



Shakespeare in Quixeramobim Ceará goes to school

Norman Gall



1. The school bus

The northeastern state of Ceará, among Brazil's poorest, is engaged in one of Latin America's most ambitious reforms of public education. A belief in human development and in the value of striving led me to visit classrooms and interview students, teachers and managers at all levels of the public education system, impressed by the emergence of so many talented people responding to opportunities and clearly defined goals. Many uncertainties remain, subject to political influences that will shape the continuity of these efforts. Yet resilient young people are reaching new levels of achievement. Much will depend on their continuing resilience and determination. This essay will explore these contingencies, full of challenges that will take time, effort and patience to overcome.

Ceará is a land of barren plains and dry gulleys, enlivened occasionally by sudden rushes of rain, relieving the heat but then relapsing once again as the *caatinga*, covered with sagebrush, rises toward the ancient granite hills of Brazil's pre-Cambrian shield. The thin acidic soil is composed of eroded crystalline rocks of volcanic origin, degraded by intense sunlight, bursts of rain and centuries of grazing by livestock. Isolated patches of fertility remain where long-fiber cotton once flourished, inspiring a wave of railroad construction a century ago until recurrent onslaughts of

the boll weevil decimated the crops. Ceará is a land of adversity that, once again, its people are trying to overcome. Ceará now is enduring its fifth consecutive year of drought, suffering water shortages in many communities.

Cradled among the hills, beside seasonal riverbeds, are towns. The towns are growing. Towns began as isolated trading posts, then became refuges from drought, peonage and bandits, finally consolidating their political lives under the influence of erratic policies of the federal government. After the end of two decades of military rule (1964-85), a new governing coalition arose in Ceará, accompanying the revival of electoral democracy and the control of chronic inflation, which launched this poor and backward state into a new era of modernization. One of the main thrusts of this modernization effort has been the struggle to advance the scale and quality of education.

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A wheezing old school bus starts its journey before dawn in the village of Paus Brancos [White Trees] along winding

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dirt roads in the dry hill country to carry pupils 41 kilometers away to the historic town of Quixeramobim (pronounced Keesheramobeem). The town lies at the heart of the *sertão*, a corruption of the word *desertão*, or “big desert,” coined by Portuguese settlers in the 17th Century, today officially called “semi-arid” to describe the undulating tableland covering much of the drought-prone Northeast. The granite hills are pocked with caves harboring images of hunters and animals, painted by prehistoric settlers thousands of years ago.

Despite its age, the noisy school bus is a roaring success as it picks up some 70 pupils in the half-dark of Paus Brancos and in villages along the way. Arriving in Quixeramobim, the school bus leaves the students at the Dr. José Alves de Silveira State School for Professional Education, a new high school housed in an architectural masterpiece that became a standard design. Education

authorities replicated this design in 57 three-year professional high schools in towns and cities throughout Ceará as a symbol to show the state’s nine million people that education can enable them to reach new standards of progress and civilization. In addition, 48 existing school buildings were adapted to meet the new teaching standards. The new schools became a focus of civic pride and the most prominent architectural structure in towns throughout the *sertão*. They each contain fully equipped laboratories, 12 air-conditioned classrooms, auditoriums and libraries aligned along gleaming white corridors with murals exhorting “perseverance, responsibility, learning, protagonism, conquest, confidence.” The curriculum embraces both traditional academic subjects plus technical courses and half-day internships in local businesses and hospitals. Students in small groups also read and discuss the classics of world literature in Reading Circles, organized

and guided by the Fernand Braudel Institute of World Economics.

A different Vanessa

Among those who waited for the bus was Vanessa Carmo, a vivacious 17 year-old who wants to become an architect. Her family came to Paus Brancos five years ago from Fortaleza, Ceará’s sprawling and violent capital, after her father lost his job. “We were lucky because my parents had a side business at home, making handbags and sandals,” Vanessa said. “My mother sewed the bags and my father cut and glued the leather to make sandals and

then went out to sell them in the street. I studied in five different schools in Fortaleza, which were far from our house. My mother had to wait on line overnight outside the schools to register my sister and me. My father decided that Fortaleza was dangerous and that it would be better for us to

move to Paus Brancos, where we have relatives and life is easier. Mom and Dad now make cushions for sofas and chairs at home and my father does odd jobs as an electrician. My sister and I studied all day, from 7 a.m. to 5 p.m., at the new professional high school in Quixeramobim, which made me into a different Vanessa. I was taking classes in construction to prepare me for architecture. I read architectural magazines while still in primary school and made designs for our own house. I knew what I wanted professionally and was researching universities and scholarships.”

University admission is just one of the challenges facing ambitious students. Vanessa ranked sixth in an entrance examination for an architecture course, but could not pay the matriculation fee. After graduation from high school, she then took a civil service exam for a job in the pharmacy of a new regional



Vanessa Carmo, Quixeramobim

hospital that the state government was building nearby, which would enable her to save money to pay university expenses. However, the hospital so far failed to open, because of a lack of water supplies in the current drought. Vanessa now works as a clerk in a medical supplies store in Quixeramobim, commuting daily on the school bus from Paus Brancos, while studying management on the internet.

We see many heroic efforts, most of them unsung, some of them rewarded. Sérgio Goes drove a motorbike 48 kilometers back and forth every day on dusty and dangerous dirt roads, leaving his home in the village of Vila Mel before dawn to attend classes at the professional high school in the town of Jucás. A teacher in his village told Sérgio of the new high school in Jucás. "I visited the school while working on a construction job," he said. "I decided that I want to study there and was accepted." Sérgio persisted despite a very fragmentary primary education, needing intensive remedial work "It's been hard to get to school when it rains, because the roads are muddy," he said. "There are 500 families in our community. I'm the only one who goes to this school. Several people told me that I couldn't do it, that I lacked the capacity, but my mother encouraged me. I want to study medicine. The human body fascinates me. I'm not interested in fame or money. I want to help people." The mayor of Jucás, born in Vila Mel, found a place in the town for Sérgio and other rural students to stay while attending classes.

