

Getting
Education **Right**

**State and Municipal Success in
Reform for Universal Literacy in Brazil**

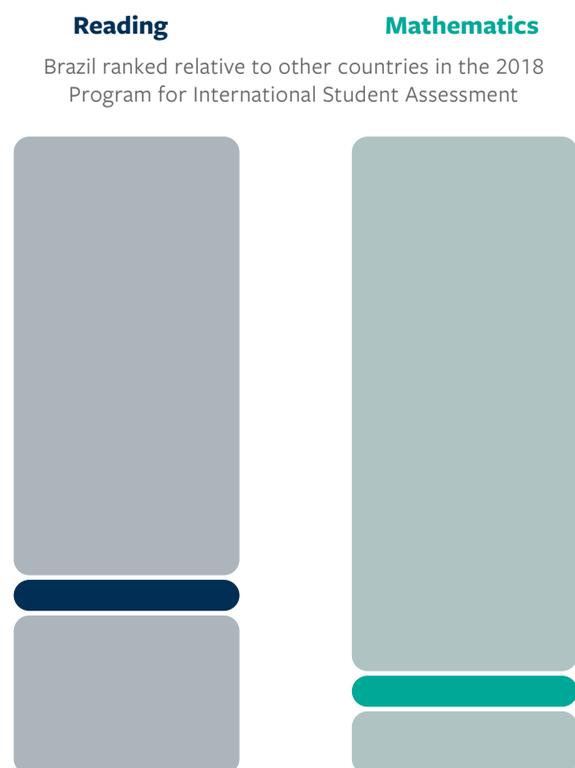
Quality education is crucial to a thriving society. It delivers lower rates of poverty and faster economic growth. It increases social mobility and social cohesion. It improves health outcomes and leads to more engaged citizens.¹ Few would disagree, and yet governments around the world struggle to deliver quality education. Students in most countries of Latin America, Africa, and South Asia lag far behind their high-income country counterparts, with many failing to master even basic skills by the end of primary school.² Brazil is no different: In a 2018 international learning assessment, Brazil ranked 59 out of 79 in reading. In math, it was in the bottom ten (Figure 1).³

In Brazil, the relatively poor, northeastern state of Ceará made impressive gains in the quality of the education it delivers to its students in just over a decade.

It accomplished this through a focus on foundational skills: literacy and numeracy for all children. It is easy to point to some of the global high performers in education—countries like Singapore, Finland, Canada, and the Republic of Korea—and suggest that education systems in low- and middle-income countries should be more like those systems. But those are all high-income countries, and many of them have had high-performing education systems for decades. What reforms should a country with fewer resources undertake to get there as quickly as possible? In 2005, Ceará—a Brazilian state the size of nations like Austria or Papua New Guinea—was among the bottom half of Brazil’s states in the national assessment of education quality, a combined measure of reading and math scores along with student grade progression. By 2017, it ranked fourth from the top in the ninth-grade assessment and sixth

from the top in the fifth-grade assessment. Ceará is not a privileged locale: it remains among Brazil’s poorest states. As a result, its combined reading and math outcomes adjusted for its economic status are the highest in the entire country at both the fifth and ninth grade levels. With focused political leadership combined with an iterative series of education reforms over the course of more than a decade, Ceará provides a model for reforming education.

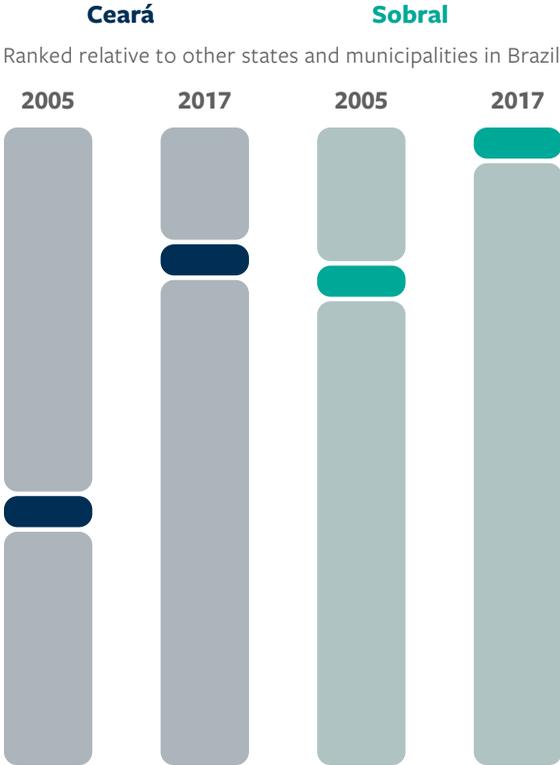
Figure 1: Brazil lags in international assessments of student learning



