



SCHOOL FINANCE SERIES

# Investing for Student Success

Lessons From State School Finance Reforms

Linda Darling-Hammond

# **Investing for Student Success: Lessons From State School Finance Reforms**

Linda Darling-Hammond

## Acknowledgments

The author thanks former LPI colleague Titilayo Tinubu Ali, who provided research support on an earlier version of this paper. Appreciation also goes to Aaron Reeves and Erin Chase, who provided design and editorial support, and the LPI communications team for their invaluable support in developing and disseminating this report. Without their generosity of time and spirit, this work would not have been possible.

This research was supported by the Raikes Foundation. Core operating support for the Learning Policy Institute is provided by the Sandler Foundation, the William and Flora Hewlett Foundation, and the Ford Foundation. We are grateful to them for their generous support. The ideas voiced here are those of the authors and are not to be attributed to our funders.

### External Reviewers

We are grateful to Oscar Jimenez-Castellanos, Associate Professor and Director of Educational Leadership at Santa Clara University, and to Julian Vasquez Heilig, Professor of Educational Leadership and Policy Studies at California State University Sacramento, who reviewed an earlier version of this paper.

The appropriate citation for this report is: Darling-Hammond, L. (2019). *Investing for student success: Lessons from state school finance reforms*. Palo Alto, CA: Learning Policy Institute.

This report can be found online at <https://learningpolicyinstitute.org/product/investing-student-success-school-finance-reforms>.

Cover photo courtesy of Allison Shelley/The Verbatim Agency for American Education: Images of Teachers and Students in Action.

This work is licensed under the Creative Commons Attribution-NonCommercial 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc/4.0/>.



Report originally published April 9, 2019 | Document last revised July 25, 2019  
Revisions are noted here: <http://learningpolicyinstitute.org/issfr-update>

## Table of Contents

<b>Executive Summary</b> .....	<b>v</b>
<b>Introduction</b> .....	<b>1</b>
<b>Sources of Inequality</b> .....	<b>2</b>
<b>How Money Matters</b> .....	<b>6</b>
<b>State School Finance Reforms</b> .....	<b>8</b>
Connecticut.....	9
Massachusetts .....	13
New Jersey.....	14
North Carolina.....	18
Summing Up.....	21
<b>Achieving Equitable and Adequate Resources: Recommendations</b> .....	<b>22</b>
The Federal Role .....	22
The State Role.....	24
<b>Conclusion</b> .....	<b>26</b>
<b>Endnotes</b> .....	<b>27</b>
<b>About the Author</b> .....	<b>32</b>

### List of Figures and Tables

<b>Figure 1</b> State School Funding Distributions, 2015 .....	3
<b>Figure 2</b> Connecticut Achievement Trends (NAEP 4th Grade Reading Scores).....	11
<b>Figure 3</b> Connecticut Achievement Trends (NAEP 8th Grade Reading Scores).....	12
<b>Figure 4</b> Massachusetts Achievement Trends (NAEP 8th Grade Mathematics Scores).....	14
<b>Figure 5</b> Scores Rose and Achievement Gaps Narrowed in New Jersey (NAEP 4th Grade Mathematics Scores).....	15
<b>Figure 6</b> New Jersey Achievement Trends (NAEP 8th Grade Mathematics Scores).....	17
<b>Figure 7</b> North Carolina Achievement Trends (NAEP 8th Grade Mathematics Scores) .....	20
<b>Table 1</b> Top-Ranked States on the National Assessment of Educational Progress, 2017 .....	8
<b>Table 2</b> Changes in Financing Strategies .....	26



## Executive Summary

Public schools in the United States are among the most inequitably funded of any in the industrialized world. Ironically, as a function of the commitment to education in each of the small towns that emerged as the country grew, the funding system that resulted is rooted in local property tax bases that are highly unequal.

State funding rarely equalizes these disparities adequately. As a result, students in low-wealth districts, who are frequently students from low-income families, typically have the fewest resources, including less-qualified teachers, poorer curriculum, larger classes, and fewer materials for learning.

This report examines a critical question: How should we invest resources to achieve high-quality education in ways that redress the effects of inequities and historical discrimination? It reviews resource inequalities in U.S. schools and analyzes the results of efforts to address these inequalities, examining recent research on the outcomes of school finance reforms nationally and in four states—Connecticut, Massachusetts, New Jersey, and North Carolina—where learning opportunities were substantially improved by the strategies undertaken. The report concludes with recommendations for federal and state actions that could support greater resource equity.

### The Extent of Inequality

The United States not only funds schools inequitably, but it also has much higher child poverty rates than most industrialized nations—and a more tattered safety net. As a result, many children live with food and housing insecurity, as well as lack of health care and other adverse conditions. These challenges require schools that serve many of these children to provide more services, which in turn requires greater school funding.

However, as of 2015, the most recent year for which data are available, only 12 states had progressive funding distributions that provide at least 5% more funding to districts in which student poverty is high (30% or more) as compared to districts in which there is little or no poverty. And of these, only five states also funded education at a strong level of adequacy—Delaware, Massachusetts, Minnesota, New Jersey, and Wyoming.

About 17 states had regressive funding distributions that provide less funding to districts with high rates of student poverty. Among the most inequitable states are those that spend significantly less money on districts with greater poverty, including Alabama, Arizona, Illinois, Maine, Missouri, Nevada, North Dakota, South Dakota, and Virginia.

The wealthiest states spend about 3 times what the poorer states spend, and in many states, the wealthiest districts spend 2 to 3 times what the poorest districts can spend per pupil. The Great Recession of 2008 further exacerbated inequities between rich and poor schools when states cut education funding, along with funding in other social welfare areas such as health care and human services. As of 2016 (the most recent nationwide data available), 24 states had not yet returned to pre-2008 levels in their state and local education funding.

## How Money Matters

For many years, research on the relationship between spending and student learning appeared inconclusive. Due to the limitations of data sets and statistical methods, it was difficult to disentangle the effect of resource allocation from other factors, such as family income, parental education, or school structure. And because children from low-income families have typically attended poorly funded schools, it has been difficult to sort out whether it was their family income or school resources that predicted outcomes.

However, recent advances in data sets and statistical methods have supported a number of studies that show that when more money is spent on education, especially for students from low-income families, achievement and graduation rates improve, along with life outcomes such as employment, wages, and reduced poverty rates. Investments in instruction, especially high-quality teachers, appear to leverage the largest marginal gains in performance.

This insight has been documented in studies around the world, along with the several other areas of investment that have been found to make a difference in achievement and equity both in high-achieving nations and high-achieving states in the U.S. In addition to secure housing, food, and health care that enable children to come to school ready to learn, these places share a number of features needed in a system of education that routinely educates all children well, including

- supportive early learning environments;
- equitably funded schools that provide equitable access to high-quality teaching;
- well-prepared and well-supported teachers;
- standards, curriculum, and assessments focused on 21st-century learning goals; and
- schools organized productively for student and teacher learning, providing time and opportunities for collaborative planning and collective improvement activities.

A number of states have undertaken reforms that have created these conditions and produced stronger educational outcomes. We review the strategies used in four states: **Connecticut** and **Massachusetts** undertook reforms that produced great strides in equity, adequacy, and achievement during the early 1990s. **New Jersey** made great strides a decade later. As a “majority-minority” state, New Jersey’s position as one of the top-achieving states in the country is particularly noteworthy. These three states are among the four highest scoring on the U.S. National Assessment of Educational Progress (NAEP) in reading and mathematics, and they perform at levels comparable to the highest achieving nations in the world on the Program for International Student Assessment (PISA). **North Carolina’s** sustained investments over two eras of reform in the 1980s and the 1990s enabled it to become the first high-poverty Southern state to achieve above national norms and to make more progress in closing the achievement gap during the 1990s than any other state.

All four of these states equalized funding across districts, providing more to those with greater needs, typically on the heels of an equity lawsuit. All of them also undertook a number of reforms to improve the quality of teaching, by raising salaries and standards for teacher education and licensing, investing in mentoring for beginning teachers and in high-quality professional development for veteran educators, and improving training for principals. All of them adopted new curriculum standards and assessments that focused on higher order thinking and performance skills and created ways to support schools and districts needing additional help to improve. Each of these states also invested in high-quality preschool to reduce the achievement gap before kindergarten.

While all of these states made impressive gains in educational outcomes, all of them have also suffered setbacks in funding, through tax caps or other fiscal limitations in later administrations, and all of them are currently confronting legal or political challenges to inequality, accompanied by opportunities to recoup those losses. Their experiences demonstrate that, in the U.S., these kinds of equity-focused changes require steady work.

## Recommendations

Both federal and state governments can make a difference in achieving greater equity and adequacy in school funding.

The federal government has set a precedent for enforcing educational standards through its expectations in the last two authorizations of the Elementary and Secondary Education Act—the most recent titled the Every Student Succeeds Act (ESSA). The act requires states to develop means for monitoring progress toward student learning goals as a condition of receiving federal funds. It could equally tie federal education funding to each state’s movement toward equitable access to education resources. The federal government also has a role in ensuring adequate health care and nutrition, safe and secure housing, and healthy communities for children. In addition to investing in children’s basic welfare, the federal government could:

- **Equalize allocations of ESSA resources** across states so that high-poverty states receive a greater and fairer share. Allocation formulas should use indicators of student need, with adjustments for cost-of-living differentials, rather than relying on current measures of spending that disadvantage poor states.
- **Enforce comparability provisions for ensuring equally qualified teachers** are assigned to schools serving different populations of students. The law already requires that states develop policies and incentives to balance the qualifications of teachers across schools serving more- and less-advantaged students, but this aspect of the law is weakly enforced, and wide disparities persist.
- **Require states to report and act on opportunity indicators** to accompany their reports of academic progress for each school, reflecting the availability of well-qualified teachers; strong curriculum opportunities; books, materials, and equipment (such as science labs and computers); and adequate facilities. ESSA includes a number of expectations for reporting the kinds of educational resources students receive, and states have incorporated others into their new accountability and improvement systems under the law. The law requires a resource audit for schools identified as in need of intervention and support, as well as the collection of measures regarding funding, staffing, and access to advanced courses. To live up to the spirit of the law, the federal government should evaluate progress on these opportunity measures and require states to meet a set of opportunity-to-learn standards for schools identified as failing. As a condition for receiving federal funds, each state should include in its application for federal funds a report describing the state’s demonstrated movement toward adequacy and equitable access to these education resources—and a plan for further progress.



Meanwhile, states need to figure out not only how much money to invest in education, but also how to send that money to districts and schools in ways that will translate into strong educational programs. As the models in this report show, state funding can be allocated in ways that are more effective for improving the central work of schools. States can:

- **Focus funding on pupil needs and the costs of meeting the state’s standards** so that all districts can attend to the central tasks of education: hiring effective educators and providing the materials needed to teach the standards, plus any additional services their specific mix of students requires. One way to do this is to fund schools based on equal dollars per student adjusted or weighted for specific student needs, such as poverty, limited English proficiency, foster care or homeless status, special education status, etc., and further adjusted for geographic cost differentials of various kinds.
- **Develop a reliable base of funding without a bevy of categorical programs** that come and go. The gains made by states that have seen strong outcomes from their school funding reforms have been the result of continuity in funding and the flexibility to make locally appropriate, strategic decisions about how to spend resources to achieve results.
- **Ensure high-quality preschool** for children who may have fewer learning opportunities or greater learning needs before they enter school—for example, children from low-income families, new English learners, and children with disabilities. This closes much of the gap that would otherwise be present at entry to kindergarten and launches children into their educational careers from a much more even playing field.
- **Enable districts to hire and keep well-prepared educators** by coupling funding increases that support improved salaries and working conditions in previously under-resourced districts with stronger educator preparation, induction and mentoring for novices, and ongoing professional learning. Once resources are in place to recruit qualified teachers and principals to all communities, it is important to ensure that they have the professional knowledge and skills to teach and lead schools successfully.

In order for districts to hire more qualified staff, the state needs to ensure that a supply of well-prepared staff is available for them to recruit. This requires that the state develop and enforce standards for teacher quality and create a strong, steady supply of effective practitioners through salary and training incentives—a job that goes beyond what districts themselves can do, even with a more stable and equitable distribution of local resources.

As the fate of individuals and nations is increasingly interdependent, the quest for access to an equitable, empowering education for all people has become a critical issue for the nation as a whole. No society can thrive in a technological, knowledge-based economy by starving large segments of its population of learning. The path to our mutual well-being is built on equal educational opportunity. And such opportunity begins with an equitable, purposeful school funding system that allows all schools to support high-quality teaching for each and every child.