Ruan Martins, 16, boarded the school bus from Paus Brancos in the village of São Miguel. He received a Bible as a gift from his teacher while studying catechism but then joined the Pentecostal church Assembly of God after reading his Bible, he said, from cover to cover. Ruan said that his family and friends discouraged him from applying to the professional school in Quixeramobim, but he wants to study engineering and then to go to a foreign university under the government's Science without Borders scholarship program. "My family and friends urged me to continue my studies in São Miguel, but I saw that they were stagnating and going nowhere in life," Ruan said. "I spent all of my ninth grade year studying to get into the professional school. I wanted to get away from my old school, where there were no laboratories, few books in the library and sports instructors teaching science classes. Teachers teach so little because they know so little. I wonder why these people want to work in education. They use tricks and games to keep the kids busy. Kids constantly talk in class and don't pay attention. Most of them don't want to be in school. Their parents force them to attend because they get money from *Bolsa Família*." *Bolsa Família* is

the federal "family scholarship" program paying poor families monthly stipends for keeping their children in school and having them vaccinated. In 2016 Ruan gained admission to the prestigious Federal University of Rio de Janeiro.

Josimar Saraiva, the 49 year-old principal of the professional school in Quixeramobim, was born in Paus Brancos before school buses ever reached the village, when there was neither electricity nor public transport into the town. Josimar grew up in a house of *taipa* [clay and sticks], which are rarer now in rural Brazil, thanks to a federal program replacing them with sturdier structures. Electric lights came only in 1976. The first public transport to Quixeramobim was on the back of a truck called a *pau de arara* [parrot's perch], which began daily service in 1985. Today there is regular bus service to the town. Rural populations are shrinking worldwide, with villages inhabited mainly by old folks and their grandchildren left behind by parents who migrated to cities. In Paus Brancos, plots of land are carefully fenced but little is planted, except in rare seasons of sufficient rain. But these days 25 pupils ride the school bus to study at the new professional school in Quixeramobim. The municipal government installed a Wi-Fi antenna in the village a few months ago.

"I lived in that *taipa* house for 17 years and swept the earthen floor every day," Josimar recalled. "My father walked, with buckets yoked on his back, to bring water from a spring at the foot of a nearby mountain. I worked our patch of land with my parents but was very curious. I learned to read by the time I was three years old and started the first grade in school a year later, but the teacher sent me home on the first day because I was dressed in red, which made her think that I was a communist. I went back the next year, but the teacher became angry with me because I already knew everything she taught, so she promoted me to the second grade, where the teacher was nicer. In 1972, I finished the third grade and then repeated it for two more years because I wanted to stay in school, since there was no fourth grade in Paus Brancos. I had to wait four years to enter the fourth grade, until the Rural Workers Union created a new school. My godfather, who was a teacher, gave me books that I read in those years while I was earning money from sewing, embroidery and crochet. In 1983, when I turned 18, I was able to study the fifth grade in a TV course at another village six kilometers away, walking there at 5:30 in the morning. Two years later, I started working as a teacher after completing secondary school in another TV course. I passed a university entrance examination to study pedagogy while working for the municipal government. They put me in charge of the library, so I read all the books in the library."



2. Technology of the intellect

Literacy poses an existential question in the *sertão* of Ceará and in many other regions of Brazil. What is the purpose of literacy in towns such as Quixeramobim, where there are no newspapers, no bookstores, not even a newsstand? The anthropologist Jack Goody called the spread of literacy over the centuries a “radical change in the technology of the intellect.” Reading does not come naturally to the human mind. We learn to read by concentrated effort over time. Yet reading enhances the capacity of the brain to remember and organize information and experience, shared by individuals and communities over generations, enlarging the scale and scope of human activity.

Gathering momentum over the past decade, the efforts to conquer illiteracy among Ceará’s people involve commitments that children learn to read and write in their first two years of primary school. Ceará’s school literacy program known as PAIC (*Programa de Alfabetização na Idade Certa/Learning to Read at the Right Age*), was been adopted as national policy by the Education Ministry in Brasília. Illiteracy long has plagued Brazil’s public schools. A national study in 2009 showed that nearly two-thirds of fifth-grade pupils could not read at grade level. In Ceará, a survey in 2004 in 48 *municípios* [counties] found that 39% of 8,000 third-grade pupils could not read at all, while only 15% could understand what they read. According to Ceará’s education authorities, the share of *municípios* averaging adequate reading skills among their pupils rose from 27% in 2007 to 99% in 2010. This progress would appear to be miraculous, if true, despite uncertainties perceived in our field research. Learning seems uneven, with spectacular examples of classroom success and many

other schools lagging behind. However, most are moving in the right direction. Advances are real.

Urgency and purpose

Public education in Ceará embraces varied experiences. In addition to the ambitious students, we meet many teachers, principals and bureaucrats who love their work and see themselves as engaged in realizing a historic opportunity. We meet others in schools who barely understand what is happening around them. However, what seems to be developing, in a different time and context, is akin to what the Russian novelist Leo Tolstoy described in *War and Peace* (1869) as “a mysterious force known as the spirit of the army,” independent of tactical command with a collective sense of purpose and urgency in the struggle for survival that creates its own leaders. In Ceará, we see these new leaders emerging in isolated *municípios* as well as in central bureaucracies. The sense of purpose and urgency in public education grows from new opportunities arising in a barren land over the past two decades, with the survival of these opportunities depending on the quality of education.

One of the messengers of this mysterious force is Maurício Holanda Maia, 52, a latter-day migrant who emerged from the *sertão* to become Municipal Secretary of Education in Sobral (2002-04) and, since 2014, Ceará’s State Secretary of Education. He was born in a construction camp of DNOCS (Departamento Nacional de Obras Contra as Secas/National Department for Public Works against Droughts), which for more than a century built most of the dams and reservoirs in the Northeast. In his professional life, he migrated among many jobs,

becoming over time a protagonist of innovation in public education. “We need to do more,” Maurício says. “We need to strengthen the curriculum in the early years of primary school, especially in science. We need to expand the role of students as protagonists in secondary education, increasing access to universities, political participation at the community level and creating a school of government for leaders. We also need to strengthen teaching and learning in the sixth to ninth grades of primary school, which are very weak throughout Brazil.”

Ceará became a national leader in transferring responsibility for primary schools from state governments to municipalities. Municipalization of primary schools has been evolving in Brazil since the 1970s. By 2009, 77% of Ceará’s schools were run by *municípios*, against 56% nationally. Supporting these efforts, new management and advisory teams, operating in Ceará through 20 regional CREDEs (*Centros Regionais de Desenvolvimento da Educação*), aim to strengthen local school systems. *Municípios* receive financial and technical support to improve teaching and learning. Frequent testing and evaluation measures learning. *Municípios* improving performance of their schools are rewarded with more money from the state government.

