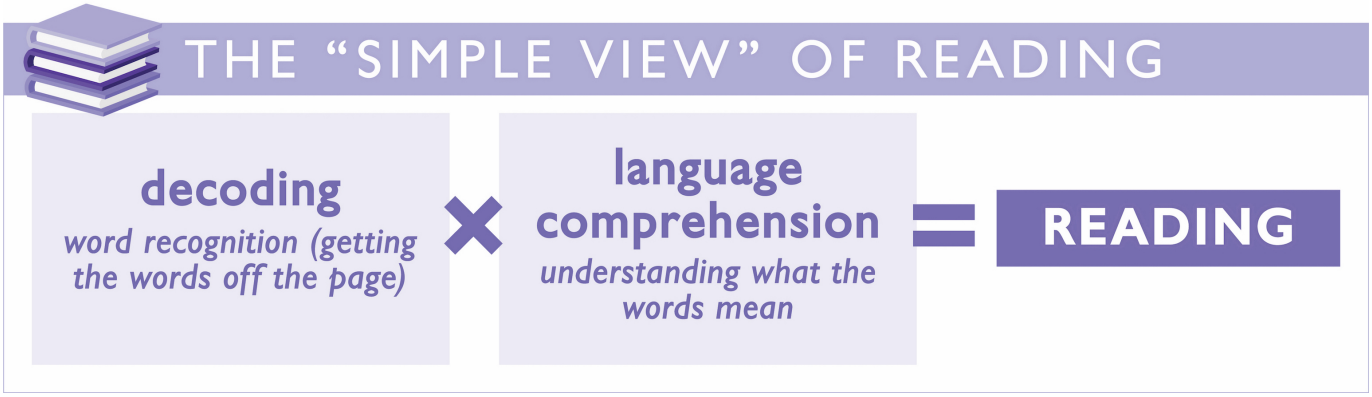
— Parent of a 14-year-old with dyslexia, December 2017

Learning to read does not happen naturally. While the human brain is wired for *spoken* language—a typically-developing child will naturally learn to speak the language(s) used in their surrounding community—no one is "born to read."[7] This is because *written* language is a relatively recent human invention. In order to gain meaning from print, we each have to build new connections between areas of our brains that developed for other purposes. For some children, acquiring this new skill will appear to happen effortlessly; for many others, particularly those with language-based learning disabilities like dyslexia, it will be tremendously challenging. But it is never automatic. Reading must be taught.[8]

Yet nearly all students, including those with disabilities, can become proficient readers, provided they receive high-quality instruction—and there is a strong scientific consensus as to what effective reading instruction looks like.[9] While the best way to teach reading was once a purely theoretical debate, with the advent of modern brain imaging technology and rigorous research methodologies, cognitive scientists and applied researchers have gained a more precise understanding of what is happening within the brains of skilled and struggling readers and what instructional practices best support learning. Approaches that flow from the (incorrect) premise that reading is natural do not work for the majority of children, who will not discover the rules that govern written language on their own. Surrounding young people with interesting and diverse books, sharing stories, and fostering a love of reading are crucial, but these things alone are not sufficient to ensure that all children become literate. We must explicitly and systematically teach students what they need to know.

There are two major components that have to come together in order to become a skilled reader; they are equally critical and inextricably intertwined:[10]

1. **Children have to break the code that connects the sounds of spoken language with the letters that represent those sounds in print**—they need to be taught how to convert the lines and shapes they see on the page into words they can say out loud. This requires explicit and carefully-sequenced phonics instruction, whereby children are deliberately taught the predictable



relationships between sounds and letters and how to apply their knowledge of those relationships to decode, or "sound out," unfamiliar words. With sufficient practice, accurate and rapid word recognition becomes effortless.

2. **Students need language comprehension skills in order to understand the words they decode and gain meaning from text.** This requires a rich vocabulary, background knowledge about the world, an understanding of grammar and sentence structure, and engagement with both fiction and nonfiction works.

While some students will manage to become proficient readers no matter what sort of instruction they receive, for the majority of children, how well they learn to read is heavily dependent on how they are taught. With a structured approach—a program that includes explicit and systematic instruction in phonemic awareness and phonics in the early elementary grades, along with direct instruction in vocabulary and exposure to a wide range of books that build subject-matter knowledge, including literature they cannot yet read on their own—they will become excellent and lifelong readers. Absent such instruction, many will struggle unnecessarily and never learn to read as well as they could.[11] This is *especially* true for students with language-based learning disabilities like dyslexia.