## Introduction

Public schools in the United States are among the most inequitably funded of any in the industrialized world. Ironically, as a function of the commitment to education in each of the small towns that emerged as the country grew, the funding system that resulted is rooted in local property tax bases that are highly unequal. In addition, historical and current segregation and discrimination in the provision of education services have often added to the disparities as decisions about funding have been made through the lens of explicit and implicit biases about different groups of children and what they need and deserve.<sup>1</sup>

Because the provision of education is reserved to the states, and the requirements for funding are rooted in state constitutions, school finance lawsuits to rectify inequalities have been brought in state courts in more than 40 states. Recent analyses of data prepared for school equity cases in more than 20 states have found that on every tangible measure—from qualified teachers and reasonable class sizes to adequate textbooks, computers, facilities, and curriculum offerings—schools serving large numbers of students of color and students from low-income families have significantly fewer resources than schools serving more affluent White students.<sup>2</sup>

As a result, students of color and students from low-income families typically have the least-qualified teachers by every measure of qualifications—certification, subject matter background, pedagogical training, selectivity of college attended, test scores, and experience<sup>3</sup>—and the least access to intellectually challenging curriculum.<sup>4</sup> They are also most likely to be in large classes in oversized, impersonal schools where the cracks they can fall into often become chasms. These inequalities matter greatly for educational outcomes, which are shaped by access to well-qualified teachers, high-quality curriculum, and schools and classes that are organized so that students are well-known and well-supported.<sup>5</sup>

What's more, equitable and empowering educational opportunities are increasingly important to the survival and success of both individuals and societies, given the demands of the rapidly changing knowledge-based economy in which the pace of knowledge growth accelerates every year and new technologies are constantly emerging.<sup>6</sup> Because an estimated 65% of today's youth will ultimately work in careers that don't exist today, all children need to be prepared for this new world and its complex realities.<sup>7</sup>

Accordingly, equitable access to resources should mean not only access to schooling but also access to an empowering form of education that can enable students to think critically and deeply and to take control of the course of their own learning rather than merely following the dictates prescribed by others.

This report poses a critical question: How should we invest resources to achieve high-quality education in ways that redress the effects of inequities and historical discrimination? It seeks to shed light on this question by reviewing resource inequalities in U.S. schools and analyzing the results of efforts to address these inequalities. In the first section, we discuss the extent and implications of resource inequities across the country. Second, we tackle the question of whether and how money makes a difference, examining recent research on the outcomes of school finance reforms nationally and in four states—Connecticut, Massachusetts, New Jersey, and North Carolina—where learning opportunities were substantially improved by the strategies undertaken. We conclude with policy recommendations that build on the lessons learned in these diverse contexts.

## Sources of Inequality

Over half of America's public school children, approximately 25 million students, live in low-income households—the highest percentage since the National Center for Education Statistics began tracking this figure decades ago.<sup>8</sup> Many of these children experience homelessness, food insecurity, lack of health care, and other challenges that affect their learning.<sup>9</sup> In the many settings in which school districts lack resources to provide the basics for education, much less the additional resources to address these needs, the educational opportunity gap affecting students from low-income families and students of color grows.

Studies show that the adverse experiences that disproportionately affect children in poverty frequently result in trauma and chronic stress they bring with them into their classrooms in ways that impact their behavior and learning. Students' learning is impeded by hunger, anxiety, and distress, and, if they are experiencing adverse conditions, they are often in an emotionally fragile state, which affects their behavior as well.<sup>10</sup> Widespread neglect of a broad range of children's needs, including nutrition, safety, and physical and mental health, have created a generation struggling to rise above the harms inflicted by poverty and inequality.

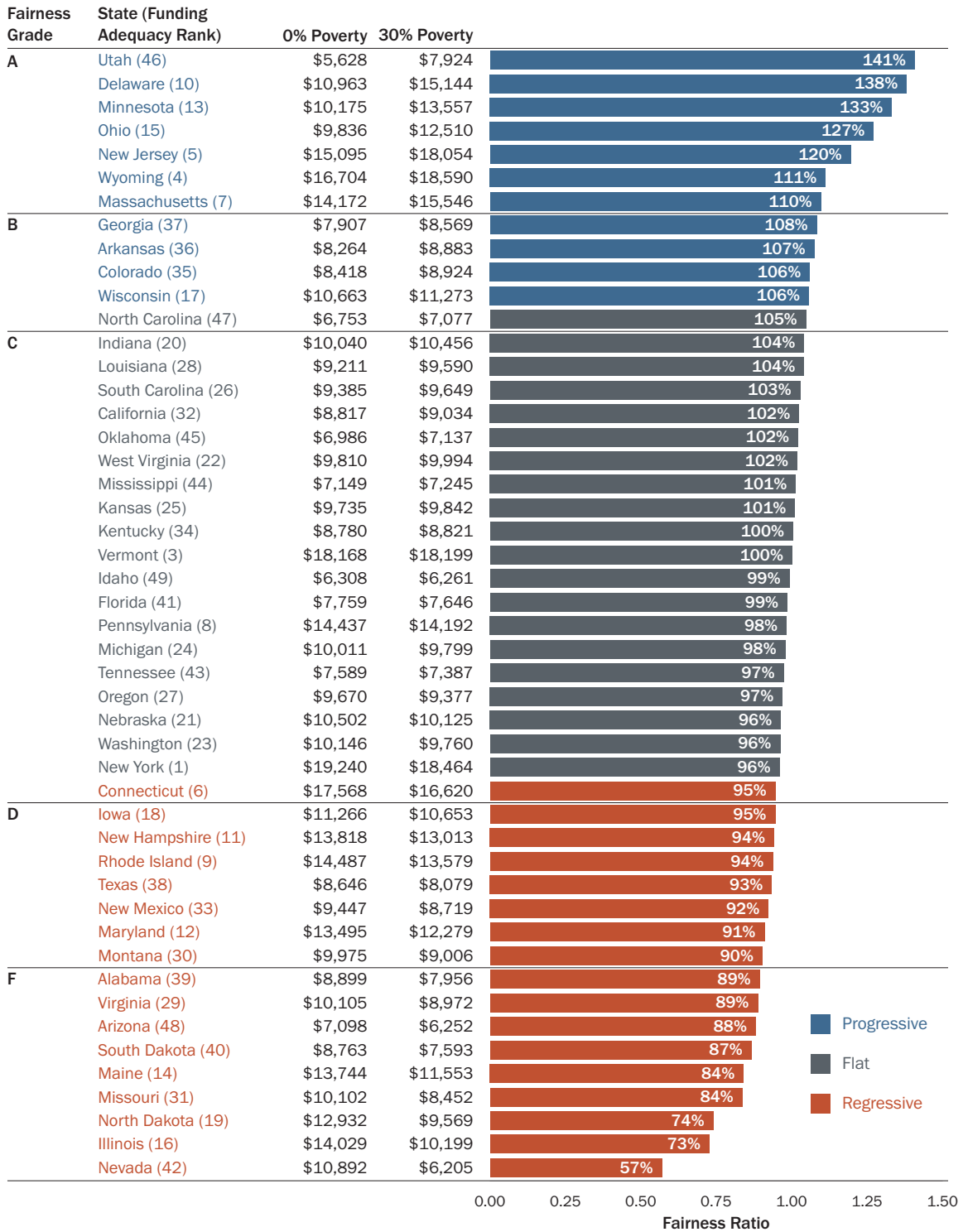
Most states continue to fund public education with outdated methods, such as local property taxes, which deliver unequal revenues across communities.

Increasing income disparities and segregation create a further divide among citizens by class and race. The weight of income inequality and its impact on working families has not been matched by social policies or increased resources to provide the academic, social, emotional, and health supports families and children need to combat the effects of poverty and to support student learning. The tattered safety net magnifies the problems of poverty, which are magnified yet again through school funding formulas that shortchange schools with the greatest needs.<sup>11</sup>

Most states continue to fund public education with outdated methods, such as local property taxes, which deliver unequal revenues across communities and make it difficult for low-wealth schools and districts to provide the resources necessary to give all students, especially those with additional needs, the opportunity to succeed.<sup>12</sup> As of 2015, the most recent year for which data are available, only 12 states had progressive funding distributions that provide at least 5% more funding to districts in which student poverty is high (30% or more) as compared to districts in which there is little or no poverty. (See Figure 1.) And of these, only five states also funded education at a strong level of adequacy—Delaware, Massachusetts, Minnesota, New Jersey, and Wyoming.

Among the most inequitable states are those that spend significantly less money on districts with greater poverty, such as Alabama, Arizona, Illinois, Maine, Missouri, Nevada, North Dakota, South Dakota, and Virginia.

**Figure 1**  
**State School Funding Distributions, 2015**



Note: Each state's funding level, used in the Funding Adequacy Ranking, is calculated based on a model that predicts average funding levels while controlling for student poverty, regional wage variation, and school district size and density. The funding levels presented here are predicted by the model at a 20% poverty rate, close to the national poverty rate (19%).

Source: Adapted from Baker, B. D., Farrie, D., & Sciarra, D. (2018). *Is school funding fair? A national report card*. Philadelphia, PA: Education Law Center. [http://www.edlawcenter.org/assets/files/pdfs/publications/Is\\_School\\_Funding\\_Fair\\_7th\\_Editi.pdf](http://www.edlawcenter.org/assets/files/pdfs/publications/Is_School_Funding_Fair_7th_Editi.pdf).

## Adequacy and Equity: What Do They Mean?

Adequacy and equity are generally identified as the major goals of state school finance systems.

The notion of **adequacy** is, theoretically, what it costs to offer a quality of education that meets the standard in the state constitution, which may be expressed in such terms as “free, appropriate,” “sound, basic,” or “thorough and efficient” education. Since states have begun to set specific learning standards for students, adequacy has often been defined as the amount and kind of education needed to allow students to meet those standards. There are several methods used by finance experts to estimate what it would cost to offer the curriculum and instructional materials required for the standards, along with qualified teachers and support systems for students who may need additional assistance. Other costs, such as transportation and facilities, are typically added on based on district needs. The level of funding that is adequate in a given district may depend on regional cost variations, district size, or sparsity of population, as well as student needs—which may include poverty, special education status, English learner status, foster care status, or homelessness, among other factors. Some school finance systems take these factors into account through weighted funding formulas, different foundation levels for different classifications of students, or categorical funds to be spent on certain kinds of education.

**Equity** refers to the extent to which states allocate funding so that low-wealth districts (which cannot produce as much revenue as higher wealth districts at a given level of taxation) and students with greater needs get more, so that they can reach an adequate level of educational opportunities and outcomes. In their annual publication, *Is School Funding Fair?*, school finance scholars classify states as progressive, or equitable, if high-poverty districts receive at least 5% more funding than low-poverty districts (adjusted for cost variations and district size and sparsity of population). States are classified as regressive, or inequitable, if high-poverty districts receive at least 5% less funding than low-poverty districts; they are classified as flat if they fall in between. The right differentials for an equitable system should ultimately map to actual costs of education for different groups of students and are a matter of ongoing study and discussion.

These inequities are, in part, a function of how public education is funded in the United States. In most cases, education costs are supported primarily by local property taxes, along with state grants-in-aid that are somewhat equalizing but typically not sufficient to close the gaps caused by differences in local property values. In many states, the wealthiest districts spend 2 to 3 times what the poorest districts can spend per pupil, differentials that translate into dramatically different salaries for educators, as well as different learning conditions for students.<sup>13</sup>

Furthermore, the wealthiest states spend about 3 times what the poorer states spend.<sup>14</sup> So the advantages available to children in the wealthiest communities of high-spending and high-achieving states such as Connecticut, Massachusetts, New Jersey, and Vermont are dramatically different than the schooling experiences of those in the poorest communities of low-spending states such as Arizona, Nevada, and North Carolina, where buildings are often crumbling, classes are often overcrowded, instructional materials are often absent, and staff frequently turns over.

The Great Recession of 2008 further exacerbated inequities between rich and poor schools when states cut education funding, along with funding in other social welfare areas, such as health care and human services. Some states exacerbated their revenue shortfalls even further by cutting taxes. As of 2016 (the most recent nationwide data available), 24 states had not yet returned to pre-2008 levels in their state and local education funding.<sup>15</sup>

Lack of financial support for schools has been at the top of Americans' list of the biggest problems facing their local schools for 10 years.

Lack of financial support for schools has been at the top of Americans' list of the biggest problems facing their local schools for 10 years, especially for Latinos and African Americans.<sup>16</sup> These challenges are rising to the surface in a political climate in which elected officials have been disinclined to raise taxes to provide more revenue.

Although many U.S. educators and civil rights advocates have fought for higher quality and more equitable education over many years—in battles for desegregation, school finance reform, and equitable treatment of students within schools—progress has been stymied by tax cuts in many states over the past 2 decades as segregation has worsened and disparities have grown. Many analysts agree that our continuing acceptance of profound inequality in our schools is the system's greatest weakness.<sup>17</sup>

Still, there are states that have substantially reformed their funding systems over the past 3 decades, and those that have achieved high levels of adequacy and equity, while focusing their funding on high-leverage investments such as educator quality and preschool, perform as well as their peers in high-achieving nations.<sup>18</sup> And there are others, such as California, that have tackled the issue more recently and have begun to show marked gains. In what follows, we describe why and how.