The new “professional” high schools are an innovation in Brazilian education. While only 45,000 of 380,000 secondary school students in Ceará are enrolled in these new schools, they are opening new paths. Many first-year students in the professional schools, coming from low-performing primary schools, take intensive remedial instruction in reading, writing and mathematics to enable them to do secondary school work. The schools select teachers after examinations and interviews reveal personality traits and mastery of subject matter, paying them higher salaries for working a long school day, from 7 am to 5 pm. Other public schools run on four-hour shifts for two sets of students, one from 7 am to 11 am and the second from 1 pm to 5 pm, often spending less than two hours daily on basic classroom instruction. Three-fourths of the pupils in professional high schools come from municipal schools and the rest from low-cost private schools proliferating in poor communities throughout Brazil and in many other developing countries. The focus of the new high schools is learning and the expanding of horizons. They are a magnificent achievement, now facing challenges of continuity and institutional consolidation to reach higher standards of teaching and learning.

“In 2007 the federal government launched a new program, *Brasil Profissionalizado*, enabling the states to expand their networks of technical education,” said

Andréa Araújo Rocha, who headed the effort to create the new high school system. “In Ceará, we had no school programs of this kind. Few models were useful to us. Finding teachers to guarantee quality was and still is the big challenge, especially in vocational courses in small *municípios*. Jealousy erupted among the staff of regular schools because of the money and attention lavished on the new schools, creating enormous differences that was a challenge for us to produce results.”

The professional high schools in Ceará resemble in some ways the Small Schools of Choice created since 2001 by the New York City Education Department. Both teach about 400 students in each school, with graduation rates far above those of regular schools. Both the Ceará and New York schools encourage applying to universities. The

size of the student body enables teachers to know all students personally and for principals to monitor the quality of instruction. The New York schools select applicants by lottery, while in Ceará they choose students according to their grades in primary school. While most of the Ceará schools occupy spectacular new buildings, the New York small schools are on a single floor, or part of a single floor, of old buildings that used to accommodate up to 3,000 students in a large high school. While the cost per student in small schools of New York and Ceará is

higher than in regular schools, the cost per graduate is lower, since they graduate more of their students.

In a kind of educational evangelism, adolescents from poor rural backgrounds are encouraged and even pressured to take university entrance examinations. The number of public school graduates in Ceará passing these national exams rose from 700 in 2011 to 2,520 in 2013. In 2014, Ceará’s graduates ranked second in average scores among states in the ENEM, the exam for graduating high school students that tests them for university entrance. Their higher scores enabled hundreds of Ceará graduates to enter federal universities in neighboring states, living in dormitories with room and board paid by the federal government. In many small towns of the *sertão*, banners festooned above the streets celebrate the names and photographs of successful candidates. Local radio stations triumphantly announce the winners. Why such enthusiasm? “It’s the lack of other opportunities,” says Aline Jacó, a student leader from a rural community in the *município* of Iguatu, now studying law on a government scholarship at the Catholic University of São Paulo. “Either you go to a university or you go back to the *roça* (subsistence farm plot), or you join the swarms of young people working at low wages in factory sweatshops in towns throughout the *sertão*.” Despite the new educational



Maurício Holanda Maia, Secretary of Education

prospects, these students are battling adverse trends. While public and private university enrollments in Brazil doubled over the past decade, with creation of 18 new federal universities and new courses of higher education proliferating in small towns in the *sertão* of Ceará, only one of every seven students is graduating. Several new universities lack libraries and suffer from strikes by staff and from frequent absences of professors when classes are in session.

Recently Ceará's school infrastructure improved. Rural schools without running water, toilets or electricity have vanished from the countryside. Most now have internet connections, computer labs and audiovisual equipment. In Quixeramobim, the village of Paus Brancos got a new primary school with an innovative design to replace the one where, years ago, Josimar Saraiva could study only through the third grade.

A modern high school building opened this year in neighboring São Miguel, with a Greek-style amphitheater overlooking the village. The young principal, Francisca Edna Carlos, started teaching in a rural school when she was 14 years old. "I was teaching the first grade, teaching kids to read and write," Edna said. "I had kids of different ages and different levels of learning doing different exercises. Several older ones repeated the same grade a number of times. I even had a deaf-mute in my class with whom I could not communicate. His friends, who understood him better, told me when he had to use the toilet. It was a tough job for a teacher who was only 14 years old, but I became passionate about education. Education is about redemption. Nearly all my students are farmers' children. We must instill in them the will to go beyond their limitations."

Throughout Latin America, the task of financing and organizing this growth of enrollments remains daunting, as described a half-century ago by the Columbia University historian Frank Tannenbaum:

The government must fund, build, rent or appropriate schools for the 50% or more of the school population now without schools. It must find, educate and draft double the number of teachers it now has and place them on the national payroll. It must print twice as many books and notebooks, procure twice as many pencils and blackboards. It must double the number of school inspectors, bookkeepers, clerks, supervisors and normal schools for the training of teachers. It must do all of this and a great deal more, and it must do it in a hurry.

Ildevan Alencar, as executive secretary of the State Education Department, wrestled with this challenge as

he coordinated infrastructure improvements for Ceará's schools. He now heads the Education Ministry's National Fund for Educational Development (FNDE), which provides infrastructure support for schools in states and *municípios* throughout Brazil. Ildevan described his work in Ceará:

*I am a fiscal auditor on loan from the State Treasury since 2007. I supervise school remodeling and construction, equipment purchases, from desks to drinking fountains, and the contracting of outside firms to provide security guards and lunchroom staff. Much of this involves federal money. We now spend ten times more than in the past for school maintenance and construction. We used to have only three engineers to care for 700 schools. Now we have 39 engineers. I want to see the work being done. So I put security cameras on each construction project. The images go directly to my laptop in real time. I tell our people to go to a project and send me photos every 15 days. In Ceará, we have 184 *municípios* including 300 rural districts. When we started in 2007 we found a school in a rural district of Santa Quitéria operating in a police station. Others conducted classes in a public health clinic and the parish house of a church. Now we have some new rural schools more beautiful than those in the towns.*

*The State Education Department has three lines of business. The first is secondary education, with the state government operating 668 schools with 500,000 students. The second is cooperation with the *municípios* in primary schooling. Before 2007, this mainly meant physical support, as with school bus service, but expanded greatly to advise and support the PAIC literacy program to assure that each child could read and write by the end of the second grade. The third area involves the professional high schools, an entirely new undertaking.*

We were looking to create a new kind of building for the professional schools when we found a schematic architectural design for a technical school, never built, in the neighboring state of Rio Grande do Norte. We got permission to adapt the design for use in Ceará. The ministry paid for building of 20 of these new schools and our state government built another 32 with our own money. The Education Ministry was so pleased with the result that it paid for building another 24 professional schools and officially designated the design as a standard for replication throughout Brazil. Only three of these schools were built in other states.