Yet even as science has advanced, **the research on how children learn to read has had limited influence on what happens in the classroom every day. More than 20 years after the National Reading Panel issued its comprehensive report laying out the core elements of effective instruction, many widely-used curricula still contain ideas and teaching methods that contradict the science.**[12] These programs incorporate some phonics, but not in a manner that is strategic or systematic. Even as students are taught letter-sound relationships, they are encouraged to guess at unfamiliar words based on the pictures or what might make sense in context—workarounds that studies show poor readers use, not skilled readers, and that actually make it harder for children to develop the decoding skills that are required for reading more complex text. And when it takes significant effort just to get individual words off the page, challenges can quickly snowball, as students have limited mental energy left over to focus on meaning, think deeply about what they read, and learn new things from text.

At the same time, **the majority of teacher preparation programs fail to equip educators with the knowledge and training they need to effectively teach foundational literacy skills to students with a wide range of needs.**[13] When teachers enter the classroom, they rely on the curriculum provided by their school and the advice of their colleagues; instruction is guided not by the science, but by what has been done in the past and whatever materials the school happens to have on hand. In New York City, this is particularly problematic given that individual schools have been given wide latitude to use any literacy curriculum they wish—regardless of whether or not that curriculum aligns with the

scientific research on reading acquisition or has proven effective in actually teaching children how to decode and comprehend text.[14] When teachers see their students struggling to become proficient readers and question whether the existing curriculum is working, they often have nowhere to turn for help and are left to figure it out on their own.

RECOMMENDATIONS

All children want to learn how to read. And all children deserve nothing less. Improving the quality of literacy instruction is a matter of racial, economic, and disability justice; New York City must seize the opportunity presented by our current moment and take the following steps to bring about meaningful, long-lasting change.

Ensure all schools use evidence-based, culturally responsive reading curricula for core instruction.

As the City recovers from the pandemic, it cannot afford to have schools using outdated curricula shown not to be effective. While some children will learn to read no matter the curriculum used in their classroom, they are the exception rather than the rule. Such students become proficient readers *in spite of* poor curricula; their success is not a sign that the status quo is working.

The City should provide schools with a menu of curricular options from which to choose—options that ensure all students receive explicit, systematic instruction in foundational literacy skills—and must fund the purchase of the materials and training necessary for successful implementation. Teachers and building leaders should feel confident that they are using an evidence-based program; they should not be forced to spend their limited time assessing the quality of a particular publisher's curriculum or creating their own materials from scratch. In addition, the fact that there are currently a slew of different curricula in use across the City—and sometimes even within a single school—makes it far more difficult for central DOE to provide support to schools around implementation, while the lack of system-wide coordination limits the sharing of resources and best practices.

We are pleased that **the New York City Council recommended $50 million for new literacy curricula and professional development in their response to the preliminary budget for fiscal year 2022; the final budget should include at least this amount.**

Resume the promising Universal Literacy coaching program.

"[My first year teaching] I remember being like a deer in headlights, especially when it came to teaching reading and writing… Sadly, I didn't know very much, and frankly, no one really knew how to help me support the children in my class with literacy, despite having three mentors… I guarantee more teachers than not know something is terribly wrong, but don't change how they teach out of fear that it is not the way an admin or the district wants it; it's not what the curriculum says to do."

— Carissa Berliner, NYC teacher and Universal Literacy coach, April 2021[15]

Before the pandemic, more than 400 Universal Literacy coaches were working to help K–2 teachers improve their practice. The coaches received extensive training in the science of reading and

evidence-based practice, and the DOE's evaluation of year two of the initiative showed promising and statistically significant results.[16] More generally, studies have shown teacher coaching to be a more effective strategy for improving instruction and raising student achievement than traditional professional development programming.[17]

While coaches are serving as classroom teachers this year due to pandemic-related staffing shortages, they should resume their coaching responsibilities in 2021-22 and beyond. Teachers will need the support and expertise of well-trained coaches more than ever to meet the needs of students who have experienced over a year of educational disruption. Furthermore, effectively implementing a new literacy curriculum will require far more than simply purchasing new materials. To truly move the needle on literacy instruction, the move to evidence-based curriculum should serve as an on-ramp to ongoing professional learning about reading research. Changing practice cannot happen overnight or via a one-day professional development session; there must be people on the ground who have the requisite knowledge and skills to help schools make the shift. The Universal Literacy coaches are well-situated to play this role.

Ensure every K–12 student struggling with reading receives targeted, evidence-based intervention.

"[I need to] learn how to read and write better than what I do now… [because] I can't understand what I read… I'm trying to get my education. Like, I'm trying to graduate, go to college, do what I got to do, and not get held back by people that can't really help me with what I need."