One municipality in Ceará pioneered the reforms which then inspired education improvements for the state.

The transformation of Ceará’s education system started in Sobral, a midsized municipality about three hours by car from the Ceará state capital. In Brazil, municipalities are principally responsible for primary and lower-secondary education. In the late 1990s, more than four of five students in Sobral were too old for their grade, a symptom of poor learning and inconsistent attendance and a prime indicator for future dropouts. In the 2005 national education quality assessment (see Box 1), Sobral did not even rank in the top 1,000 of Brazil’s municipalities. Yet in 2017, it ranked first for both fifth grade and ninth grade, a stunning turnaround (Figure 2).

Figure 2: The state of Ceará and its best performing city, Sobral, have achieved major gains in student learning.



How did Sobral achieve this transformation? It took an iterative, focused effort—backed by consistent political leadership and a commitment to achieve universal literacy in the early grades.

1997 marked the beginning of a new mayoral administration in the municipality. At the time, Sobral’s education system reflected characteristics common to many systems in Brazil. School principals were selected as rewards for political favors, and they selected teachers based on their own criteria. There was an abundance of schools, many of them small, in poor physical condition, with one teacher instructing multiple grades at the same time. The first two reforms that the new administration made were politically difficult, consistent with the advice of Mexico’s former Minister of Education Otto Granados: “You must spend your political capital at the beginning of your term, when this capital is possibly at its highest, to make difficult—but important—decisions, even if they are unpopular.” First, the new municipal leadership replaced political criteria for the selection of principals and teachers with technical criteria and embedded that in

the law. In the process, it let go a third of the teachers and principals hired under the old system. Second, it grouped primary school students into fewer, larger schools, where they could have one teacher per grade. It provided improved school transportation. (Small communities retained their schools for the purposes of early child education and adult literacy classes.)

After these initial reforms, Sobral did not see the gains that it hoped for. As of 2001, an assessment of students in third grade showed that two out of five could not read a single word. Sobral's leadership established a clear target—to achieve literacy by the end of second grade—recognizing that without achieving literacy in the early years of primary school, it would be impossible to develop any of the other desired goals of education, like

Box 1

Brazil's National Measure of Education Quality

Every two years, Brazil calculates a score for each state and municipality on its Index of Basic Education Development (called 'IDEB' after the name in Portuguese). It is assessed for fifth grade, ninth grade, and twelfth grade. It is a combined measure of student performance on tests of Portuguese and mathematics and of student pass rates from one grade to another, capturing both performance and advancement. IDEB is calculated at the national, state, municipal, and school levels, and it includes both public and private schools.

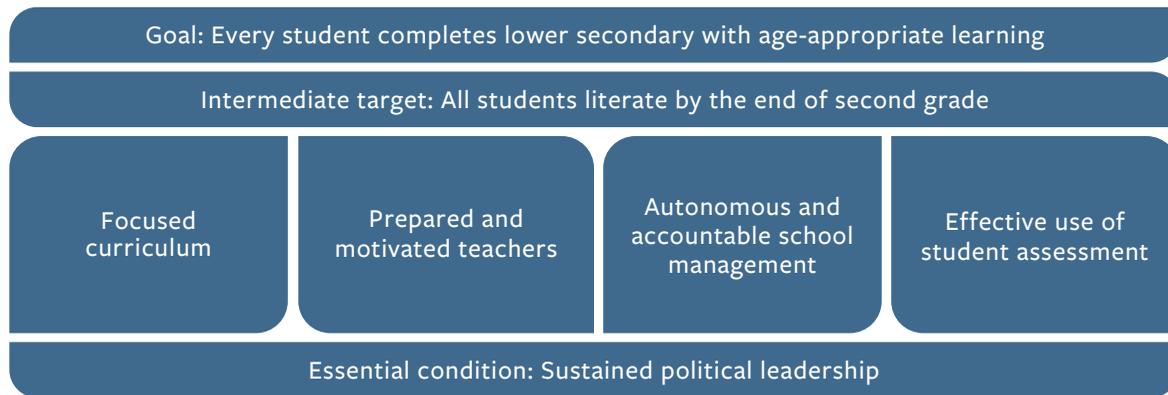
numeracy, higher-order analytical skills, and social and emotional competencies.* It then implemented a series of reforms that centered on that goal of achieving literacy by the end of second grade: the effective use of student assessment, a clearly structured learning program (which evolved into a focused curriculum), prepared and motivated teachers, and autonomous and accountable school management (Figure 3). Those all sound good, but what do they look like in practice?