The school bus comes to Paus Brancos every morning thanks to a federal government program, *Caminhos da*



Josimar Saraiva, principal

Escola, which since 2007 donated some 12,000 buses, 674 riverboats and 6,400 bicycles, mainly for transport of rural pupils in three-fourths of Brazil's 5,570 *municípios*. Federal programs fund school construction, school lunches, extra class hours, special education for disabled children and pay for salaries and training for teachers. In another federal program, public school graduates get scholarships to attend private universities. Over the past decade, federal spending on these programs grew nearly five-fold in real terms.

Despite these initiatives, many of them new, the performance of Brazilian schools and students in general remains low. They face daunting problems of scale, disorganization and motivation, with responsibility dispersed among local, state and federal levels of government, leaving many political authorities undecided as to whether the main purpose of public school systems is teaching children or providing employment for adults. Nevertheless, the shame and anxiety provoked by Brazil's failures in public education have led to exorbitant promises. Governing politicians promised to use income from giant oil discoveries, beneath ultra-deep waters in the South Atlantic, to raise spending on schools and universities to 10% of national income, a level rarely reached in the worldwide history of educational development.

Political culture of corruption

Almost immediately, however, the state-controlled oil company, Petrobras, sank into one of the biggest corruption scandals of modern times, with production stagnating and billions of dollars stolen by politicians and contractors. In the decade since these giant oil discoveries, Brazil adopted the political culture of a petro-state, with big increases in public spending and corruption. On education, Brazilian politicians promised big increases in spending without producing a coherent national strategy for improving the performance of schools. Instead, with Brazil now mired in a fiscal crisis, public spending on education is falling. Federal transfer payments fail to arrive, forcing *municípios* to save money by shortening the school year, firing teachers and neglecting school repairs.

Municipal schools form the core of Brazil's public education system, accounting for 55% of all primary enrollments, with secondary education assigned by the Constitution to the states. The system carries overlapping responsibilities, with much of the funding provided under special federal programs. Especially in small *municípios*, schools traditionally provide local politicians with their main source of patronage in

hiring principals, teachers, janitors, security guards and lunchroom help.

Patronage demands pressured Antônio Amaury Oriá Fernandes, 60, until recently Quixeramobim's municipal Secretary of Education, a university professor with a doctorate in animal husbandry at Oklahoma State University. The mayor appointed Amaury to keep peace among politicians quarreling over access to the education budget. "We have three basic problems," he said. "The first is pressure by members of the City Council to hire unqualified school principals. The second is the budget. We are spending R\$45 million annually [roughly US\$20 million in 2014 dollars] to support 15,000 pupils and 1,000 teachers in 80 municipal schools, averaging R\$3,000 [US\$1,364] per pupil. Two-thirds of this money comes from the federal government, paying all teachers' salaries as well as R\$8 million for buses and R\$6 million for school lunches. The third problem is that we can't close half-empty schools where enrollments have fallen due to out-migration and lower birth rates. We have 30 schools in 15 agrarian reform settlements with less than 50 pupils each, studying in one or two classrooms. We try to bus them into larger schools with better infrastructure and teaching conditions, but people resist because they say that having a school gives their communities prestige. The PAIC literacy program

shows little progress and needs redesigning. The new professional high schools are beautiful, but we'll see what happens to them after the next election."

Quixeramobim's schools rank near average in national and state standardized tests and in the upper one-third among Brazil's *municípios* in a new index of educational opportunities. Extreme poverty fell dramatically, as the share of people with monthly incomes of less than R\$140 [US\$53] declined from 82% of Quixeramobim's population in 1991 to 38% in 2010, thanks mainly to massive financial transfers from the federal government. Federal support for education also enabled the share of adults in Quixeramobim who completed primary school to rise from 11% in 1991 to 40% in 2010, while those 18-20 years old who finished high school surged from only 2% in 1991 to 35% in 2010.

One of the surprises in the elections for president and governor in October 2014 was the victory of the ticket backed by the outgoing governor, Cid Gomes (2007-14), a civil engineer and one of the few Brazilian leaders of his generation to raise education reform as his main political banner.

Pátria Educadora: Seven Ministers of Education in five years

As mayor of Sobral (1997-2004), Cid led one of Brazil's most successful municipal school reforms and then, during his eight years as governor, applied this reform strategy to the state school system, finishing his two elected terms with 80% approval ratings.

Barred by term limits from reelection as governor, Cid was able to create alliances to support his handpicked successor. Backed by an 18-party coalition, Cid's candidate, Camilo Santana, a young and little-known state legislator, came from far behind in the polls to win big majorities in the towns where the state built the new professional high schools. The new vice-governor, Izolda Cela, was Cid's Secretary of Education. President Dilma Rousseff narrowly won reelection thanks to big majorities in the Northeast that included 81% of the vote in Quixeramobim and 77% in all of Ceará, helped by increases in transfer payments to individuals and local governments in recent years. Per capita income in Ceará remains below the national minimum wage, which in recent years rose much faster than inflation and economic growth. Surges in government spending, retail trade and services drove the economy of Ceará to grow faster than national output, despite weaknesses in human capital. The educational profile of the electorate tells its own story: 64% of voters in Quixeramobim and 58% in all of Ceará never finished primary school. However, among young adults aged 18-29, the level of schooling in Ceará nearly doubled to 9.4 years over the past two decades, an average hiding a wide range of initiatives and experiences.

Over the past five years, Brazil's disturbed political system produced seven ministers of education. Cid Gomes briefly served as education minister in the new government of President Dilma Rousseff after she won reelection in October 2014. Cid's appointment came in recognition of both his electoral support for Dilma and the prestige he earned for his school reforms as mayor of Sobral and as governor of Ceará, one of the few recent successes in improving public education. At her inauguration on January 1, 2015, Dilma proclaimed that Brazil would become a *Pátria Educadora*, with educational development a major goal in coming years. Along with the rest of the country, Cid was surprised at Dilma's *Pátria Educadora* announcement. He knew that the federal government would be short of money thanks to extravagant spending that reached a climax in the 2014 election year. However, Cid plunged into his new job, full of bold plans, but lasted only 10 weeks that ended in controversy and recrimination.