## How Money Matters

For many years, research on the relationship between spending and student learning appeared inconclusive. Due to the limitations of data sets and statistical methods, it was difficult to disentangle the effect of resource allocation from other factors, such as family income, parental education, or school structure. And because children from low-income families have typically attended poorly funded schools, it has been difficult to sort out whether it was their family income or school resources that predicted outcomes. Some have debated whether increased school spending does indeed help improve achievement, arguing that, while expenditures per pupil have increased nationwide, aggregate student performance on standardized tests of literacy and numeracy has not increased appreciably over the same time period.<sup>19</sup>

However, recent research using newly available data sets and methodologically sophisticated statistical approaches shows money does indeed matter. One recent study, for example, examined the long-term outcomes for more than 15,000 children born between 1955 and 1985 who were followed through 2011, linking data about their school experiences and life outcomes to that on school spending and school finance reforms. Using models that could examine changes associated with the timing of reforms and funding changes, researchers found that court-ordered school finance reforms of the 1970s through 2000s increased educational attainment and wages, particularly for students from low-income families.<sup>20</sup>

For students from low-income families who had 20% more spent on them over the 12 years of school, graduation rates increased by 23 percentage points, their household income as adults increased by 52%, and their rates of adult poverty were so significantly reduced that the gap between them and their more affluent peers was eliminated. Reform-induced school spending increases were also associated with sizable improvements in student-teacher ratios, increases in teacher salaries, and longer school years.

A study of more recent policies looked at court-ordered school finance reforms that took place between 1989 and 2010, finding that, 7 years after reform, the highest poverty districts in a reform state experienced an 11.5 to 12.1% increase in per-pupil spending and a 6.8 to 11.5 percentage point increase in graduation rates.<sup>21</sup>

Another study of recent reforms examined student test scores in 26 states with school finance reforms post-1990—when courts shifted from focusing on equity alone to focusing on adequacy as well—and compared them with those in 23 states without such reforms. The study found that all the states with school finance reforms increased funding for the poorest districts, leading to improved achievement and outcomes for children in these school districts. The authors found that a \$1,000 increase in per-pupil annual spending sustained for 10 years increased test scores by between 0.12 and 0.24 standard deviations, and over time, family income became a less powerful predictor of students' performance in these states.<sup>22</sup>

The effects of school funding reforms can also be seen in individual states that have been studied. One recent review of studies found that, of nine single-state studies that examine the impacts of unrestricted spending, eight found a positive and statistically significant relationship between school spending and student achievement.<sup>23</sup> How funds are spent also matters. Studies examining greater spending on items such as facilities or categorical programs—including those that allocate different funding streams for predefined purposes—produced more mixed results.<sup>24</sup>

A number of studies have found that greater spending on instruction, especially the quality of teachers, tends to provide stronger leverage on student achievement than many other uses of funds.<sup>25</sup> Ron Ferguson, author of one of the earliest studies of expenditure use in Texas, found that, controlling for socioeconomic status, teacher expertise (measured by teacher experience, education, and certification examination scores) was the most powerful predictor of student achievement. While overall expenditures had a positive effect, investment in teacher salaries leading to more qualified teachers had a larger marginal effect on achievement gains than other uses of the dollar. He concluded:

What the evidence here suggests most strongly is that teacher quality matters and should be a major focus of efforts to upgrade the quality of schooling. Skilled teachers are the most critical of all schooling inputs.<sup>26</sup>

This insight has been documented in studies around the world,<sup>27</sup> along with the several other areas of investment that have been found to make a difference in achievement and equity both in high-achieving nations and in high-achieving states in the U.S. In his recent summary of decades of studies by the Organization of Economic Cooperation and Development (OECD), Andreas Schleicher demonstrates that investments in education can produce greater achievement, equity, and productivity depending on *how* systems spend their resources.<sup>28</sup> In addition to secure housing, food, and health care that enable children to come to school ready to learn, these places share a number of features needed in a system of education that routinely educates all children well, including

- supportive early learning environments;
- equitably funded schools that provide equitable access to high-quality teaching;
- well-prepared and well-supported teachers;
- standards, curriculum, and assessments focused on 21st-century learning goals; and
- schools organized to support both student and teacher learning.<sup>29</sup>

Key to their success is the creation of a *teaching and learning system* that provides excellent education to all students. Such a system not only prepares all teachers and school leaders well for the challenging work they are asked to do, but it ensures that schools are organized to support both student and teacher learning, and that the standards, curriculum, and assessments that guide their work encourage the kind of knowledge and abilities needed in the 21st century.



## State School Finance Reforms

This section describes the distinctive equity funding strategies and their outcomes for students in three high-achieving states: Connecticut and Massachusetts—two states that undertook reforms that produced great strides in equity, adequacy, and achievement during the early 1990s—and New Jersey, which made great strides a decade later. As a majority-minority state, New Jersey’s position as one of the top-achieving states in the country is particularly noteworthy. As Table 1 shows, these three states are high-scoring on the U.S. National Assessment of Educational Progress (NAEP). Other research demonstrates that they also perform at levels comparable to the highest achieving nations in the world on the cross-country Program for International Student Assessment (PISA).<sup>30</sup>

**Table 1**  
**Top-Ranked States on the National Assessment of Educational Progress, 2017**

State Ranking	8th Grade Reading Score	8th Grade Mathematics Score
1	Massachusetts 278	Massachusetts 297
2	New Jersey 276	Minnesota 294
3	New Hampshire 275	New Hampshire 293
4	Connecticut 273	New Jersey 292
–	National Average 265	National Average 282

Data Source: National Assessment of Educational Progress. (n.d.). Data tools: State profiles.  
<https://www.nationsreportcard.gov/profiles/stateprofile>.

Although all three of these states have had some slippage in equity funding, due to tax caps or other fiscal limitations in later administrations, they have maintained much of the momentum from their early reforms and continue to work on redressing those setbacks.

(We note that Minnesota, which climbed to 2nd place in mathematics in 2017, also undertook a progressive school finance reform, described in another publication in this series,<sup>31</sup> and that tiny New Hampshire, which has climbed to the top in both reading and mathematics, has been investing more in education in its many small towns. Meanwhile, as documented elsewhere, the state has been transforming its curriculum and assessment system to focus more intently on higher order thinking and performance skills and investing in professional learning for educators.<sup>32</sup>)

We also describe North Carolina’s sustained investments of the 1990s that enabled it to become the first high-poverty Southern state to achieve above national norms and to make more progress in closing the achievement gap during that decade than any other state. It is instructive to see how North Carolina, which has historically had far fewer educational resources than states in the better-funded Northeast region, approached school funding reforms and key investments in levers for change. North Carolina, too, has had recent setbacks in funding, and is also struggling now to recoup those losses.

These setbacks in funding have reintroduced disparities between rich and poor districts—and have been associated with teacher shortages in poor districts, lower capacity to meet student needs, and concomitant dips in achievement levels and increases in achievement gaps, demonstrating that the effects of funding changes go both ways. In the United States, while achieving and maintaining adequacy and equity in school funding is steady work, the results demonstrate that investments, well spent, make a substantial difference in student outcomes.

## Connecticut

Connecticut's reforms followed the 1977 *Horton v. Meskill* decision<sup>33</sup> in which the Connecticut Supreme Court became one of the first of the state high courts, along with those of California and New Jersey, to invalidate a state education finance system because its reliance on local property taxes generated greatly unequal spending. Later reforms were prompted by the filing of the *Sheff v. O'Neill* lawsuit in 1989 that challenged racially segregated schools.<sup>34</sup>

Beginning in the late 1980s, Connecticut enacted some of the nation's most ambitious efforts to equalize educational opportunity while improving teaching. These reforms addressed school funding disparities by providing financial incentives to raise teachers' salaries, allocating funds to districts on an equalizing basis. This infused resources into low-wealth districts that explicitly targeted the improvement of teaching.

The initiative was studied by the National Education Goals Panel when the state's efforts resulted in sharp increases in student performance and reductions in achievement gaps between advantaged and disadvantaged pupils.<sup>35</sup> Following steep gains throughout the decade, by 1998 Connecticut 4th-graders ranked 1st in the nation in reading and mathematics on the National Assessment of Educational Progress, despite increasing numbers of low-income, minority, and new immigrant students in its public schools during that time. More 8th-graders in Connecticut were proficient in reading than in any other state. Connecticut was also the top-performing state in writing, and, in the world, only top-ranked Singapore outscored its students in science.

The achievement gap between White students and students of color decreased, and the more than 25% of Connecticut's students who were Black or Hispanic substantially outperformed their counterparts nationally.<sup>36</sup> In 2007, among the states that ranked in the top 5 in reading, writing, and mathematics on the NAEP, Connecticut and New Jersey (discussed later in this section) were the only two in which students of color comprised more than one third of public school population.

In explaining Connecticut's strong achievement gains, the Goals Panel cited the state's equity-oriented teacher policies as a critical element, pointing to the 1986 Education Enhancement Act as the linchpin of these reforms.<sup>37</sup> Following the recommendations of a blue-ribbon commission appointed by the governor, this omnibus bill coupled major increases in teacher salaries with higher standards for teacher education and licensing, and substantial investments in mentoring for beginning teachers and professional development for all staff.

An initial investment of \$300 million—the result of a state surplus—was used to boost minimum beginning teacher salaries in an equalizing fashion that gave more money to low-wealth districts. Funds were allocated based on district need and the number of fully certified teachers, creating incentives for districts to recruit those who had met the new high certification standards, and for individuals to meet these standards. Salary schedules remained locally bargained, and the new

minimum created a floor on which the rest of the schedule was raised. Between 1986 and 1991, the average teacher's salary increased by more than 50%, but the increases were proportionately greater in the higher need districts, which were leveled up.

Because of these incentives, the state was able to eliminate emergency credentials. To ensure an adequate supply of qualified teachers, the state offered incentives, including scholarships and forgivable loans, to attract high-ability teacher candidates, especially teachers in high-demand fields and teachers of color, and encouraged well-qualified teachers from other states to come to Connecticut by creating license reciprocity. These initiatives quickly eliminated teacher shortages, even in the cities, and created surpluses of teachers within 3 years of their enactment.<sup>38</sup> This allowed districts—including those in the cities—to be highly selective in their hiring and demanding in their on-the-job expectations for teacher expertise.

While it was enhancing incentives to teach, the state raised teacher education and licensing standards by requiring a major in the discipline to be taught, plus extensive knowledge of teaching and learning—including knowledge about literacy development and the teaching of students with special needs. Candidates were required to pass tests of subject matter and knowledge of teaching to receive a license, after which they participated in a state-funded mentoring program in their first 2 years on the job. During this time, they received support from trained mentor teachers and completed a sophisticated portfolio assessment through which state-trained assessors determined what additional mentoring might be needed and, ultimately, who could continue in teaching.

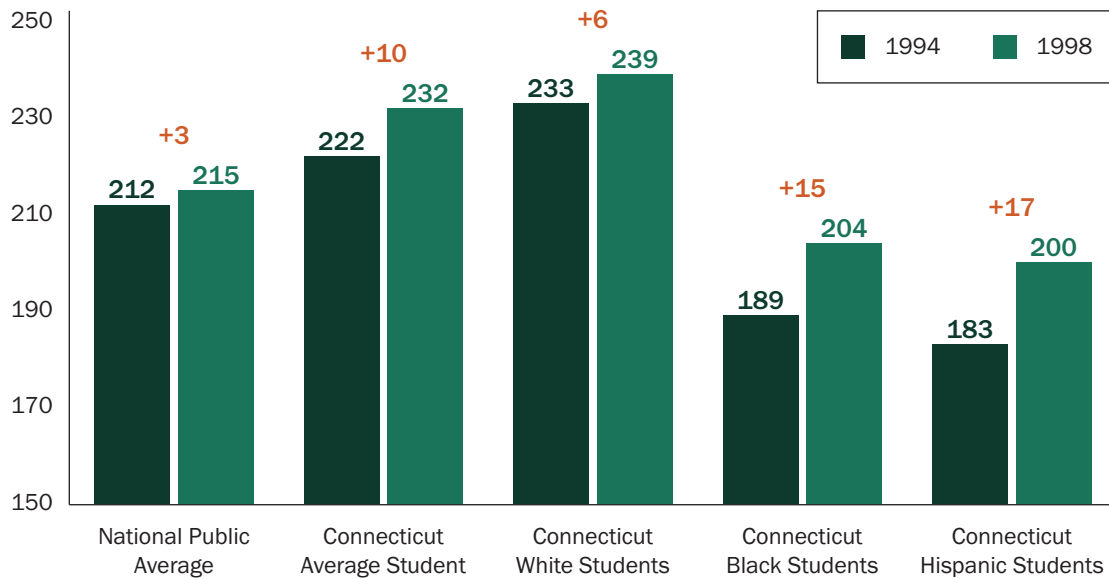
To ensure an adequate supply of qualified teachers, Connecticut offered incentives, including scholarships and forgivable loans, to attract high-ability teacher candidates, especially teachers in high-demand fields and teachers of color, and encouraged well-qualified teachers from other states to come to Connecticut by creating license reciprocity.

New standards for students were also enacted, accompanied by assessments that included open-ended performance tasks that called for critical thinking and communication skills. In 2000, the state launched an Early Reading Success initiative to train a cadre of literacy experts in the use of diagnostic assessments and individualized instruction for priority high-need schools. The training expanded over time to include all educators in priority schools. The state provided targeted resources to the neediest districts, including funding for professional development for teachers and administrators, preschool and all-day kindergarten for students, and smaller pupil-teacher ratios, among other supports.