— 17-year-old student reading on a second-grade level, February 2019

We estimate that there are *at least* 100,000 New York City students in grades 3–12 who could significantly benefit from targeted, evidence-based reading intervention.[18] Many such students need intensive intervention to make up for the fact that they did not receive high-quality instruction in foundational skills when they were younger. And even when core instruction is strong, there will always be some students—for example, those with severe dyslexia—for whom learning to read is more difficult; they will need additional practice and individualized attention in order to gain mastery. What unites these two groups of students is the fact that there is often nowhere in the public school system for them to get help.

Last summer, the DOE began matching small groups of students struggling with reading with educators the City had already trained in delivering evidence-based interventions; they plan to continue the program this summer. **The DOE should expand this initiative into the 2021-22 school year, leveraging current staff and hiring and training a new corps of tutors to ensure that all K–12 students who need extra help in reading receive intensive one-on-one or small group support.** We recommend that the fiscal year 2022 budget include at least $150 million specifically for this purpose.

NOTES

[1] For example, literacy skills in kindergarten and first grade have been linked to reading comprehension and language ability in tenth grade; see Richard L. Sparks, Jon Patton, and Amy Murdoch, "Early reading success and its relationship to reading achievement and reading volume: replication of '10 years later,'" *Reading and Writing* 27 (2014): 189–211, https://doi.org/10.1007/s11145-013-9439-2; Christopher T. Stanley, Yaacov Petscher, and Hugh Catts, "A longitudinal investigation of direct and indirect links between reading skills in kindergarten and reading comprehension in tenth grade," *Reading and Writing* 31 (2018): 133–153, https://doi.org/10.1007/s11145-017-9777-6. *See also:* Keith E. Stanovich, "Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy," *Reading Research Quarterly* 21, no. 4 (1986): 360–407, http://www.keithstanovich.com/Site/Research_on_Reading_files/RRQ86A.pdf.

[2] We recognize that standardized test scores are a limited and highly imperfect measure of what students know and are able to do; we rely on them here to the extent that they help illustrate the depth and systemic nature of a problem we see firsthand in our work with individual students and families in New York City. Data retrieved from: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), NAEP Data Explorer, https://www.nationsreportcard.gov/ndecore/xplore/NDE.

[3] Sheida White et al., *Highlights of the 2018 NAEP Oral Reading Fluency Study* (NCES 2021-026), U.S. Department of Education (Washington, DC: Institute of Education Sciences, National Center for Education Statistics, 2021), https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2021026.

[4] While there were not significant changes in performance when looking at student subgroups, the 2019 proficiency rate for *all* City fourth graders (27.1%) represented a statistically significant increase from the overall rate in 2005, when it was 22.3%, though it was *not* significantly different from overall fourth grade proficiency in any subsequent year. The 2019 proficiency rate for *all* City eighth graders (26.4%) was significantly higher than that seen in 2005, 2007, and 2009, but it was not significantly different from any of the following years. For both tested grades, the size of the gap between Black and White students and between Hispanic and White students was not significantly different in 2019 than in any of the seven preceding test administrations.

[5] New York State Education Department (NYSED), NYC Public Schools Grades 3–8 ELA Assessment Data, https://data.nysed.gov/assessment38.php?subject=ELA&year=2019&instid=7889678368.

[6] Estimates are based on combined data collected in 2012, 2014, and 2017. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics (NCES), Program for the International Assessment of Adult Competencies (PIAAC), U.S. State and County Estimates, https://nces.ed.gov/surveys/piaac/state-county-estimates.asp.

[7] *See,* e.g., Maryanne Wolf, *Proust and the Squid: The Story and Science of the Reading Brain* (New York, NY: Harper Perennial, 2007).

[8] Note that this section provides an extremely limited overview of the rich research literature on reading acquisition and instruction; for a more nuanced, in-depth discussion, see sources cited in notes 7, 9, 11, and 12. For a general audience, we also recommend the audio documentaries produced by American Public Media, available at https://features.apmreports.org/reading/, and AFC's other publications at www.advocatesforchildren.org/literacy.

[9] *See,* e.g., Anne Castles, Kathleen Rastle, and Kate Nation, "Ending the Reading Wars: Reading Acquisition from Novice to Expert," *Psychological Science in the Public Interest* 19, no. 1 (2018): 5–51, https://doi.org/10.1177/1529100618772271; Linnea C. Ehri, "The Science of Learning to Read Words: A Case for Systematic Phonics Instruction," *Reading Research Quarterly* 55, no. S1 (2020): S45–S60, https://doi.org/10.1002/rrq.334; National Early Literacy Panel, *Developing Early Literacy: Report of the National Early Literacy Panel* (Washington, DC: National Institute for Literacy, 2008), https://www.nichd.nih.gov/publications/product/346; National Reading Panel, *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction* (Bethesda, MD: National Institute of Child and Human Development, 2000), https://www.nichd.nih.gov/research/supported/nrp; Catherine E. Snow, M. Susan Burns, and Peg Griffin, *Preventing reading difficulties in young children* (Washington, DC: National Academy Press, 1998), http://www.nap.edu/catalog/6023/preventing-reading-difficulties-in-young-children.