Cid is a tense, quick-tempered chain smoker with a sharp tongue. He provoked his ouster by saying,

at a closed meeting, that the Chamber of Deputies in Brasília harbored some "300 to 400 *achacadores* (shakedown artists)." The Chamber president, Eduardo Cunha, a political enemy, demanded his dismissal as minister, which came while Cid was still exchanging insults with Cunha on the Chamber floor. Cid's departure left Dilma's *Pátria Educadora* in disarray.

Before his removal, Cid raised teachers' salaries, under a National Education Plan approved by Congress. He also proposed a national teacher certification examination, despite vehement union opposition to evaluations. "Since states and *municípios* have trouble organizing qualifying examinations, the education ministry periodically can do it for them on large scale on a voluntary basis, allowing states and *municípios* to use these evaluations as a national registry of competent teachers," Cid said. "I also want to propose a national qualifying test for principals, which would be much cheaper, since there are 2.1 million teachers in Brazil but fewer principals."

Cid also proposed using the internet to conduct the national high school completion test, ENEM (Exame Nacional do Ensino Médio), used as a university entrance examination. "ENEM examines five areas: writing, languages, mathematics, natural science and humanities," he said. "If we had a data base of questions for these areas, except for writing, checked and approved by panels of experts, it could become a reference framework for student preparation for ENEM. That's the first step. The second step is, instead of organizing a large-scale mobilization to give the same exam at the same hour in all of Brazil, we would create secure examination rooms with computer terminals where students could take the ENEM at any time under supervision. As the questions come randomly from a database, a student and his neighbor sitting next to him are taking different tests."

During 2015, extravagant promises made for federal education programs suffered reality shocks under drastic budget cuts amid fiscal disorder, proliferating corruption scandals and rising inflation and unemployment. Both Dilma and Cid were blamed for excessive creativity in public accounting, known as *pedaladas* (football slang for fancy footwork), leading to downgrades in Brazil's credit rating. Ceará's education authorities struggled to pay teachers' salaries, dependent on reduced federal transfers. This confusion is testing their determination to improve the quality of basic education. The critical role of the federal government at all levels of Brazilian education will be examined in a future edition of *Braudel Papers*.

3. Shakespeare in Quixeramobim

The settlement of Quixeramobim arose some 300 years ago at the crossroads of cattle drives that followed seasonal riverbeds to reach coastal villages that produced salted meat (*charque*) and hides for shipment to distant sugar plantations and gold mines that, in those days, drove Brazil's economic development. The cattle trails became routes for mule trains spreading several lines of business that hastened settlement of the *sertão*. Inns, country stores and chapels arose along these trails, especially at crossroads, becoming incipient clusters of urban life.

Quixeramobim today is a sprawling *município* embracing a population of 77,000, half of whom live in urban settlements. Donkeys and motorbikes pass each other on stone-paved streets, lined with acacia trees. Gas stations, motels, eating places and commercial outlets for construction and farm supplies crowd the main road in and out of town. "Not long ago Ceará was known as a land of dwarfs because people lacked food," the mayor, Cirilo Pimenta, recalled. "Now 6,000 people in our *município* receive pensions, 3,500 have government jobs and 11,000 families get monthly payments in the *Bolsa Família* program." Nearly all public school pupils in Ceará come from families poor enough to qualify for these payments.

Until stricken by the current political-fiscal crisis, Quixeramobim and other towns of the *sertão* were enjoying unprecedented prosperity. Record levels of employment were concentrated in low-skill jobs in government, services, retail trade and tax-exempt shoe and garment factories. Brazil's minimum wage doubled in real terms since 1999 and per capita family spending rose by 18% from 2003 to 2009. Lower birth rates and more schooling for young people tended to reduce inequality. Poorer families are spending more on cell phones, medicines, beauty products, household appliances and motorbikes, thanks to a credit boom in Brazil that began to expire in the final months of 2014. "Increases in education generated nearly 20% of the rise in wages for workers in the poorest families," observed Naercio Menezes Filho, a leading analyst of social policy. "The biggest job creation came in those

paying up to two minimum wages (R\$ 1,576=US\$630) each month. To create better-skilled jobs we must improve the quality of education so that Brazilian companies can innovate and rely less on government favors." Doubts over whether the flow of government money into the towns of the *sertão* can continue at recent levels breeds feelings of fragility despite outward signs of economic improvement.

In earlier times, Quixeramobim was one of the few villages of the *sertão* with a primary school. In 1845, there were only 30 primary schools in all of Ceará, with total enrollment of 1,332 pupils. One of the pupils in Quixeramobim was Antonio Vicente Mendes Maciel (1830-97), later famous as a wandering preacher known as Antonio Conselheiro, who led tens of thousands of desperate *sertanejos* to form a New Jerusalem at a place called Canudos in the backlands of Bahia. In fear of a popular uprising, the government in Rio de Janeiro sent the army of the new Brazilian republic to massacre Antonio Conselheiro and his followers in 1897 after three failed attempts at conquering Canudos, whose fast-growing population of devout *sertanejos* was creating shortages of labor elsewhere in the back



Woodcut portrait of Antonio Conselheiro

country. The story was told in *Os Sertões [Revolt in the Backlands]*, the classic account by Euclides da Cunha, a military engineer who reported on the backlands war as a journalist and made Antonio Conselheiro into a martyred hero of Brazilian literature, his story retold in novels, histories, poetry and films. In recent years, Quixeramobim strengthened its historical identity by embracing the memory of this native son in an annual festival. On a street in the shopping district of Quixeramobim stands the empty shell of a monument to the local hero, its wall covered by a bas-relief with carved depictions of the massacre at Canudos. Local political disputes and budgetary problems left the memorial to Antonio Conselheiro unfinished.

The spirit of William Shakespeare, silent and unseen, entered the old house of Antonio Conselheiro facing the plaza of Quixeramobim. Students from the new "professional" high school sit on the concrete floor of the sagging tile-roofed house, forming a Reading

Circle, to read aloud a Portuguese translation of *Macbeth*. They pause to watch the film version produced by Orson Welles in 1948 and then a DVD of Verdi's opera. The students staged a performance of *Macbeth* in the school auditorium, dressed in hastily contrived medieval garb. They talked more ambitiously of staging *Macbeth* later in scenes and costumes depicting the clan wars of the *sertão*. In this adaptation, King Duncan would become town's mayor who reigns over the scene until he is murdered. The nobles would become *fazendeiros* (large landowners). The soldiers would become *capangas* (local toughs). The witches would emerge from the scorched and twisted vegetation of the *caatinga* instead of from the cold heath of Scotland to bawl their confusing and ominous prophesies.