As these changes took hold, Connecticut's reading scores on the National Assessment of Educational Progress climbed by 10 points for 4th-graders between 1994 and 1998 (8th-graders were not tested at that time). White students' scores improved by 6 points, while Black students' scores improved by 15 points and Hispanic students' by 17 points, reducing the achievement gap. Meanwhile, national scores increased by only 3 points.

A National Education Goals Panel report found that in high-need districts with sharply improved achievement, educators cited the high quality of teachers and administrators as a critical reason for their gains and noted that “when there is a teaching opening in a Connecticut elementary school, there are often several hundred applicants”<sup>39</sup> at a time when other states across the country were experiencing shortages. These districts were also heavily involved in intensive state-funded professional development programs in literacy, such as Reading Recovery, which increased the knowledge and skills of veteran teachers along with beginners.<sup>40</sup>

**Figure 2**  
**Connecticut Achievement Trends (NAEP 4th Grade Reading Scores)**

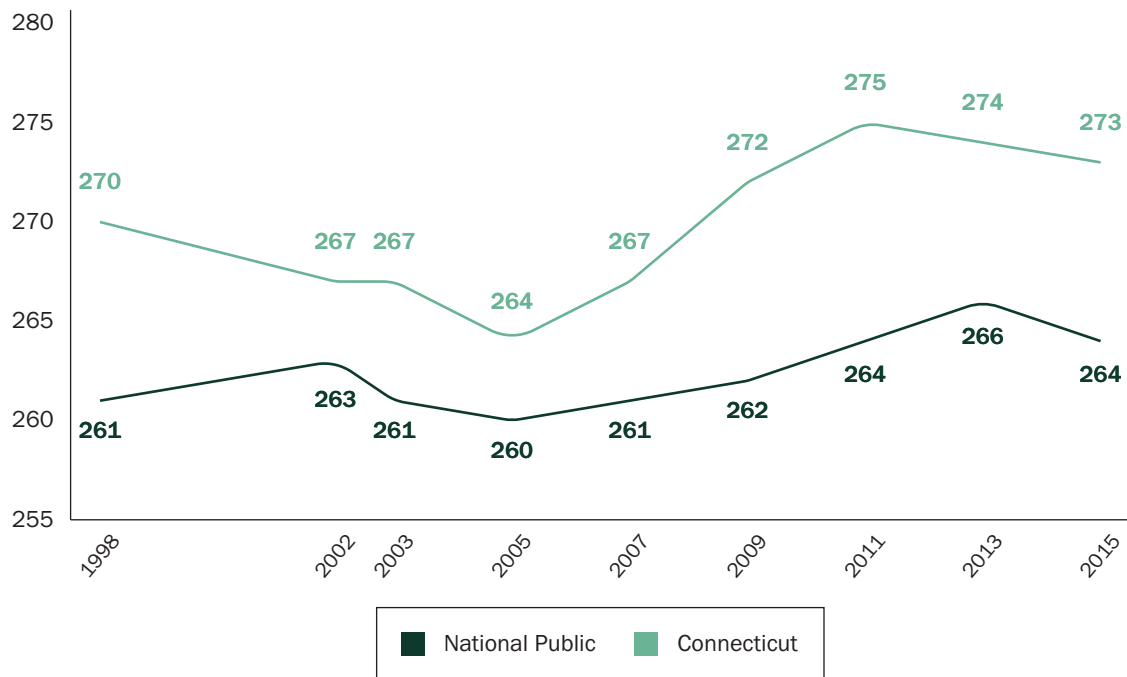


Data Source: National Assessment of Educational Progress. (n.d.). Data tools: State profiles.  
<https://www.nationsreportcard.gov/profiles/stateprofile>.

Thus, investments equalized both educational funding and learning opportunities at the same time by ensuring those investments focused on improving the quality of teaching, especially for the state’s most vulnerable students. Unfortunately, Connecticut’s equity progress began to slip when the legislature stopped funding the equalization components of the initiative, and disparities re-emerged during the early 2000s, during a state economic recession. The state began to invest once again between 2005 and 2008, when the General Assembly overrode the state spending cap to reinvest in education,<sup>41</sup> before the national recession followed.

Although many of the benefits of these teaching initiatives remain and the state continues to be relatively high-achieving in reading (see Figure 3), the funding of the cities and towns serving students from low-income families and students of color has once again slipped behind that of affluent communities, and the divide between the “two Connecticuts” has grown wider.

**Figure 3**  
**Connecticut Achievement Trends (NAEP 8th Grade Reading Scores)**



Data Source: National Assessment of Educational Progress. (n.d.). Data tools: State profiles.  
<https://www.nationsreportcard.gov/profiles/stateprofile>.

A benefit Connecticut secured in the course of its school funding reforms—that is, a much higher quality system of teacher and administrator training and support, especially in literacy—has carried the state’s stronger achievement for a number of years, but these benefits are beginning to slip in the higher need communities where teacher shortages have begun to re-emerge and drive growing gaps in achievement for the state’s most vulnerable students. Teacher shortages are most prevalent in mathematics and science, especially in these poorer districts where salaries have slipped, and the state’s performance has slipped in these subjects as achievement gaps have widened.

In September 2016, a Connecticut Superior Court judge once again declared the funding system unconstitutional and called on the legislature to define the goals of elementary and secondary schooling as the basis for evaluating the funding needed “so that all students, rich and poor, reach those goals.”<sup>42</sup> In 2018, the state supreme court overturned this ruling; however, state policymakers are nonetheless working to improve spending equity across the state.<sup>43</sup> It remains to be seen how new efforts at equalization will rebalance the allocation of resources in the state.

## Massachusetts

Massachusetts undertook its reforms a few years after Connecticut's initiative and ultimately surpassed Connecticut as the top achieving state. Since 2002, Massachusetts has led the states in student achievement on the National Assessment of Educational Progress after strong improvements over the course of the previous decade. In reading and science, it performs comparably with the highest achieving countries in the world, even as the U.S. has fallen in the international achievement rankings.

The story of this meteoric rise began in 1992 with the court decision in *Hancock v. Driscoll*<sup>44</sup> that required an overhaul of school funding in the state. The school finance formula adopted in 1993 as part of Massachusetts' Education Reform Act stimulated substantially greater investments in needier schools through a weighted student formula that aimed to equalize funding and local effort simultaneously and added funding increments based on the proportions of students from low-income families and English learners in a district.

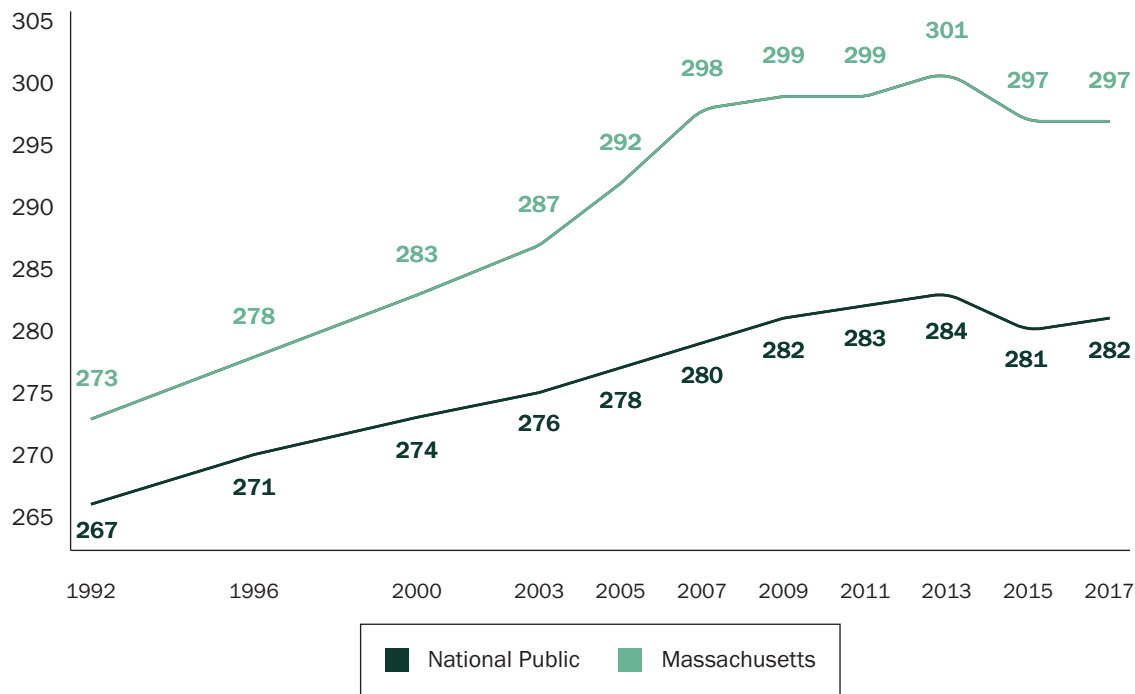
This progressive approach helped boost educational investments and achievement as the state undertook a comprehensive reform featuring new standards and assessments demanding more intellectually ambitious teaching and learning. In addition to much greater and more equitable funding to schools, the initiatives included statewide standards for students, educators, schools, and districts; new curriculum frameworks to guide instruction and state assessments; expanded learning time in core content areas; investments in technology; stronger licensing requirements for teachers; and more access to high-quality learning opportunities for teachers and school leaders.

In 1994, the state adopted a plan for professional development, the first in Massachusetts' history, which led to the establishment of intensive summer institutes in content areas such as mathematics and science, dedicated funding to districts to support professional development for every teacher, requirements for recertification based on continuing education, and a new set of standards and expectations for local evaluation. The Attracting Excellence to Teaching Program was created to subsidize preparation for qualified entrants into teaching.

In addition, the level of state funding for local early childhood programs increased by 500% in the first 4 years of the reform, and by more in the years thereafter. A Commission on Early Childhood Education was launched to create a plan for an early education and care system for the state. Demonstration sites were established for model preschool programs, and hundreds of Community Partnerships for Children grants were awarded to expand access to early education for children in need.

By 2000, Massachusetts had underwritten these reforms with more than \$2 billion in new state dollars to its public schools, greatly expanding the state share of funding and enhancing equity. University of Chicago economist Jonathan Guryan<sup>45</sup> examined the effects of these investments and found that increased educational funding for historically low-spending districts led to improved student achievement in all subject areas, especially for traditionally low-scoring students. A later study also found that changes in state education aid following the 1993 reform resulted in significantly higher student performance.<sup>46</sup> By 2002, the state had dramatically improved overall achievement and sharply reduced its achievement gap, and it has maintained strong performance in the years since. (See Figure 4.) Massachusetts demonstrates how investments, wisely spent and in concert with a systemic approach to reform, can make a difference in educational outcomes.

**Figure 4**  
**Massachusetts Achievement Trends (NAEP 8th Grade Mathematics Scores)**



Data Source: National Assessment of Educational Progress. (n.d.). Data tools: State profiles.  
<https://www.nationsreportcard.gov/profiles/stateprofile>.

As in Connecticut, however, Massachusetts has had some retrenchment in recent years as a function of tax caps that especially disadvantage low-wealth communities. The state has not had adequate funding for its weighted student funding formula, and it has recalculated poverty rates in ways that undercount children from low-income families, especially those who are undocumented. These policies have allowed inequalities to grow, especially for towns such as Springfield and Brockton, which lost their economic base and therefore have inadequate local funding to supplement state funds for their high-need student populations, including large numbers of recent immigrants.

A 2015 commission found that “the actual costs of health insurance and special education have far surpassed the assumptions built into the formula for calculating the foundation budget. As a result, those costs have significantly reduced the resources available to support other key investments.”<sup>47</sup> In June 2017, the Brockton school board—which launched the original class action lawsuit that led to the historic 1993 Education Reform Act—put aside \$100,000 to launch a new school finance lawsuit against the state.