[10] As first described in Philip B. Gough and William E. Tunmer, "Decoding, Reading, and Reading Disability," *Remedial and Special Education* 7, no. 1 (1986): 6–10, https://doi.org/10.1177/074193258600700104.

[11] See, e.g., Sharon Vaughn and Jack M. Fletcher, "Identifying and Teaching Students with Significant Reading Problems," *American Educator* (Winter 2020-2021), https://www.aft.org/ae/winter2020-2021/vaughn_fletcher.

[12] See, e.g., Louisa C. Moats, *Teaching Reading* Is *Rocket Science, 2020: What expert teachers of reading should know and be able to do* (American Federation of Teachers, Summer 2020), https://www.aft.org/sites/default/files/moats.pdf; Louise Spear-Swerling, "Structured Literacy and Typical Literacy Practices: Understanding Differences to Create Instructional Opportunities," *TEACHING Exceptional Children* 51, no. 3 (2019): 201–211, https://doi.org/10.1177/0040059917750160.

[13] See, e.g., R. Malatesha Joshi et al., "Do textbooks used in university reading education courses conform to the instructional recommendations of the National Reading Panel?" *Journal of Learning Disabilities* 42, no. 5 (2009): 458–463, https://doi.org/10.1177/0022219409338739; Louisa Moats, "What teachers don't know and why they aren't learning it: Addressing the need for content and pedagogy in teacher education," *Australian Journal of Learning Difficulties* 19, no. 2 (2014): 75–91, https://doi.org/10.1080/19404158.2014.941093.

[14] In the early years of the Bloomberg administration, the City trained thousands of teachers in the *Units of Study* curriculum developed by Teachers College Reading & Writing Project (TCRWP)—a program that a panel of expert reviewers have since agreed is unlikely to lead to success for students who do not arrive in the classroom with an already well-developed understanding of written and academic English. While the DOE no longer actively supports or subsidizes TCRWP, many schools continue to use the materials and/or have a philosophical commitment to the underlying approach as a result of this legacy. See: James Traub, "New York's New Approach," *The New York Times* (3 August 2003), https://www.nytimes.com/2003/08/03/education/new-york-s-new-approach.html; Marilyn Jager Adams et al., *Comparing Reading Research to Program Design: An Examination of* Teachers College Units of Study (Student Achievement Partners, January 2020), https://achievethecore.org/page/3240/comparing-reading-research-to-program-design-an-examination-of-teachers-college-units-of-study. For more on the City's current approach to literacy curriculum, see: Alex Zimmerman and Yoav Gonen, "A reading 'crisis': Why some New York City parents created a school for dyslexic students," *Chalkbeat New York* (4 September 2019), https://ny.chalkbeat.org/2019/9/4/21109080/a-reading-crisis-why-some-new-york-city-parents-created-a-school-for-dyslexic-students.

[15] edWeb, "Literacy: A Social Justice Issue," Webinar (14 April 2021), https://home.edweb.net/webinar/readers20210414/.

[16] New York City Department of Education (DOE), Research & Policy Support Group, *Universal Literacy Year 2 Evaluation Summary Report — SY 2017–18* (December 2019), https://infohub.nyced.org/docs/default-source/default-document-library/ulit_y2evalsummaryreport_sy2017-18_final.pdf.

[17] Matthew A. Kraft, David Blazar, and Dylan Hogan, "The Effect of Teacher Coaching on Instruction and Achievement: A Meta-Analysis of the Causal Evidence," *Review of Educational Research* 88, no. 4 (2018): 547–588, https://doi.org/10.3102/0034654318759268.

[18] We derived a rough estimate of the number of students needing intervention in two ways: (1) Adding the number of students in grades 3–8 who scored level 1 on the 2019 New York State ELA exam and the number of high school students who scored below 65 on the 2019 English Regents exam; (2) Extrapolating from NYC's performance on the 2019 NAEP and multiplying the total number of students in grades 3–12 (not including charter schools) by 37.2%, the proportion of eighth graders who were reading below a basic level. According to the first method—which is likely an underestimate, as it does not account for high school students who did not sit for the English Regents exam in 2019—about 114,000 students need additional help in reading; the latter method suggests that about 266,000 students do.