The issue of political legitimacy runs through Shakespeare's tragedies and histories as it runs through many conflicts in Ceará. The clan wars of rural Ceará were of a kind familiar to Shakespeare, depicted in *Macbeth*, *Julius Caesar* and *King Lear* and in his history plays about the Wars of the Roses, fought six centuries ago in England between the noble houses of York and Lancaster. In the Verona of *Romeo and Juliet* as in other Italian towns of the Renaissance, conflicts among rival clans were so bloody and disruptive that municipal authorities outsourced governmental powers to a noble from another town, a *podestá*, who usually ruled for only six months but had to bring with him a retinue of four judges and 24 cavalrymen. To preserve his impartiality in dealing with factions, the rules forbade the *podestá* from eating or drinking in the company of local citizens.

The fragile *municípios* of the *sertão* could not afford the luxury of hiring a *podestá*. Instead, they must rely on two rival state police forces that rarely cooperate with each other. The Military Police should keep public order and the Civil Police should conduct investigations. Rivalries between the two police forces usually are so intense that governors often appoint their own kind of *podestá*, a Federal Police official from outside the state, who tries to keep order and to obtain some minimum cooperation between the two forces. Successful prosecution of homicides remain below 10% of killings.

Violence increased in the *sertão* as successive droughts reduced cattle herds while landowning clans engaged in fights involving political rivalries, cattle theft, boundary disputes, access to water and defense of family honor. Landless peasant families wandered the countryside begging for food, work or a place to settle. Amid all this confusion, banditry and religious movements offering mass salvation became powerful forces creating legendary outlaws and legendary preachers.

Over the past decade, the number of gunshot murders in Ceará multiplied nearly fourfold, with two-thirds of the victims young men aged 15-29. This surge of killings made Ceará the second most violent state in Brazil with 45 homicides recorded per 100,000 population, five times greater than the homicide rate for the entire world population, estimated by the World Health Organization at 8.8 per 100,000.

Big cities with high homicide rates are bad at teaching and learning, with difficulties in the management of scale. The metropolitan area of Juazeiro do Norte (population: 450,000) is a major emporium of religious tourism and commerce with high per capita incomes, plagued by violence and recurring corruption scandals and low achievement in its schools. The outstanding example of this kind of distortion is Fortaleza, with 2.6 million people, showing extreme income inequality. Fortaleza's educational performance ranks in the lowest 40% of Brazilian *municípios*. The number of murders tripled since 2004, raising its homicide rate to 79/100,000, almost entirely by gunfire, the highest among Brazil's big cities.

Patterns of violence in the *sertão* are uneven, with some *municípios* largely peaceful and others chronically traumatic, driven by political conflicts and criminal rackets. Detailed reporting by Leoncio Nossa of the newspaper *O Estado de S. Paulo* chronicled 1,133 political assassinations in Brazil from 1979 to 2012, most of them (638) in the Northeast, escalating in recent years and peaking during municipal election campaigns. *Municípios* form the cellular units of Brazilian politics, activated by favors and coercion, especially in poor communities that produce little except votes. State and federal authorities show little interest in controlling violence in these *municípios*, whose mayors play key roles in networks of political alliances.

The increase in homicides in Ceará, and in the Northeast generally, clashes with the long-term trend that for centuries reduced civil violence in complex societies. Over the past 800 years, murders in western Europe, for example, fell from about 80>100 per 100,000 population, greater than in El Salvador and Venezuela today, to the current civilized levels of around 1>2 per 100,000.

Shakespeare's lessons, on political legitimacy and violence, may bear upon the future of education in Ceará, which depends on improved levels of public order. Although the state governments of Ceará invested heavily in education, violence remains neglected. Education needs more institutional stability to develop further, enhancing both trust and productivity. This will be the challenge of coming years.

Seagulls in Ceará

Maria Aparecida Lamas

They call themselves seagulls. The student leaders who conduct Reading Circles in public schools throughout Ceará come from different regions: the coastal cities of Camocim and Fortaleza, from the hill country of São Benedito, and from the *sertões* of Crateús, Quixeramobim and Juazeiro do Norte. Trained leaders from professional and regular high schools assume the task of *Jonathan Seagull*, from Richard Bach's classic story, in showing other students how to fly higher, in sharing their passion for acquiring knowledge and for reading the classics of world literature.

Many seagulls in the public schools of Ceará are learning to fly high. Richard Bach tells the story of a flock of seagulls feeding on leftovers from garbage scows crossing the harbor. They have no idea of what it means to fly higher. They learn from Jonathan Seagull, who left the flock in search of new experience, flying higher than they ever imagined, and teaching other seagulls when he returned.

Jonathan became a hero for students in the Reading Circles of Ceará. They read stories aloud and engage in animated discussions of ambition, technique and patience, just as Jonathan learned to fly high. Many students in small towns of the back country reveal high potential in these discussions. The Reading Circles try to overcome what the philosopher Renato Janine Ribeiro, a former Education Minister, calls "the curse of lack of curiosity, diligence and zeal that limits the prospects of many young people."

An innovation, original and simple

As explained by Ambassador Rubens Ricupero, former Finance Minister of Brazil and President of the Fernand Braudel Institute of World Economics, the Reading Circles "are an innovation in education, as original as they are simple. They involve young people not as individuals but as a community, transmitting knowledge in the oldest way, through stories and poems read aloud; not just any text, but the classics. The classics are not only for specialists; they are for all of us. They are not difficult, but are simple and rich in wisdom. The best way of reading for young people is not in isolation, but in small groups, listening, questioning and discussing the meaning of passages, paying attention to gestures and intonations, learning to respect each other, helping to reinvent themselves."

In a partnership between Ceará's State Education Department and the Braudel Institute, the Reading Circles have been expanding in Ceará since 2012, under the leadership of Catalina Pagés, a philosopher and psychoanalyst. The Circles introduce young people to a repertoire of world literature, while being trained to share this knowledge through discussions with other students. They discover a taste for reading as a spontaneous and pleasurable group experience. Through these exercises in thinking and dialogue, focusing on the reading of great books, they develop values of solidarity and responsibility, through which we identify future leaders.