The cornerstone of Sobral's education policy is its target of having every child able to read and write by the end of second grade.

A curriculum designed around achieving literacy meant clear sequencing of tasks. In later grades the curriculum builds on that foundation of literacy. This curriculum provides natural goals for each school and teacher, and it provides the basis for structured lesson plans to guide teachers. Structured teacher guides (also called scripted materials in some contexts) – aligned with the updated curriculum – make it easy for teachers to teach tasks in an order that makes sense to students. Teachers are not required to follow the materials word-for-word, but the materials provide a range of learning activity ideas for each lesson so that teachers can complement their own knowledge and abilities. Designing learning materials that were aligned with the curriculum and that provided enough structure to be useful to teachers was crucial to transforming teaching in Sobral. Structured lessons have delivered significant gains in countries of every income level, from low to high.^{5 6}

Teachers participate in monthly training where they prepare and discuss lessons and exams and update learning objectives. Classroom management is a focus, with municipal leaders providing structured lessons so that teachers can get into a routine. School and municipal officials observe classes and provide feedback. Teachers in Sobral are paid more than the national minimum, and they receive bonuses both for high performance from their

Figure 3: The pillars of education success in Sobral



class and from their school as a whole. Effective teachers are honored at ceremonies and take leadership roles in recruiting new teachers.

Teachers work most effectively with effective school leaders. **In Sobral, principals are empowered and accountable.** Since the first years of the reforms, principals have been selected on merit, and over the years the criteria have evolved to include steps like written exams, an interview, a group assessment, and a leadership assessment. Principals are appointed for a three-year term, at which point they can be reappointed or not, based on their performance. They also get support: the municipal education team visits schools regularly to discuss the progress of students and teachers. Municipal leadership also increased the discretionary budget of school leaders, partly based on school enrollment but also on student attendance and learning.

Regular student assessment is a tool to support every student. Regular literacy assessments began in 2001, and they have evolved over time. Students are assessed twice a year, with the assessments shaping learning goals and strategy for the municipality, for schools, and for classrooms. These assessments guide the placement of students who do not achieve literacy by the end of second grade into classes for focused support. In the early years, the assessments also led to reassignment of students in grades three to five by literacy status to allow more focused work with illiterate students. Initially, the assessments just covered primary education, but now they assess students each year from the last year of early child education through lower-secondary school. In addition to informing goals and plans, these assessments affect bonuses for teachers, principals, and schools who meet targets. These assessments extend beyond learning. Schools track attendance and call parents on the same day if a child is absent. A team from the municipality visits schools twice a month to analyze attendance data and make plans to support absent students. As a result, school dropouts had dropped to from 7 percent in primary school in 2001 to 0 percent in 2010. Over the same period, dropouts from lower-secondary school fell from 21 percent to 0 percent.

* The World Bank recently proposed a related concept of “learning poverty,” an indicator of how many children under age 10 are unable to read, with the goal to halve it by 2030. Sobral and Ceará’s programs provide a roadmap that other countries can learn from.