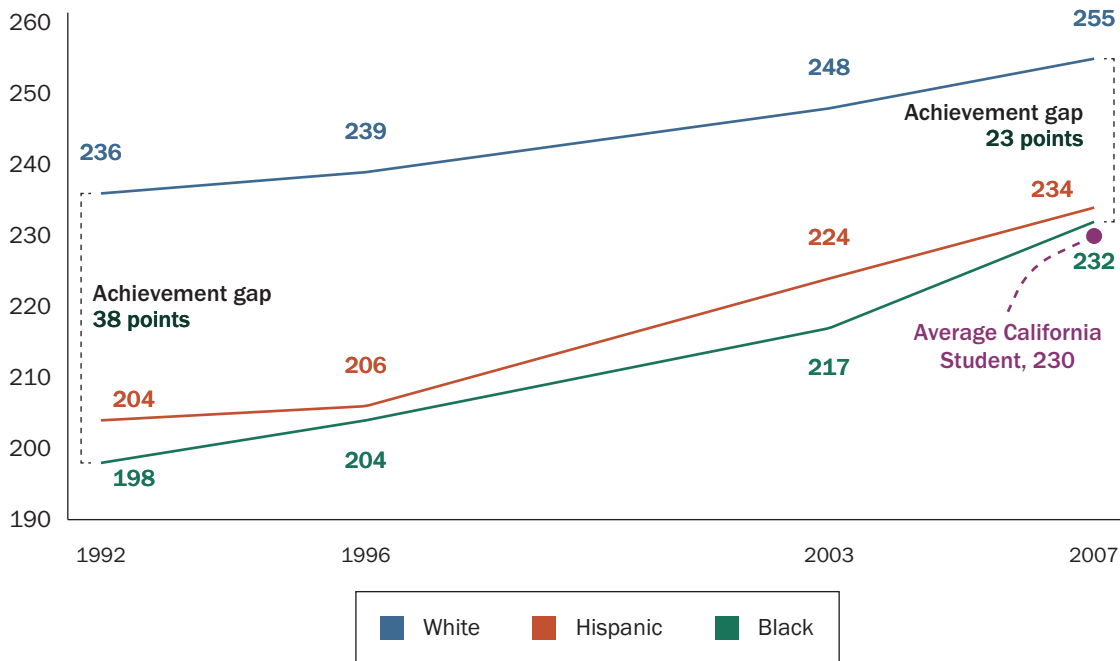
## New Jersey

New Jersey’s hard-won path to adequacy came after nine court rulings seeking equalization in school funding for the urban districts serving predominantly low-income children that, for decades, spent far less than suburban districts serving children from more affluent families.<sup>48</sup> After 3 decades of litigation—from *Robinson v. Cahill* to *Abbott v. Burke*—the state made a major investment in what

it called “parity” for low-wealth, high-minority districts beginning in 1996–97, an investment in preschool initiated in 2000, and an intensive instructional improvement initiative undertaken in the *Abbott* districts in 2003.

By 2007, a decade later, New Jersey had sharply increased its standing on reading and mathematics assessments nationally—ranking in the top five states in all subject areas and grade levels on the NAEP. It was also one of four states that made the most progress in closing achievement gaps between White and Black and Hispanic students over the previous 4 years in both 4th and 8th grade reading and mathematics.<sup>49</sup> Among these top decile states, New Jersey had the largest share of African American and Hispanic students from low-income families (17% and 19% of the state’s total students, respectively), far more than other high scorers such as Massachusetts, New Hampshire, and Vermont, and these students far outscored their peers across the country, and outscored the average student of any race in California.<sup>50</sup> (See Figure 5.) The state also reduced the achievement gap for students with disabilities and for socioeconomically disadvantaged students.

**Figure 5**  
**Scores Rose and Achievement Gaps Narrowed in New Jersey**  
**(NAEP 4th Grade Mathematics Scores)**



Data Source: National Assessment of Educational Progress. (n.d.). Data tools: State profiles.  
<https://www.nationsreportcard.gov/profiles/stateprofile>.

By 2017, students of color comprised 53% of the New Jersey public school population, yet the state’s achievement gains placed it 2nd in the nation in 8th grade reading, 4th in 8th grade math, and 2nd in graduation rates, right behind Iowa.



The story began in 1973 when the New Jersey Supreme Court first defined equalization in dollar terms in its *Robinson v. Cahill* decision. The state legislature responded with a funding scheme that preserved large inequalities in spending. It promised “thorough and efficient” education through lengthy checklists and monitoring activities to ensure that districts could demonstrate their implementation of state regulations and a minimum basic skills curriculum that was evaluated through state tests.<sup>51</sup>

Paradoxically, this approach siphoned off resources from classroom instruction and directed them toward the hiring of non-instructional staff to manage elaborate planning, inspection, and reporting systems—a luxury the starving city schools could ill afford. Indeed, the status quo was well preserved. As Jean Anyon noted, “During the next two decades [after 1973], the cities, which were closely monitored by the state, did offer basic skills curriculum to students, while the suburbs continued to offer sophisticated curriculum programs and a range of courses.”<sup>52</sup>

In 1976, New Jersey State Education Commissioner Fred Burke expressed the view that has often surfaced in state resistance to equalized funding: “Urban children, even after years of remediation, will not be able to perform in school as well as their suburban counterparts.... We are just being honest.”<sup>53</sup> These kinds of statements have appeared in many state defenses of their inequitable school finance systems to justify the status quo.

In 1990, the court explicitly rejected these arguments, replying that it did not believe students in poorer districts were less capable than others, less deserving of a rich curriculum, or less able to benefit from one. Although the court once again found the state funding system unconstitutional, it would be another decade before large infusions of funds would find their way into the by-then dysfunctional urban school districts after yet another lawsuit had been brought.

Finally, a major infusion of funding to the high-need districts, leveraged by the courts and engineered by Governor Christine Todd Whitman, occurred in 1997. In its 1994 and 1997 *Abbott v. Burke* decisions, the New Jersey Supreme Court ordered “parity” funding—that is, state aid to bring per-pupil revenues in the 28 (later 30) *Abbott* districts up to the average per-pupil expenditure in the state’s 110 successful, suburban districts. The court allowed the state a phase-in period, and, in the 1997–98 school year, New Jersey reached parity for the first time with an allocation of \$246 million in parity aid, followed by an additional \$312 million in supplemental programs assistance for which districts could apply.

This began New Jersey’s shift from a regressive to a progressive system, scaling up funding in poor urban districts relative to funding in wealthier suburbs.<sup>54</sup> The funds, further specified in a 1998 decision, were to be spent to implement a new state curriculum linked to the state standards; support whole school reform; provide early childhood education for 3- and 4-year-olds along with full-day kindergarten; enable class-size reductions; invest in technology; ensure adequate facilities; and support health, social services, alternative, and summer school programs to help students catch up.

Evidence suggests that *Abbott* districts “directed the added resources largely to instructional personnel,” and this increase in funding and spending noticeably improved the achievement of students of color on the statewide 11th grade assessment.<sup>55</sup> Peg Goertz and Michael Weiss noted that school finance reforms resulted in robust achievement gains:

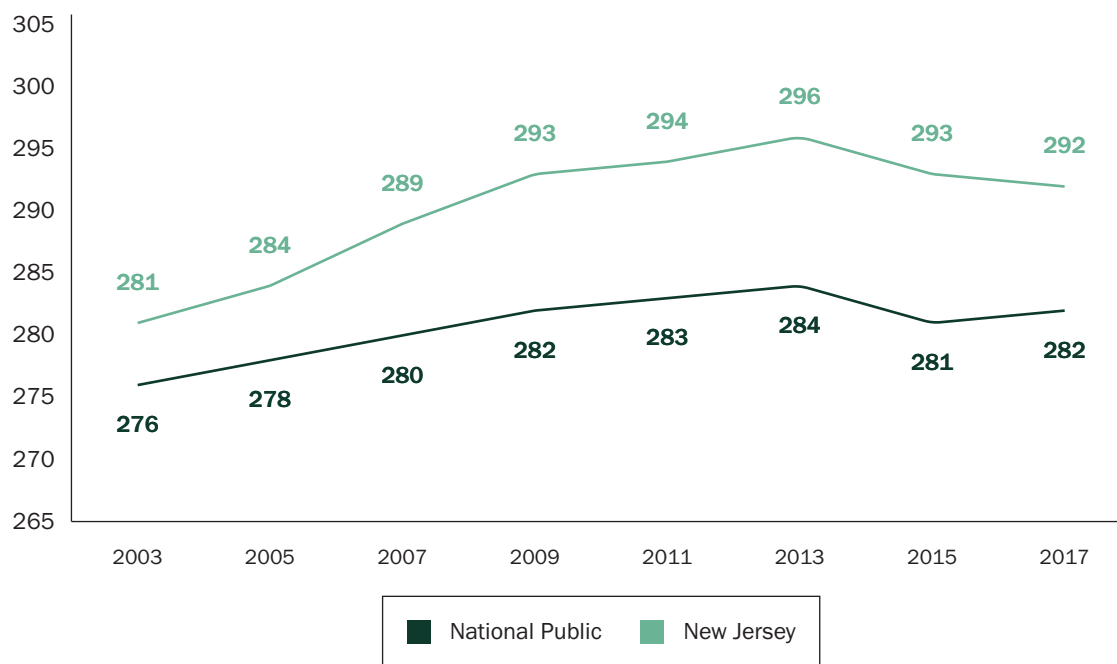
In 1999, the gap between the *Abbott* districts and all other districts in the state was over 30 points. By 2007, the gap was down to 19 points, a reduction of 11 points or 0.39 standard deviation units. The gap between the *Abbott* districts and the high-wealth districts fell

from 35 to 22 points. Meanwhile, performance in the [non-Abbott] low-, middle-, and high-wealth districts essentially remained parallel during this eight-year period.<sup>56</sup>

Those districts that showed strong progress—Perth Amboy, Union City, and West New York—had adopted the Comer School Development model districtwide, which created a strong student-focused culture in the schools, focused on healthy development and adult collaboration, and then worked from the district level to improve instruction.<sup>57</sup> Union City, which is 96% Latino and the state’s poorest district, was an acknowledged leader, showing the strongest gains in achievement. By 2006, its student population, which was composed largely of English learners and children from low-income families, reached proficiency levels that were comparable to those for nonurban students in the state. Its curriculum and teaching strategies became the basis for the revised remedy that was put in place in 2003, which stimulated the large gains that have since occurred for urban students statewide and demonstrate how well-spent money can make a major difference.<sup>58</sup>

However, as in Connecticut and Massachusetts, the battle for equity in New Jersey continues. For several years during the administration of Governor Chris Christie, the state failed to fully fund the School Funding Reform Act of 2008 and held funding flat, leaving districts with growing enrollments—often due to swelling immigration—with no increases and increasingly inadequate resources.<sup>59</sup> These cuts were followed by achievement dips, which somewhat reduced the large differential between New Jersey and the rest of the nation. (See Figure 6.) Governor Phil Murphy, elected in 2016, vowed to rekindle the path to equity in the state. It remains to be seen what the next steps to educational investment in New Jersey will be.

**Figure 6**  
**New Jersey Achievement Trends (NAEP 8th Grade Mathematics Scores)**



Data Source: National Assessment of Educational Progress. (n.d.). Data tools: State profiles.  
<https://www.nationsreportcard.gov/profiles/stateprofile>.

## North Carolina

North Carolina's reforms occurred in two waves during the four terms of Governor James B. Hunt (1977–85 and 1993–2001), an “education governor” and son of a public school teacher who had himself trained to teach before, as he jokingly liked to say, he decided teaching was too hard, and went on to law school.

The first wave of major investment was launched with omnibus legislation in 1983, during Hunt's second term in office, as part of his commitment to lift North Carolina up from the status of a low-spending, low-achieving state. The Elementary and Secondary School Reform Act, which enhanced school funding, also upgraded curriculum expectations for students; increased standards for entering teaching and school administration; increased standards for educator certification and for the approval of schools of education; authorized a scholarship program to recruit talented individuals into teaching; expanded professional development; and created expectations for staffing, personnel evaluation, class sizes, and instructional time.

As the state invested more in educators' salaries and training, it also increased licensing requirements for teachers and principals, requiring tests of subject matter and teaching knowledge, as well as stronger preparation. It required all publicly funded schools of education to become nationally accredited, which caused many colleges to improve their curriculum and increase their investments in preparing teachers in order to stay in business. These efforts paid off: Studies show that teachers trained by North Carolina teachers colleges are more effective and stay in the profession longer than teachers who enter from out of state or through the state's alternative certification program.<sup>60</sup>

To ensure that good candidates could be recruited and could afford to enter teaching, the state launched a large fellowship program to recruit hundreds of able high school students into teacher preparation each year by entirely subsidizing their college education. The highly selective North Carolina Teaching Fellows program—launched in 1986—pays all college costs in return for several years of teaching. Studies have found fellows are even more effective than other state teacher graduates<sup>61</sup> and stay in teaching and school administration at very high rates.<sup>62</sup>

The state also developed teacher development initiatives such as the Mathematics and Science Education Network, which is aimed at improving the quality of mathematics and science teaching and learning through a variety of programs that train teacher leaders and coaches as well as offering annual institutes. The state's strong achievement gains in mathematics are often attributed to these initiatives. The state also undertook other professional development initiatives in reading, writing (via the National Writing Project), and technology use.

North Carolina launched one of the nation's first beginning teacher mentoring programs in the 1980s, offering support to new teachers and financial incentives for mentor teachers. This program was expanded during the 1990s. The state was recognized in a 1998 report by the National Education Goals Panel for having made among the greatest gains in mentoring of beginning teachers as well as the greatest achievement gains for students.<sup>65</sup> These efforts were supplemented by professional development academies and a North Carolina Center for the Advancement of Teaching, which offers additional help to novice teachers learning to teach the state curriculum. To make teaching a more attractive profession, North Carolina boosted salaries in the mid-1980s and again in the 1990s.