They read together *The Odyssey*, Shakespeare's plays, such as *Othello*, *Romeo and Juliet* and *Julius Caesar*, stories and novels by Dickens, Dostoyevsky and Garcia Marquez, as well as Brazilian classics by Machado de Assis, Guimarães Rosa and Graciliano Ramos.

Bianca Melo, a student at the Rita Matos Luna Professional High School in the town of Jucás, discusses her work as group leader: "We all read and feel free to speak, something that doesn't happen much in the classroom. In these groups, we form strong bonds among ourselves and with the books. All of us listen to and respect each other."

The program began in 21 full-time professional high schools in 2012. In late 2013, while accompanying an intensive training session for teachers and group leaders, Secretary of Education Maurício Holanda was approached by some group leaders who said that they wanted to bring the Reading Circles to the regular high schools, where classes are held part-time, in four-hour shifts. The students spoke enthusiastically of their experience in the Circles, telling of their progress in reading and writing, which strengthened their self-esteem. They said that the Circles must be brought to the regular schools.

Starting in 2014, the existing professional high schools chose a regular secondary school nearby where the Reading Circles could multiply. Fifteen regular schools joined the program, giving students an opportunity to develop skills in cooperation and leadership. Today the Reading Circles engage some 7,000 students in 52 schools in 34 *municípios*. These young people are overcoming economic and geographic obstacles while writing a new page in the history of social evolution.

As coordinator of this program, I accompany veteran group leaders as we train and monitor the Circles as they spread to newer schools. We go to remote towns that are barely accessible. At times, we can wait under a hot sun at a bus stop for three hours before we can get transportation. But it's worth the trouble. We discover young people with high potential who find in the Reading Circles support for their development. I receive messages via WhatsApp, Facebook and email from seagulls announcing that they got into a university. They say they want to continue acting in the Reading Circles as volunteers to help other young people realize their ambitions. Several of these seagulls were born in subsistence farming patches in the *sertão*. They would be the first member of their families to complete a secondary or university education.

Livya Wana Duarte, a graduate of the Adolfo Ferreira Lima Professional High School in the town of Redenção, is one of these volunteers. Wana left her house at 4:30 every morning to ride on the back of a truck to get to school. "In the Circles, I shed my timidity to become a group leader," Wana said. "I improved my reading and writing, which helped me get better marks on the entrance exams for university." She now studies engineering at Unilab, a recently created Afro-Brazilian university. Whenever she can, Wana joins ▶

the traveling teams of volunteers to train teachers and new group leaders.

José Hiago, a graduate of the Virgílio Távora Professional High School in the city of Crato, now studies nursing at the Regional University of Cariri while also volunteering to train new leaders for the Reading Circles. "In 2015, during four weeks, we carried out 15 training sessions in different regions, in towns of the *sertão*, such as Tabuleiro do Norte, Barbalha and Jaguaribe; in hill towns such as Bela Cruz and São Benedito, and in the metropolis of Fortaleza. The training sessions in the schools lasted three days." Only two staff members of the Braudel Institute participated. The rest of the team consisted of student volunteers. All of them used the time available for vacations and suspension of classes to contribute as volunteers. A network of volunteers is being created.

In this way people learn

In 2014, the work of the Reading Circles was reinforced by support from the Itaú Social Foundation to train teachers

in the method. Teachers participate in intensive training sessions in which they read literary classics, watch films and discuss in depth the themes and historical context of the works being read. Participating in these sessions, along with teachers, are school principals and regional coordinators. "With the Circles, students learn responsibility for one another," says Antonia Cyra Arrais, principal of the Virgílio Távora high school. "It's important to have more and more teachers trained to apply and develop these methods. It's wonderful to see students from the Reading Circles, now in universities, to emerge as teachers of teachers and new group leaders."

In this way people learn. In this way we overcomethe limitations of poverty and isolation. In this way we achieve new levels of quality in the life of our institutions.

Maria Aparecida Lamas is coordinator of the Reading Circles.

4. Starting in Sobral

The *município* of Sobral (population: 200,000), in the far north of Ceará, is carrying out a unique reform of primary education that, over the past two decades, increasingly has served as a model for communities elsewhere. The strategy and methods developed in Sobral served later as a template for the statewide school reforms in Ceará, using the same leadership cadres. In August 2015, Sobral ranked first in educational opportunities among all of Brazil's 5,570 *municípios*.

Like Quixeramobim, Sobral arose at the crossroads of cattle drives during the centuries of colonial settlement. However, unlike most communities of the *sertão*, Sobral became a factory and railroad town, shipping processed cotton to the nearby port of Camocim. *Belle Époque* architecture from that prosperity survives in the town center today. Nevertheless, poverty and ignorance festered as the city grew. The per capita income of 60% of the population was less than half the minimum wage. As recently as 1996, 83% of pupils in Sobral were at least two years behind their appropriate age in school, thanks to the endemic grade repetition and failure to learn that was widespread in Brazilian public education. However, over the past two decades, Sobral showed what a highly motivated and competently managed municipal school system could achieve.

A successful political family

The success of school reform in Sobral depended on the concentration of power in one of Brazil's more successful political families. Two ancestors of Cid Gomes served as

mayors of Sobral in the late 19th Century. Cid's father, José Euclides Ferreira Gomes, a public defender, also was mayor of Sobral (1977-83), appointing his wife, Maria José, a schoolteacher, as his Secretary of Education, a common practice in the politics of small *municípios*. Two decades later their son, Cid Gomes, won a landslide election as mayor of Sobral in 1996 at age 33 with 64% of the vote, succeeding a mayor suspended on corruption charges. Ciro Gomes, Cid's older brother, began his political career in a conservative party that backed Brazil's military regime (1964-85), migrating successively among seven different political parties, along with his younger brothers, while serving as mayor of Fortaleza (1989-90), governor of Ceará (1991-94), Brazil's finance minister (1994), minister of national integration (2003-06) and running for president twice (1998 and 2002). Most recently, Ciro was Cid's secretary of health in the state government. Ivo Gomes, 48, the youngest brother, earned a master's degree from Harvard before becoming Sobral's Secretary of Education while Cid was mayor, then Cid's chief of staff in the governor's office and head of Fortaleza's municipal school system. The cooperation among brothers earned them high ratings in opinion polls and resentment among rival politicians, yet enabled them to carry out some of the most important education reforms that Brazil has seen, mobilizing a rare combination of persistence and professionalism.