The politics of reform are always challenging, and Sobral was no exception. Some families resisted sending their children farther away to primary school, and some political leaders—along with the teachers and principals who would be let go—objected to changing the criteria for hiring. Some reforms benefited from legal strategies: the municipality was able to show that many politically motivated teacher hires had in fact been illegal, which eased tensions with teacher unions. Publicizing the poor results of early learning assessments on the radio helped garner public support for change. Financial bonuses for high performing teachers received critiques from Brazilian academics but no opposition from teachers in Sobral, consistent with evidence of the popularity of these programs among teachers in other middle-income countries like India and even low-income countries like Tanzania.⁷ **The local government attributes its success in political reform to three principles: consistent, open dialogue with parents, school leaders, and local politicians; equal treatment regardless of political affiliation; and transparency in the criteria used to judge schools and teachers** (Figure 4). All of these added legitimacy to the reform process. Repeated open dialogue on the importance of learning comes back to the principle of sustained political leadership: when elected officials consistently signal, both with words and their actions, that learning—not just education—is a priority, reform can happen.

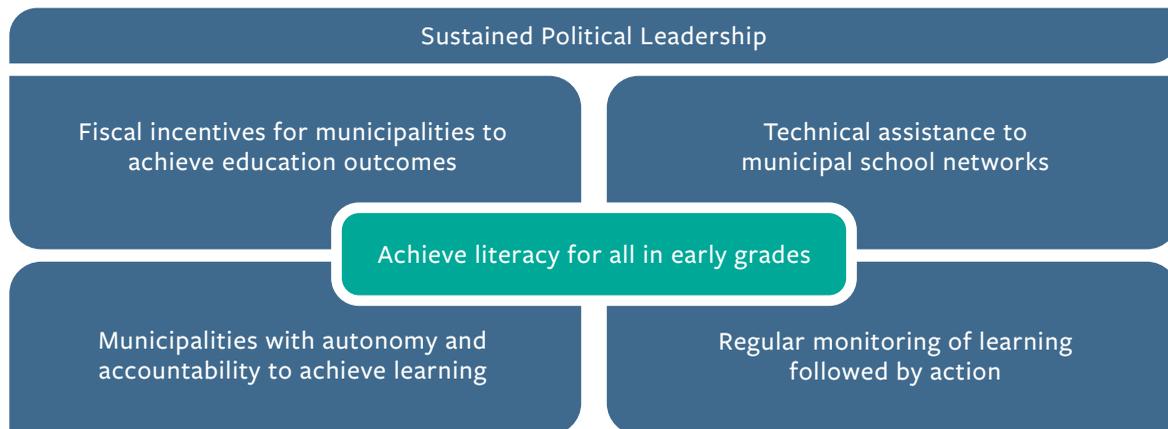
A few years later, the state of Ceará began a series of reforms to improve education quality in all its municipalities.

Figure 4: Principles of effective political dialogue around education reform in Sobral



Ceará put learning at the center of its learning strategy, with early literacy as the foundation. It then followed a parallel strategy—adapted to the distinct functions of a state government, which has a supervisory role in basic education in Brazil—to that in Sobral: it established incentives for municipalities to achieve education outcomes, it provided extensive technical assistance to those municipalities, it accelerated the process of devolving the management of lower-secondary schools to municipal governments, and it established regular monitoring of learning, followed by action based on that learning (Figure 5). At the heart of this series of reforms was sustained political leadership and focus.

Figure 5: The conditions for success in Ceará



Ceará revolutionized fiscal transfers to municipalities, placing incentives around education performance. Historically, revenues from the state consumption tax were distributed to municipalities based on their population size and level of income; this is still the case in most Brazilian states. In 2007, Ceará passed a law—the first in the nation—that made one-quarter of that transfer dependent on municipal performance in education, health, and environmental outcomes, with education quality driving three times more of that transfer than either of the other areas. The focus was on improvement rather than merely achieving certain levels, so every municipality had the possibility of succeeding. So nearly one in every five dollars (or reais, in this case) that municipalities receive from the state are driven by education results. The financing formula also rewarded school systems with higher student attendance in the exams, to avoid incentives for education leaders to exclude low-performing students. Municipal leaders had a strong incentive to get their education results right, and part of that meant selecting secretaries of education using technical, rather than political criteria.