During Hunt's second stint as governor, he passed the 1997 Educational Excellence Act, which allocated hundreds of millions of dollars to further upgrade the quality of teacher preparation, mentoring, and teaching quality. The act created a professional standards board for teaching and required that all colleges of education create professional development school partnerships as the sites for yearlong student teaching practicums. It authorized funds to raise minimum teacher salaries to the national average and created a 12% salary increase for teachers who achieve National Board certification. Board certification has been found in many studies to be associated with greater teacher effectiveness,<sup>64</sup> and teachers often find it one of the most powerful professional learning experiences they have had.<sup>65</sup> A North Carolina study found that student achievement gains were significantly greater for students whose teachers were National Board certified, as well as for those whose teachers had the strong academic and teaching preparation and lengthier experience in teaching that the state's policies sought to leverage.<sup>66</sup>

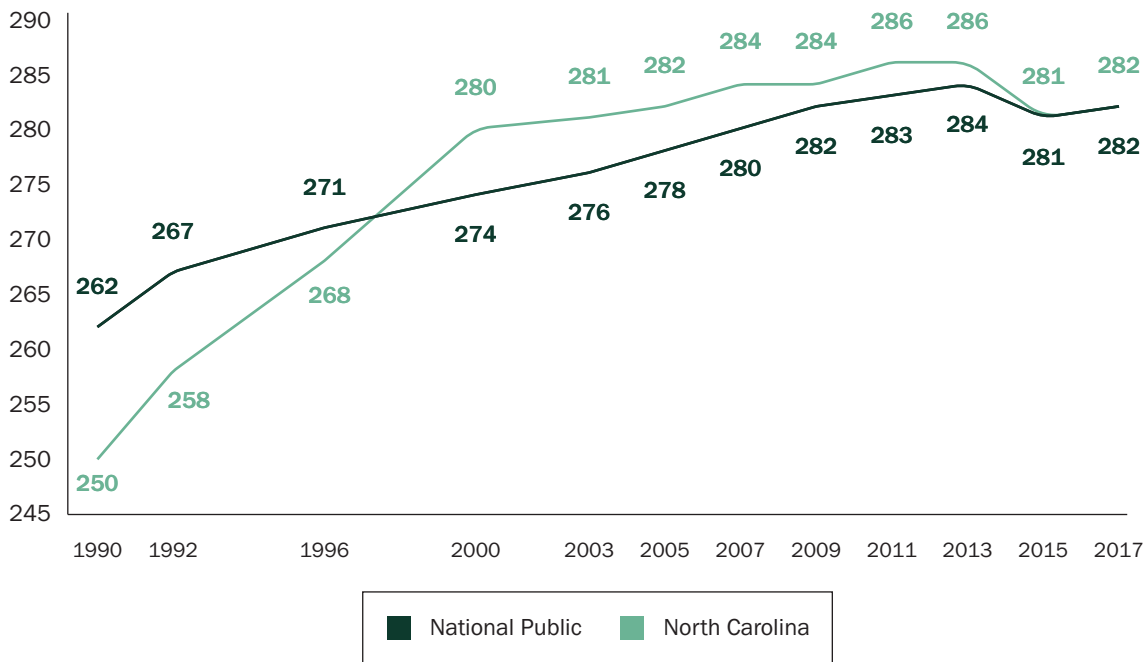
In its second wave of reforms, North Carolina also launched one of the nation's most ambitious programs to improve school leadership training. The state's Principal Fellows Program was launched in 1993 to recruit and prepare outstanding leaders through fellowships that underwrite 2 years of preparation, including full-time internships during the second year under the wing of expert principals in participating school districts. Principal fellows pledge at least 4 years of service as a principal or assistant principal in the state's schools. This program has supplied the state with more than 1,000 highly trained principals and, along with the Principals' Executive Program offering continuing education, contributes to the high ratings North Carolina principals have given in national studies about the quality of their learning opportunities.<sup>67</sup> A study of high-minority, low-income schools that were rapidly closing the achievement gap in North Carolina found that key factors included collegial leadership providing instructional focus and extensive professional development supports.<sup>68</sup>

As in Connecticut, Massachusetts, and New Jersey, new curriculum standards and assessments were introduced in the 1990s and accompanied by an extensive program of professional development for teachers. The statewide assessments were aligned to the NAEP tests, a more robust measure of higher order thinking than most state tests.

Early childhood education was another sizable investment with the Smart Start program, an award-winning early childhood initiative launched in 1993. Evaluations have found that the program has contributed significantly to preschool quality and to children's outcomes on skills and abilities associated with readiness to succeed in school.<sup>69</sup>

During the 1990s, North Carolina posted the largest student achievement gains of any state in mathematics (see Figure 7), climbing a steep 30 points in 8th grade math between 1990 and 2000,<sup>70</sup> and it realized substantial progress in reading, becoming the first Southern state to score above the national average in 4th grade reading and math, although it had entered the decade near the bottom of the state rankings. During the 1990s, it was also the most successful state in narrowing the achievement gap between White students and students of color.<sup>71</sup>

**Figure 7**  
**North Carolina Achievement Trends (NAEP 8th Grade Mathematics Scores)**



Data Source: National Assessment of Educational Progress. (n.d.). Data tools: State profiles.  
<https://www.nationsreportcard.gov/profiles/stateprofile>.

However, educational inequality in the state was not vanquished. In 2004, in its *Leandro v. State* decision,<sup>72</sup> the North Carolina Supreme Court found that the state did not yet ensure a sound basic education to all children, including equitable funding; competent, well-trained teachers and principals; and supports for at-risk students. Although the legislature responded with a 10% increase in k–12 education spending in 2007, more money for low-wealth districts, and investments in early childhood education,<sup>73</sup> the 2008 recession brought additional cutbacks. Much deeper legislative cuts occurred after 2013, reducing or eliminating many of the programs put in place and beginning to undermine the quality and equity gains that were previously made.

Since then, average student achievement on the National Assessment of Educational Progress has declined in both absolute and relative terms in reading and mathematics, and achievement gaps between Black and White students have grown.<sup>74</sup> State performance is now just at the national average in mathematics and has fallen below in reading and writing,<sup>75</sup> as state equalization funding and professional development investments have flagged, and new policies have tugged in the opposite direction. With the state still under court monitoring from the *Leandro* lawsuit, Governor Roy Cooper, elected in 2017, has agreed with plaintiffs and the court to jointly pursue a research-based action plan currently being developed to address these inequalities.<sup>76</sup>

Clearly, progress requires steady effort and investment, and renewed efforts to build capacity in the state’s high-need schools will be required to maintain and amplify the substantial progress that was made over the past 2 decades.

## Summing Up

Each of these states has taken steps to address severe funding inequities, a necessary precondition to support the kind of teaching needed for a quality 21st-century education. These states have taken approaches that substantially increase funding to students from low-income families and students of color—through equalizing formulas addressing teacher salaries in Connecticut, weighted student formulas in Massachusetts, a parity funding approach in New Jersey, and investments in the foundation formula and state salary schedule in North Carolina. They also put in place quality pre-school programs for low-income students, thoughtful standards and assessment systems, and strong professional learning programs for educators. Research has shown that these efforts have resulted in improved student outcomes.<sup>77</sup> However, this progress is often fragile, with political shifts often creating tax or spending caps or formula changes that undermine the finance reforms.

Each of these states has taken steps to address severe funding inequities, a necessary precondition to support the kind of teaching needed for a quality 21st-century education.

## Achieving Equitable and Adequate Resources: Recommendations

Although there is no single road map to educational equity, the lessons offered by the states we have discussed provide important insights into how resources may be leveraged to improve and expand quality learning opportunities.

Progress in equalizing resources to students will require attention to disparities at all levels—between states; among districts; among schools within districts; and among students differentially placed in classrooms, courses, and tracks that offer substantially disparate opportunities to learn. How can policymakers tackle such a multifaceted agenda?

### The Federal Role

During the years from 2002 until 2015, when No Child Left Behind (NCLB) was the major federal education law, the primary effort was to incentivize individual schools to raise test scores through a set of increasing sanctions when score targets were not met. However, the law did not address the profound educational inequalities that plague our nation. Despite a 3-to-1 expenditure ratio between high- and low-spending schools in most states, multiplied further by inequalities across states, neither NCLB nor other federal education policies required that states demonstrate progress toward adequate funding or equitable opportunities to learn. Furthermore, federal Title I funding gives more to states that spend more, reinforcing rather than compensating for unequal resources across states.<sup>78</sup> Thus, Mississippi, with its enormous concentrations of poverty, receives less federal funding per pupil than much wealthier New York, despite its greater needs.

The Every Student Succeeds Act (ESSA), enacted in December 2015, takes a more comprehensive view of achievement and of the strategies that may be used to address student needs, and it leaves to states the decisions about how to organize school improvement. Rather than placing all the onus of reform on the individual school, several aspects of the new law recognize that many of the sources of problems in failing schools are structural and systemic rather than idiosyncratic, and that failing public schools in many states are seriously underfunded and understaffed. In some cases, a majority of teachers are untrained or inexperienced.<sup>79</sup>

As a systemic view illustrates, the solution to their problems lies not within the schools themselves, but with major structural changes to the system as a whole. And as the discussion above suggests, a linchpin in the efforts to secure more equitable education is the creation of policies that address the opportunity gap as well as the achievement gap.

State standards for student learning, required by the federal government as a condition of receiving funds, provide the basis for developing opportunity-to-learn standards. For example, if a state's curriculum frameworks and assessments outline standards for science learning that require laboratory work and computers, states should be responsible for ensuring that this equipment is available in all

Many of the sources of problems in failing schools are structural and systemic. Failing public schools in many states are seriously underfunded and understaffed.

schools. States should also ensure that teachers have the requisite knowledge and skills for teaching the content effectively and that they have access to the curriculum materials needed to teach the standards.<sup>80</sup>

In a broader view, such as that recently advanced by the Schott Foundation in its Opportunity to Learn campaign, children's equitable access to preschool education, college preparatory coursework, effective teachers, and instructional resources are monitored, because they are elements in a more global definition of adequate education.<sup>81</sup> However they are configured, such standards—and the indicators used to measure them—should provide information about the nature of the teaching and learning opportunities made available to students in different schools and districts, and create incentives for states and school districts to create policies that leverage access to critical resources.

Although education is primarily a state responsibility, an equity-oriented federal policy could take strong steps toward ensuring that every child has access to adequate school resources, facilities, and quality teachers. Such steps would include tying federal education funding for states to each state's movement toward equitable access to education resources. The federal government also has a role in ensuring adequate health care and nutrition, safe and secure housing, and healthy communities for children. In addition to investing in children's basic welfare, the federal government could:

- **Equalize allocations of ESSA resources** across states so that high-poverty states receive a greater and fairer share. Allocation formulas should use indicators of student need, with adjustments for cost-of-living differentials, rather than relying on current measures of spending that disadvantage poor states.
- **Enforce comparability provisions for ensuring equally qualified teachers** are assigned to schools serving different populations of students. The law already requires that states develop policies and incentives to balance the qualifications of teachers across schools serving more- and less-advantaged students, but this aspect of the law is weakly enforced, and wide disparities persist.
- **Require states to report and act on opportunity indicators** to accompany their reports of academic progress for each school, reflecting the availability of well-qualified teachers; strong curriculum opportunities; books, materials, and equipment (such as science labs and computers); and adequate facilities. ESSA includes a number of expectations for reporting the kinds of educational resources students receive,<sup>82</sup> and states have incorporated others into their new accountability and improvement systems under the law.<sup>83</sup>

The law requires a resource audit for schools identified as in need of intervention and support, as well as the collection of measures regarding funding, staffing, and access to advanced courses. To live up to the spirit of the law, the federal government should evaluate progress on these opportunity measures and require states to meet a set of opportunity-to-learn standards for schools identified as failing. As a condition for receiving federal funds, each state should include in its application for federal funds a report describing the state's demonstrated movement toward adequacy and equitable access to these education resources—and a plan for further progress.



## The State Role

States need to figure out not only how much money to invest in education, but also how to send that money to districts and schools in ways that will translate into strong educational programs. A common state-level strategy has been to offer state aid to offset some of the basic disparities resulting from locally funded education tied to the wealth of communities, and add a variety of categorical programs that give additional money for specific purposes to local districts, often with extensive strings attached. These strategies do not typically close the resource gap, and in many states, categorical grants have proliferated until the lowest wealth districts must manage dozens or even hundreds of small pots of money that come and go. These grants, which are often inadequate to pay for their ostensible purposes, fragment and diffuse schools' efforts and attention, requiring districts to dedicate large numbers of staff to management and reporting, leaving them unavailable for the core work of schools: getting and supporting good teachers and leaders to focus on student learning in well-designed schools.

Aside from some large, focused commitments in areas such as special education and services for English learners that drive attention to specific student needs, the categorical aid strategy has typically been inefficient and ineffective and has undermined schools' focus while doing little to improve student learning.<sup>84</sup> Instead of this approach, state funding can be allocated in ways that are more effective for improving the central work of schools, as the examples in this report suggest. With these models in mind, states can:

- **Focus funding on pupil needs and the costs of meeting the state's standards** so that all districts can attend to the central tasks of education: hiring effective educators and providing the materials needed to teach the standards, plus any additional services their specific mix of student requires. One way to do this is to fund a school's students based on equal dollars per student adjusted or weighted for specific student needs, such as poverty, limited English proficiency, foster care or homeless status, special education status, etc. For such an approach to work well, it is important to establish the per-pupil base so that it represents the true cost associated with providing an adequate education to meet state learning standards, and to determine the weights so that they accurately reflect the costs of meeting differential pupil needs. This weighted student formula allocation might also be adjusted for cost-of-living differentials across large states and should be supplemented with funds to address unavoidably variable costs such as transportation, which is necessarily extensive in large, sparse rural districts, and school construction, which varies by ages of buildings and changing enrollment patterns.
- **Develop a reliable base of funding without a bevy of categorical programs** that come and go. The gains made by states that have seen strong outcomes from their school funding reforms have been the result of continuity in funding and the flexibility to make locally appropriate, strategic decisions about how to spend resources to achieve results. The reliability and availability of these funds to focus on the core work of education should reduce the wastefulness of a potpourri of start-up, wind-down programs that are often created to address the shortcomings of a system that doesn't adequately invest in strong teaching and personalized environments that would prevent students from falling through the cracks to begin with.

- **Ensure high-quality preschool** for children who may have fewer learning opportunities or greater learning needs before they enter school—for example, children from low-income families, new English learners, and children with disabilities. States that have made strong gains as part of their school funding reforms have typically included high-quality early learning opportunities for children as part of their systemic approach. This closes much of the gap that would otherwise be present at entry to kindergarten and launches children into their educational careers from a much more even playing field.
- **Enable districts to hire and keep well-prepared educators** by coupling funding increases that support improved salaries and working conditions in previously under-resourced districts with stronger educator preparation, induction and mentoring for novices, and ongoing professional learning. Once resources are in place to recruit qualified teachers and principals to all communities, it is important to ensure that they have the professional knowledge and skills to teach and lead schools successfully.

As these recommendations suggest, state efforts to rationalize resource allocations should aim to leverage strong outcomes for the dollars that are spent. As the Public Policy Institute of California (PPIC) observed:

Equalization policies should do more than alter growth in overall budget levels. We believe they should target the area of greatest inequality: teacher preparation.... Traditional redistributive policies aimed at reducing variations in revenues per pupil across districts are unlikely to equalize student achievement across all schools.... Resource inequality is restricted primarily to teacher training and curriculum, so that redistribution must focus on these specific characteristics of schools rather than on revenues per pupil alone.<sup>85</sup>

Similarly, Ron Ferguson’s findings about the importance of teacher expertise for student achievement led him to recommend that investments focus on districts’ capacity to hire high-quality teachers.<sup>86</sup> Ferguson’s conclusion—that investments in more qualified teachers lead to greater achievement gains than other uses of educational dollars—led him to recommend that states direct funding to enable even higher salaries for qualified teachers in the neediest districts.

This strategy is not unlike that used in some countries where teachers’ salaries are designed to be equivalent across districts, with added stipends for those who work in harder-to-staff schools. A weighted student formula approach with an adequate base of funding would provide districts serving the neediest students with the additional funds to support the differential salaries Ferguson and the PPIC report call for, rather than the lower salaries they typically offer today.

However, it would not ensure that districts use the funds to hire more qualified staff or that a supply of such well-prepared staff would be available for them to recruit. This would require that the state develop and enforce standards for teacher quality and create a strong, steady supply of effective practitioners through salary and training incentives—a job that goes beyond what districts themselves can do, even with a more stable and equitable distribution of local resources.

Both the PPIC analysis and Ferguson’s underscore the importance of a strategy such as Connecticut’s or North Carolina’s, which ended shortages and boosted student achievement by equalizing the distribution of better qualified teachers. Connecticut did this by offering salary aid

for fully certified teachers on an equalizing basis for districts that raised their minimum salary to a state-recommended level. North Carolina raised the statewide salary schedule and boosted salaries for Board-certified teachers.

Meanwhile, these resources and incentives were buttressed by other key state activities, also taken up in Massachusetts and New Jersey, including strengthened preparation and licensing standards, funding for mentoring and a performance-based induction system, and extensive professional development. The states’ strategic efforts to create an infrastructure for professional excellence allowed their increased investments to be well spent and highly effective. This agenda is critical to creating a productive system that is also cost-effective, rather than pouring money into a system that would fail to use it to improve the quality of learning. As Table 2 suggests, changes in financing strategies are most likely to leverage improved education if they are focused on how diverse pupils can best be supported to achieve common educational goals.

**Table 2**  
**Changes in Financing Strategies**

From	To
Unequal revenues based on disparate local property tax bases	Equitable revenues from the state based on pupil needs
Restricted funds to districts based on many prescribed categories of spending	District decision-making over use of funds based on achievement of educational goals
A fragmented system of resources unconnected to broader policy goals	A holistic framework supporting access to early learning, quality curriculum, effective educators, and integrated student supports

## Conclusion

As the fate of individuals and nations is increasingly interdependent, the quest for access to an equitable, empowering education for all people has become a critical issue for the nation as a whole. As a country, we must enter an era of equitable provision of high-quality education. No society can thrive in a technological, knowledge-based economy by starving large segments of its population of learning. The path to our mutual well-being is built on equal educational opportunity. And such opportunity begins with an equitable, purposeful school funding system that allows all schools to support high-quality teaching for each and every child.

## Endnotes

1. Darling-Hammond, L. (2010). *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future*. New York, NY: Teachers College Press.
2. Darling-Hammond, L. (2010). *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future*. New York, NY: Teachers College Press.
3. Lankford, H., Loeb, S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools: A descriptive analysis. *Education Evaluation and Policy Analysis*, 24(1), 37–62; Sutchter, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). *A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S.* Palo Alto, CA: Learning Policy Institute.
4. Oakes, J. (2005). *Keeping Track: How Schools Structure Inequality* (2nd edition). New Haven, CT: Yale University Press.
5. Darling-Hammond, L. (2010). *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future*. New York, NY: Teachers College Press; Darling-Hammond, L., Ross, P., & Milliken, M. (2007). "High School Size, Organization, and Content: What Matters for Student Success?" in Hess, F. (Ed.). *Brookings Papers on Education Policy 2006/07* (pp. 163–204). Washington, DC: Brookings Institution Press.
6. Lyman, P., & Varian, H. R. (2003). *How much information?* Berkeley, CA: UC Berkeley School of Information Management and Systems. <http://groups.ischool.berkeley.edu/archive/how-much-info-2003> (accessed 07/01/17); The Emerging Future. (2012). *Estimating the speed of exponential technological advancement in five years, ten years, twenty years, thirty years, forty years, fifty years*. Miami, FL: Author. <http://theemergingfuture.com/docs/Speed-Technological-Advancement.pdf> (accessed 07/01/17).
7. Mazzone, M. (2015, June 4). Creativity, education and the changemakers of tomorrow. *TriplePundit*. <http://www.triplepundit.com/special/creativity-social-innovation/creativity-education-and-the-change-makers-of-tomorrow/> (accessed 07/01/17).
8. Southern Education Foundation. (2015). *A new majority: Low income students now a majority in the nation's public schools*. Atlanta, GA: Author. <https://www.southerneducation.org/what-we-do/research/newmajorityreportseries>. (accessed 07/01/17).
9. Child and Adolescent Health Measurement Initiative. (2013). *Overview of adverse child and family experiences among US children*. Washington, DC: Data Resource Center for Child & Adolescent Health. [http://www.instituteforsafefamilies.org/sites/default/files/isfFiles/3.%20b.%20Bethell%20CHILD%20aces-data-brief\\_version.pdf](http://www.instituteforsafefamilies.org/sites/default/files/isfFiles/3.%20b.%20Bethell%20CHILD%20aces-data-brief_version.pdf) (accessed 07/01/17).
10. Jimenez, M. E., Wade, R., Jr., Lin, Y., Morrow, L. M., & Reichman, N. E. (2016). Adverse experiences in early childhood and kindergarten outcomes. *Pediatrics*, 137(2), e20151839.
11. Carter, P. L., & Welner, K. G. (2013). *Closing the Opportunity Gap: What America Must Do to Give Every Child an Even Chance*. New York, NY: Oxford University Press.
12. Baker, B., Farrie, D., Johnson, M., Luhm, T., & Sciarra, D. G. (2018). *Is school funding fair? A national report card* (7th Edition). Newark, NJ: Education Law Center. [http://www.edlawcenter.org/assets/files/pdfs/publications/Is\\_School\\_Funding\\_Fair\\_7th\\_Edit.pdf](http://www.edlawcenter.org/assets/files/pdfs/publications/Is_School_Funding_Fair_7th_Edit.pdf) (accessed 12/29/18).
13. Adamson, F., & Darling-Hammond, L. (2012). Funding disparities and the inequitable distribution of teachers: Evaluating sources and solutions. *Education Policy Analysis Archives*, 20(37). <http://epaa.asu.edu/ojs/article/view/1053>.
14. Baker, B., Farrie, D., Johnson, M., Luhm, T., & Sciarra, D. G. (2018). *Is school funding fair? A national report card* (7th edition). Newark, NJ: Education Law Center. [http://www.edlawcenter.org/assets/files/pdfs/publications/Is\\_School\\_Funding\\_Fair\\_7th\\_Edit.pdf](http://www.edlawcenter.org/assets/files/pdfs/publications/Is_School_Funding_Fair_7th_Edit.pdf) (accessed 12/29/18).
15. Leachman, M. (2018). *New census data show persistent state school funding cuts*. Washington, DC: Center on Budget and Policy Priorities. <https://www.cbpp.org/blog/new-census-data-show-persistent-state-school-funding-cuts>.

16. PDK/Gallup. (2015, September). The 47th Annual PDK/Gallup poll of the public's attitude toward the public schools: Testing doesn't measure up for Americans [Special supplement]. *Kappan Magazine*. [http://pdkintl.org/wp-content/blogs.dir/5/files/pdkpoll47\\_2015.pdf](http://pdkintl.org/wp-content/blogs.dir/5/files/pdkpoll47_2015.pdf) (accessed 07/01/17).
17. Carter, P. L., & Welner, K. G. (2013). *Closing the Opportunity Gap: What America Must Do to Give Every Child an Even Chance*. New York, NY: Oxford University Press.
18. Darling-Hammond, L. (2010). *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future*. New York, NY: Teachers College Press.
19. Springer, J. G., Houck, E. A., & Guthrie, J. W. (2007). "History and Scholarship Regarding United States Education Finance and Policy" in Ladd, H. F., & Goertz, M. E. (Eds.). *Handbook of Research in Education Finance and Policy* (2nd edition). New York, NY: Routledge, Taylor & Francis Group.
20. Jackson, C. K., Johnson, R. C., & Persico, C. (2016). The effects of school spending on educational economic outcomes: Evidence from school finance reforms. *Quarterly Journal of Economics*, 131(1), 157–218.
21. Candelaria, C. A., & Shores, K. A. (2017). Court-ordered finance reforms in the adequacy era: Heterogeneous causal effects and sensitivity. *Education Finance and Policy*, 6, 1–91.
22. Lafortune, J., Rothstein, J., & Whitmore Schanzenbach, D. (2016). *School finance reform and the distribution of student achievement*. (IRLE working paper #100-16). Berkeley, CA: Institute for Research on Labor and Employment. <http://irle.berkeley.edu/workingpapers/100-16.pdf> (accessed 07/01/17).
23. Jackson, C. K. (2018). *Does school spending matter? The new literature on an old question*. (NBER working paper #25368). Cambridge, MA: National Bureau of Economic Research. <http://www.nber.org/papers/w25368> (accessed 12/31/18).
24. Jackson, C. K. (2018). *Does school spending matter? The new literature on an old question*. (NBER working paper #25368). Cambridge, MA: National Bureau of Economic Research. <http://www.nber.org/papers/w25368> (accessed 12/31/18).
25. Ferguson, R. F. (1991). Paying for public education: New evidence on how and why money matters. *Harvard Journal on Legislation*, 28(2), 465–498; Ferguson, R. F., & Ladd, H. F. (1996). "How and Why Money Matters: An Analysis of Alabama Schools" in Ladd, H. F. (Ed.). *Holding Schools Accountable* (pp. 265–298). Washington, DC: Brookings Institution; Betts, J. R., Rueben, K. S., & Danenberg, A. (2000). *Equal resources, equal outcomes? The distribution of school resources and student achievement in California*. San Francisco, CA: Public Policy Institute of California.
26. Ferguson, R. F. (1991). Paying for public education: New evidence on how and why money matters. *Harvard Journal on Legislation*, 28(2), 465–498.
27. Akiba, M., LeTendre, G., & Scribner, J. (2007). Teacher quality, opportunity gap, and national achievement in 46 countries. *Educational Researcher*, 36, 369–387. See also: Schleicher, A. (2018). *World Class: How to Build a 21st Century School System*. Paris, France: OECD Publishing.
28. Schleicher, A. (2018). *World Class: How to Build a 21st Century School System*. Paris, France: OECD Publishing.
29. Schleicher, A. (2018). *World Class: How to Build a 21st Century School System*. Paris, France: OECD Publishing; Darling-Hammond, L. (2010). *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future*. New York, NY: Teachers College Press.
30. Massachusetts participated in the 2015 PISA test and scored comparably to the top nations in the international rankings in science and reading and in the top one fourth of participating jurisdictions in mathematics. North Carolina, which typically ranks near the U.S. average on the NAEP exams, also participated in PISA. North Carolina outscored the U.S. and OECD averages on PISA and ranked in the top one fourth of jurisdictions in reading and science (comparably to Denmark) and near the median in mathematics. National Center for Education Statistics. (2015). Program for International Student Assessment (PISA). State results: Massachusetts. [https://nces.ed.gov/surveys/pisa/pisa2015/pisa2015highlights\\_7.asp](https://nces.ed.gov/surveys/pisa/pisa2015/pisa2015highlights_7.asp) (accessed 01/01/19).
31. Hinojosa, D. (2018). *Essential building blocks for state school finance systems and promising state practices*. Palo Alto, CA: Learning Policy Institute.