This particular model of incentives for education performance worked because of Ceará’s environment of decentralized education management. Unlike most Brazilian states, virtually all public primary and lower-secondary schools in Ceará are devolved to municipal governments. That means that every aspect of school management is under the responsibility of the municipal secretariat of education, including the hiring and firing of teachers and the maintenance of the buildings. The state and federal governments provide complementary policies that municipal governments can engage with or not. The decision to give the management of primary and early secondary education to municipalities established clear roles and responsibilities for each government level, with the state government supporting the municipal governments in primary and lower-secondary education while directly providing upper-secondary and technical-secondary schools.

Incentives can only do so much if municipalities lack capacity. **A second key driver of success in Ceará was technical assistance to the municipalities.** This assistance comes in a variety of forms, all under the umbrella of the program that Ceará established in 2007,

‘The Program to Achieving Literacy at the Right Age’, which provided extensive support to schools operated by the municipalities. From a pedagogical angle, schools—through their municipal education secretariats—receive tightly structured learning materials that provide a clear routine for classes and prioritize basic skills, especially literacy in the early grades. Teachers receive regular training on the use of those structured learning materials, including classroom observations with feedback. Low-performing municipalities get additional support. The state even provides budget and curriculum support for early childhood education—which is entirely the responsibility of municipalities—to ensure that children get started right.

Municipalities also receive support to improve the management of their education systems. The state provides training and materials to help municipal education secretariats increase teaching time in classes, reduce the number of classes with more than one grade in them, adopt meritocratic criteria for the selection of school principals (like Sobral did), and to provide incentives—financial and nonfinancial—for teachers whose students are meeting literacy targets. Pedagogical coordinators in schools support teachers in each classroom, with training from their local municipal education leaders, who in turn receive guidance from the state. The focus of the coordinator training is on support rather than inspection. The state also directly rewards high-performing schools in the municipalities, but to qualify, the high-performing schools need to assist low-performing schools.

Finally, it is impossible to know if the state is making progress toward its goal without measuring. **Ceará implemented a system of regular monitoring.** Schools measure student literacy in second grade, and those results inform both targets and support through professional development for teachers. Beyond the national assessments in fifth and ninth grade, the state established an annual learning assessment in literacy assessment (administered externally) for second graders. This feeds into both strategies for improvement and performance assessments. The state also provides support for the implementation of regular assessments that the municipalities can carry out themselves.

Each of these drivers—incentives, technical assistance, and regular monitoring, all aligned in the service of a greater goal—contributed to Ceará’s success in education. World Bank research that compares Ceará’s schools to similar schools just across the border in other states suggests that results-based financing in conjunction with extensive technical assistance accomplish far more than either separately. This shows up not just in student test scores, but also in a host of actions that do not have direct incentives linked to them: teachers are more likely to grade students’ homework, more schools in Ceará report access to books on effective teaching and teaching support from the municipal government. Principals report more on-the-job training and rate it as effective, and they are more likely to send staff to absent students’ homes. The combination of results-based financing and technical assistance worked in part because in Ceará, virtually all primary schools in 2007 and more than three-quarters of lower-secondary schools were managed by municipalities. A system without this decentralization would have to structure its financial incentive structure differently.

Programs with strong incentives sometimes raise concerns about equity. **In Ceará the incentives that municipalities face focus on reducing the proportion of students with learning below an established minimum standard—while keeping them in school—rather than simply raising the average, so the municipalities have an incentive to make sure children do not get left behind.** Research suggests that the mechanism works, with these financial incentives contributing to a reduced gap between poorer and wealthier municipalities within the state. Other analysis shows that after Ceará introduced its financing and technical assistance reforms, the largest gains in student test scores have come from students with lower incomes. Girls and students of color are also benefiting disproportionately.

Sustained political leadership was essential to these reforms. Beyond the sustained attention and effort required to implement reforms, a crucial element of its leadership has been that the government of Ceará has kept politics out of the schools. Municipalities that are aligned with the political party of the state government receive the same benefits and support as those in the political opposition. That approach has trickled down, with municipalities increasingly selecting their education secretaries based on technical criteria rather than political partisanship. Political leadership has also meant building a staff of management and education professionals who can implement this program at the state level.

All these reforms cost money, and Ceará has increased its education spending, but it still gets more for its money than most. The increase in spending was enabled by a national education finance reform in 1996 that delivered more education finance to poorer states and municipalities. Municipalities in Ceará report 18 percent more financing to schools than those across the border in neighboring states. But even with the spending increases, Ceará’s municipalities consistently fall in the bottom half of the country in per-pupil spending and yet, most of its municipalities are in the top half of the distribution of education quality in Brazil, with Sobral in first place (Figure 6).

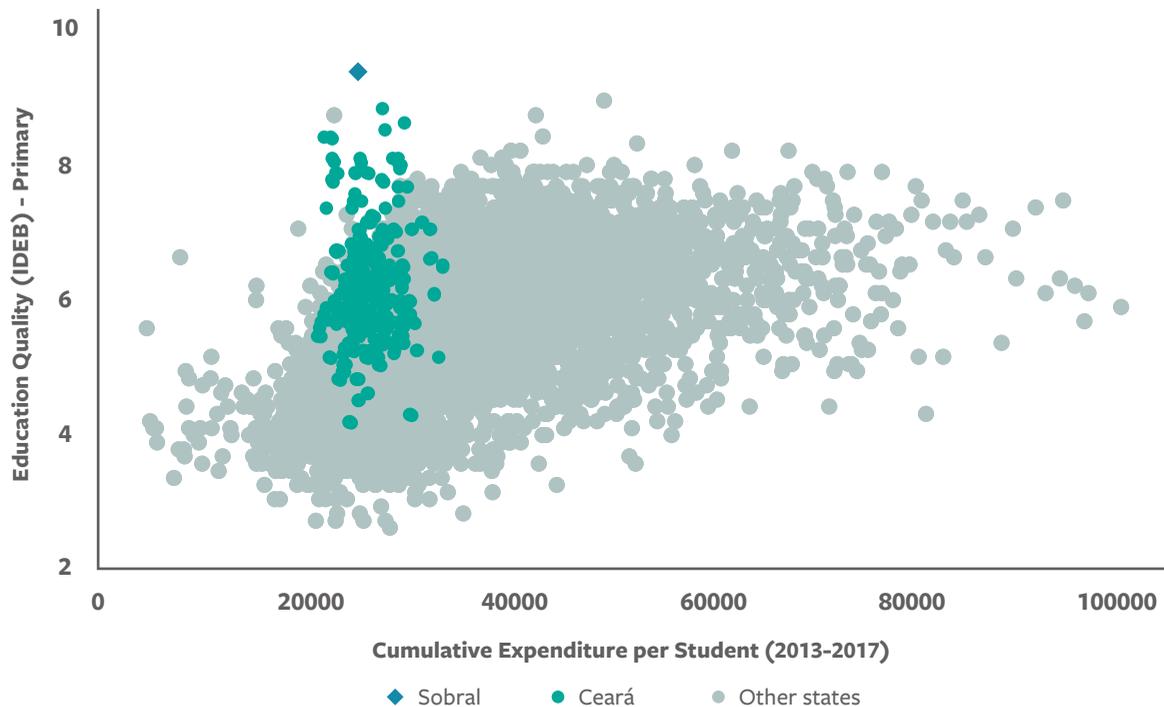
Literacy is crucial, but education extends beyond literacy. Ceará’s principal education program is focused on ensuring that students learn to read by the end of grade two. So is Sobral’s program. But both the state and the municipality have dramatically improved and are performing well in mathematics as well as literacy, and not just in primary school (through fifth grade) but also in lower-secondary (through ninth grade). This suggests both that getting literacy right in the early grades enables schools to teach all the other subjects that they need to teach, and that the strategies that Ceará and its municipalities are using in those early grades make them more effective at delivering education in the later years.

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Ceará's improved education gains will improve the state's economic performance.

The link between education and economic growth has been long established, but recent research demonstrates that the level of learning does far more to explain improved economic performance than mere years of education.⁸ Improved literacy skills translate to higher incomes for individuals.⁹ As a result, Ceará's and Sobral's impressive gains in literacy and numeracy will yield economic benefits in the years to come. **Ceará still has more to do.**

Figure 6: Ceará's municipalities achieve more with less money.