32. Cook-Harvey, C. M., & Stosich, E. L. (2016). *Redesigning school accountability and support: Progress in pioneering states*. Stanford, CA: Learning Policy Institute and Stanford Center for Opportunity Policy in Education.
33. *Horton v. Meskill*, 376 A.2d 359 (1977).
34. *Sheff v. O'Neill*, 678 A.2d 1267 (1996).
35. Baron, J. B. (1999). *Exploring high and improving reading achievement in Connecticut*. Washington, DC: National Educational Goals Panel.
36. Baron, J. B. (1999). *Exploring high and improving reading achievement in Connecticut*. Washington, DC: National Educational Goals Panel.
37. Baron, J. B. (1999). *Exploring high and improving reading achievement in Connecticut*. Washington, DC: National Educational Goals Panel.
38. Connecticut State Department of Education. (1990). Impact of Education Enhancement Act. *Research Bulletin*, School Year (1990), No. 1.
39. Baron, J. B. (1999). *Exploring high and improving reading achievement in Connecticut*. Washington, DC: National Educational Goals Panel.
40. Wilson, S. M., Darling-Hammond, L., & Berry, B. (2001). *Teaching policy: Connecticut's long-term efforts to improve teaching and learning*. Seattle, WA: Center for the Study of Teaching and Policy, University of Washington.
41. Geballe, S. (2007). *Coping with the cap: A primer on Connecticut's state spending cap and its impacts*. New Haven, CT: Connecticut Voices for Children. <http://www.ctvoices.org/sites/default/files/bud07spendingcap.pdf> (accessed 02/16/19).
42. *Connecticut Coalition for Justice in Education Funding, Inc. v. Rell*, No. X07-HHD-CV-145037565-S, 2016 WL 4922730, at \*6 (Conn. Super. Ct. Sep. 7, 2016).
43. *Connecticut Coalition for Justice in Education Funding, Inc. v. Rell* (2018). See also: Harris, E. A. (2018, January 18). Connecticut Supreme Court overturns sweeping education ruling. *New York Times*. <https://www.nytimes.com/2018/01/18/nyregion/connecticut-supreme-court-education-funding.html>.
44. *Hancock v. Driscoll* (2002). Superior Court Civil Action No. 02-2978.
45. Guryan, J. 2001. *Does money matter? Regression-discontinuity estimates from education finance reform in Massachusetts*. (NBER working paper #8269). Cambridge, MA: National Bureau of Economic Research.
46. Nguyen-Hoang, P., & Yinger, J. (2014). Education finance reform, local behavior, and student performance in Massachusetts. *Journal of Education Finance*, 39(4), 297–322.
47. Foundation Review Budget Commission. (2015). *Final report*. Boston, MA: Author. [https://malegislature.gov/Reports/2212/SD2273\\_Foundation%20Budget%20Review%20Commission%20Final%20Report%20\(October%2030%202015\).pdf](https://malegislature.gov/Reports/2212/SD2273_Foundation%20Budget%20Review%20Commission%20Final%20Report%20(October%2030%202015).pdf) (accessed 03/07/19).
48. Darling-Hammond, L. (2010). *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future*. New York, NY: Teachers College Press.
49. National Center for Education Statistics (NCES). (n.d.). Top four states in closing achievement gap. <http://www.fldoe.org/asp/naep/pdf/Top-4-states.pdf> (accessed 08/02/08).
50. To illustrate trends in the first decade after the reform, we rely on 4th-grade scores, as New Jersey 8th-graders did not participate in NAEP until 2003.
51. Anyon, J. (1997). *Ghetto Schooling: A Political Economy of Urban Educational Reform*. New York, NY: Teachers College Press; Centolanza, L. R. (1986). *The state and the schools: Consequences of curricular intervention, 1972–1980*. Ed.D. diss., Rutgers University.
52. Anyon, J. (1997). *Ghetto Schooling: A Political Economy of Urban Educational Reform*. New York, NY: Teachers College Press.
53. *Star Ledger* (1976, April 2).

54. Goertz, M. E., & Weiss, M. (2009, November). Assessing success in school finance litigation: The case of New Jersey. *Education, Equity, and the Law: No. 1*. <https://files.eric.ed.gov/fulltext/ED523993.pdf> (accessed 02/25/19).
55. Resch, A. M. (2008). *Three essays on resources in education*. Ph.D. diss., University of Michigan.
56. Goertz, M. E., & Weiss, M. (2009, November). Assessing success in school finance litigation: The case of New Jersey. *Education, Equity, and the Law: No. 1*. <https://files.eric.ed.gov/fulltext/ED523993.pdf> (accessed 02/25/19).
57. Darling-Hammond, L., Cook-Harvey, C. M., Flook, L., Gardner, M., & Melnick, H. (2018). *With the Whole Child in Mind: Insights from the Comer School Development Program*. Arlington, VA: ASCD Publishing.
58. Kirp, D. (2013). *Improbable Scholars: The Rebirth of a Great American School System and a Strategy for America's Schools*. Oxford, UK: Oxford University Press.
59. Rizzo, S. (2017, March 21). School funding concerns dominate N.J. budget debate. *Observer NJ*. <http://www.northjersey.com/story/news/new-jersey/2017/03/21/school-funding-concerns-dominate-nj-budget-debate/99467114> (accessed 07/01/17).
60. Henry, G. T., Purtell, K. M., Bastian, K. C., Fortner, C. K., Thompson, C. L., Campbell, S. L., & Patterson, K. M. (2014). The effects of teacher entry portals on student achievement. *Journal of Teacher Education*, 65(1), 7–23.
61. Henry, G. T., Bastian, K. C., & Smith, A. A. (2012). Scholarships to recruit the ‘best and brightest’ into teaching: Who is recruited, where do they teach, how effective are they, and how long do they stay? *Educational Researcher*, 41(3), 83–92.
62. Henry, G. T., Bastian, K. C., & Smith, A. A. (2012). Scholarships to recruit the ‘best and brightest’ into teaching: Who is recruited, where do they teach, how effective are they, and how long do they stay? *Educational Researcher*, 41(3), 83–92.
63. National Education Goals Panel. (1998). *The National Education Goals report: Building a nation of learners*. Washington, DC: Author. <https://govinfo.library.unt.edu/negp/reports/98RPT.PDF> (accessed 02/25/19).
64. For a summary of research, see National Research Council. (2008). *Assessing Accomplished Teaching: Advanced-Level Certification Programs*. Washington, DC: National Academies Press. <https://doi.org/10.17226/12224>.
65. Darling-Hammond, L. (2008). “Reshaping Teaching Policy, Preparation, and Practice: Influences of the National Board for Professional Teaching Standards” in Hattie, H., & Ingvarson, L. (Eds.). *Assessing Teachers for Professional Certification: The National Board for Professional Teaching Standards* (pp. 25–54). Bingley, UK: Emerald Press.
66. Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2007). *How and why do teacher credentials matter for student achievement?* (NBER working paper #12828). Cambridge, MA: National Bureau of Economic Research.
67. Darling-Hammond, L., Meyerson, D., LaPointe, M., & Orr, M. (2009). *Preparing Principals for a Changing World*. San Francisco, CA: Jossey-Bass.
68. NAEP Analysis (2001).
69. Bryant, D., Maxwell, K., Taylor, K., Poe, M., Peisner-Feinberg, E., & Bernier, K. (2003). *Smart Start and Preschool Child Care Quality in NC: Change Over Time and Relation to Children's Readiness*. Chapel Hill, NC: FPG Child Development Institute; Wechsler, M., Kirp, D., Tinubu Ali, T., Gardner, M., Maier, A., Melnick, H., & Shields, P. (2016). *The road to high-quality early learning: Lessons from the states*. Palo Alto, CA: Learning Policy Institute.
70. North Carolina students scored 250 in math at 8th grade in 1990 and 280 in 2000, by far the steepest gain in the nation. National Assessment of Educational Progress. (2007). *The nation's report card, mathematics 2007*. Table 11. Washington, DC: Author. <https://nces.ed.gov/nationsreportcard/pdf/main2007/2007494.pdf> (accessed 01/06/19); Lee, J., Grigg, W., & Dion, G. (2007). *The nation's report card: Mathematics 2007 (NCES 2007-494)*. Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

71. Baron, J. B. (1999). *Exploring high and improving reading achievement in Connecticut*. Washington, DC: National Educational Goals Panel.
72. *Leandro v. North Carolina* (2004), 95 CVS 1158, pp. 109–110.
73. Center for Educational Equity. (n.d.). North Carolina litigation. <http://schoolfunding.info/litigation-map/north-carolina> (accessed 03/08/19).
74. White students' scores increased from 292 to 295, while Black students' scores decreased from 263 to 258. White students' scores fell from 272 to 271, while Black students' scores fell from 248 to 243. National Assessment of Educational Progress. (n.d.). Data tools: State profiles. <http://nces.ed.gov/nationsreportcard/states/> (accessed 8/02/18).
75. National Assessment of Educational Progress. (n.d.). Data tools: State profiles. <http://nces.ed.gov/nationsreportcard/states/> (accessed 08/02/18).
76. WestEd and the Learning Policy Institute are completing a set of studies to guide the court and its Excellence Commission in developing a new set of policies to meet the court's dictates.
77. Baker, B., & Welner, K. G. (2011). School finance and courts: Does reform matter, and how can we tell? *Teachers College Record*, 113(11), 2374–2414.
78. Liu, G. (2008). Improving Title I funding equity across states, districts, and schools. *Iowa Law Review*, 93(3), 973–1013.
79. Adamson, F., & Darling-Hammond, L. (2012). Funding disparities and the inequitable distribution of teachers: Evaluating sources and solutions. *Education Policy Analysis Archives*, 20(37). <http://epaa.asu.edu/ojs/article/view/1053>.
80. Darling-Hammond, L. (1992–93). Creating standards of practice and delivery for learner-centered schools. *Stanford Law and Policy Review*, 4, 37–52.
81. Schott Foundation. (2009). *National Opportunity to Learn Campaign*. Boston, MA: Author. <http://schottfoundation.org/resources/common-opportunity-resource-standards> (accessed 03/08/19).
82. Cook-Harvey, C. M., Darling-Hammond, L., Lam, L., Mercer, C., & Roc, M. (2016). *Equity and ESSA: Leveraging educational opportunity through the Every Student Succeeds Act*. Palo Alto, CA: Learning Policy Institute.
83. Kostyo, S., Cardichon, J., & Darling-Hammond, L. (2018). *Making ESSA's equity promise real: State strategies to close the opportunity gap*. Palo Alto, CA: Learning Policy Institute.
84. Darling-Hammond, L. (2010). *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future*. New York, NY: Teachers College Press.
85. Betts, J. R., Rueben, K. S., & Danenberg, A. (2000). *Equal resources, equal outcomes? The distribution of school resources and student achievement in California*. San Francisco, CA: Public Policy Institute of California.
86. Ferguson, R. F. (1991, Summer). Paying for public education: New evidence on how and why money matters. *Harvard Journal on Legislation*, 28(2), 465–498.



## About the Author

**Linda Darling-Hammond** is President of the Learning Policy Institute and Charles E Ducommun Professor of Education, Emeritus, at Stanford University. She is past president of the American Educational Research Association and a member of the National Academy of Education and the American Association for Arts and Sciences. Her research and policy work focus on educational equity, teaching quality, and school reform. She has authored more than 500 publications, including *The Flat World and Education: How America's Commitment to Equity will Determine our Future*, which was awarded the Grawemeyer Award.



1530 Page Mill Road, Suite 200  
Palo Alto, CA 94304  
p: 650.332.9797

1301 Connecticut Avenue NW, Suite 500  
Washington, DC 20036  
p: 202.830.0079

@LPI\_Learning | [learningpolicyinstitute.org](http://learningpolicyinstitute.org)

The Learning Policy Institute conducts and communicates independent, high-quality research to improve education policy and practice. Working with policymakers, researchers, educators, community groups, and others, the Institute seeks to advance evidence-based policies that support empowering and equitable learning for each and every child. Nonprofit and nonpartisan, the Institute connects policymakers and stakeholders at the local, state, and federal levels with the evidence, ideas, and actions needed to strengthen the education system from preschool through college and career readiness.