What can other governments learn from the Ceará-Sobral experience?

The principal lesson from the Ceará-Sobral experience is that meaningful reform over a reasonable period is possible, even in a setting without deep financial resources. Furthermore, Ceará achieved its impressive gains in basic education even though the state did not have direct control over education delivery: its achievement was through incentives and support to the municipalities that were actually running the schools.

As countries around the world seek to achieve gains in education access and quality in short timeframes, **it can be tempting to boil down the success of Ceará and of Sobral before it to a single reform**—results-based financing to municipalities, getting politics out of the

selection process of principals and teachers, incentives for teachers, structured learning materials, and training for teachers—but reducing these programs of reform to a single element would be unwise, as the best evidence suggests that these factors have worked together to produce striking success. At the same time, every education system faces a different set of circumstances, so simple adoption of the entire program of reforms is similarly unwise, as well as probably infeasible. Within Brazil, the Common Good Institute (Bem Comum) and the Lemann Foundation are working with municipalities in various states to adapt Sobral’s experience and in others to adapt the Ceará model, with the support of the Natura Institute.

Along with elements of the reform program that Ceará implemented, governments across countries can recognize that **major reforms sustained over time will not happen without sustained, focused political leadership.** That leadership meant putting learning at the center of the education systems and sacrificing the opportunity to use the education system for political benefits while keeping an eye on learning.

Ceará and Sobral demonstrate effective models of education reform in systems where schools are both directly and indirectly managed. Both Sobral and Ceará combined technical support with incentives – autonomy and accountability for those directly delivering education services. In Sobral, a municipality, the government directly managed schools, but the principals had freedom and responsibility to deliver education gains, with technical support from the municipality. In Ceará, with responsibility for basic education sitting at the municipal level, the state created effective incentives geared toward improved learning outcomes, combined with extensive support—on both managing the education system and on improving pedagogy—to municipalities so that they could implement the changes needed to meet their goals. These two examples provide a model of success for both direct and indirect management of schools.

Both Ceará and Sobral measured and iterated. Sobral’s initial reforms—grouping students into larger schools and reforming the teacher and principal selection policies—did not yield immediate benefits, but they may well have been essential for other policies to be effective. Regardless, the lack of initial success led to trying other reforms, always with an eye toward improving literacy in the early years. Ceará’s experience is remarkably similar: over more than a decade, the state has experimented with a set of policies while keeping the same goal in view. Those iterations continue as the state seeks to improve the quality

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of its upper-secondary education. Part of how the state knows what is working and isn't is through careful, regular measurement. Much of the measurement that municipalities carry out is low stakes in terms of promotion, but as these measurements feed into strategies for reaching every student, the actual stakes couldn't be higher. Every country that is willing to put leadership behind learning can measure and iterate as it brings a wide array of tools to bear on this crucial investment in its next generation.

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- ⁷ For evidence from India, see Muralidharan K., and V. Sundararaman. 2011. "Teacher opinions on performance pay: Evidence from India," *Economics of Education Review* 30 (3). For evidence from Tanzania, see Mbiti I., and Y. Schipper. 2020. "Teacher and Parental Perceptions of Performance Pay in Education: Evidence from Tanzania." RISE Working Paper 20/037.
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- ⁹ Evans, D. K., and F. Yuan. 2019. "Equivalent Years of Schooling: A Metric to Communicate Learning Gains in Concrete Terms." World Bank Policy Research Working Paper 8752.

This note was prepared by **David K. Evans** and **Andre Loureiro** and draws principally from the studies “The State of Ceará in Brazil is a Role Model for Reducing Learning Poverty” (by Loureiro, Cruz, Lautharte, and Evans 2020) and “Achieving World-Class Education in Adverse Socioeconomic Conditions: The Case of Sobral in Brazil” (by Cruz and Loureiro, 2020) that were prepared in the context of the Brazil Analytical and Advisory Increasing Efficiency in Education to Improve Learning in Brazil (P171447) and as a result of an ongoing collaboration between the World Bank’s Latin America and the Caribbean Education unit and the Global Education Unit to analyze, understand, and disseminate models of successful reform. All unreferenced material is from those reports. To learn more, read those studies.