Julio César da Costa Alexandre, a former teacher of physical education who is now Sobral's Secretary of Education, talks of an "Invisible Hand" in school

management, in a variation of Adam Smith's famous aphorism on the rationality of markets. As Julio describes it, the Invisible Hand is the seamless web of challenges, incentives and cooperation that develops a sense of purpose and solidarity in schools and other institutions. "The Invisible Hand is the challenge," he says. "The Invisible Hand is the culture that develops in the school. The driving force of this culture is the will that kids can and must learn. The Invisible Hand means autonomy for the schools, so that principals can economize on some routine expenses so that they can pay for a photocopier for providing more varied and interesting teaching materials. It means using these savings to hire tutors for kids with learning difficulties."

As in many small towns in Brazil, political patronage governed Sobral's municipal schools, with few performance standards. They enrolled some 25,000 pupils from the first to the ninth grades, plus roughly 5,000 children in nurseries and pre-school programs. The appointment by mayors of relatives to key municipal posts may reflect a lack of both trust and human capital within the political system. Cid named a cousin, Ada Pimentel, as Secretary of Education for his first term as mayor (1997-2000), then replaced her with his younger brother Ivo for his second term (2001-04).

"We created a new school system in that first term," said Ivo, who became Cid's chief aide during his terms as mayor of Sobral and then governor of Ceará. "The physical infrastructure of the schools was in ruins. We built new schools and refurbished others, with new equipment for all of them. We developed a merit system for hiring new teachers and principals, with competitive examinations, interviews and observation in focus groups. We raised teachers' salaries with federal financing under the Fundef program (*Fundo de Manutenção e Desenvolvimento do Ensino Fundamental e de Valorização do Magistério*)."

Despite these improvements, illiteracy remained endemic in Sobral's schools. "In December 2000 we tested all the pupils and were shocked," Ivo said. "We found that 40% of the kids, from the first grade to the ninth grade, could not read. To meet this challenge, we decided to set ourselves two tasks. Task One was to cut off the flow of illiteracy by creating a task force to make sure that all kids could read by the second grade. Task Two was to separate all kids in the upper grades who could read from the illiterate ones, who received intensive instruction until they could read at the expected grade level. Eliminating this deficit took three or four years, but by today school illiteracy no longer exists in Sobral."

Sobral had 96 municipal primary schools, two-thirds of them in rural areas. Many rural schools were

badly equipped, with few pupils, weak management and teaching, and little supervision. The 40 smallest schools had less than 5% of all pupils. In a process called nucleation, the number of schools shrank from 96 to 38, with children from outlying areas bussed to more centrally located schools with better installations, leadership and teaching. "Initially, the nucleation of schools met with resistance in the communities," the education ministry's research institute reported. "The main motives were cuts in the number of jobs for principals and vice-principals and the need to transport children daily to other localities."

Consolidating literacy in a failing school system is a challenge that demands professionalism, grit and humility, sustained over several years. These qualities drive educators to recognize that they need outside help in designing and implementing a strategy that embraces a range of tasks: (1) developing new materials, (2) training and motivating teachers and supervisors in applying new classroom practices and routines, (3) careful evaluation of results at the level of the system, of each school, each classroom and each pupil. Realizing a strategy at this level of depth and detail demands new systems of school management and new ways of recognizing and rewarding successful teachers.

In 1997, Sobral had joined 16 other Brazilian *municípios* in a new program of the Instituto Ayrton Senna called *Acelera Brasil* [Brazil Accelerates] to reduce chronic grade repetition, and later participated in another Ayrton Senna program, *Escola Campeão*

[Champion School] to improve school management. Working with consultants led by Edgar Linhares and João Batista Araújo e Oliveira, Sobral developed carefully scripted lessons and evaluations, with two main strategies: strengthening both teaching methods and school management. Class routines, varied but structured, developed on the understanding that concentration by most seven year-olds on a single task is usually limited to 15 minutes.

The teaching calendar formed a succession of thematic units, each lasting 15 days. Teachers in the early grades participated in an eight-hour training session in literacy instruction every month. Schools enjoyed management autonomy but were responsible for results. First-grade teachers achieving literacy in 75% of their pupils received a small bonus (R\$ 100). Illiterate pupils in the second to fourth grades entered separate classes for intensive reading instruction. Six months of special reading instruction could not teach many pupils to read at grade level, so they remained in separate classes for more of this work. Gradually their numbers fell, from 4,051 pupils in 2001 to 3,048 in 2003 and 961 in 2004.

Sobral installed an elaborate and labor-intensive system

In Sobral, a rare combination of persistence and professionalism

of testing each pupil every semester. Specially trained students from the local state university tested pupils individually on reading aloud paragraphs, sentences, words and syllables, with the tests recorded on cassettes and sent to teams of evaluators, who also analyzed written tests.

External evaluations and testing changed the culture of the schools. Teachers used to say, “the great majority of children know how to read” after spending most of class time writing on the blackboard for pupils to copy. When evaluations reveal difficulties, teaching coordinators schedule classroom visits for observation and later discuss with teachers on how to improve. District superintendents visit each school twice monthly to check on attendance, cleanliness, teaching plans and the functioning of cafeterias. In the Carlos Jereissati primary school, I found a teacher and a pupil sitting in the corridor, going over reading lessons. “You will see this in all the schools,” said Julio César, Sobral’s Secretary of Education, “not because we give orders, do this or do that. They themselves are building this system, because they want kids to learn. When kids don’t learn, we talk with teachers, we support

and monitor them. So this is the Invisible Hand, enabling us to save money, spending less on the costs of failure in order to invest more in learning.”

Thus the “Invisible Hand” is not so invisible, because of strong motivation and the structuring and supervision of collective effort. The results are spectacular. Within two decades, the share of adults who finished primary school rose from 21% to 54%, while high school graduates among 18-20 year-olds surged from only 6% in 1991 to 44% in 2010. This progress leaves large gaps, but the gaps are closing. Performance on standardized tests over the past four years reached levels far above the averages for Ceará and Brazil. This success drew praise from international agencies and foundations that provided additional funding for these efforts. Yet these advances also draw attention to what remains to be done. Sobral’s policies were adopted by the state of Ceará and by the federal government. Other communities can reproduce Sobral’s achievement only by clearly focused and sustained effort over time. In this sense, Sobral is not Ceará, and Ceará is not Brazil. Problems of scale and political culture remain.

5. What they learned

There was no systematic effort to discover how much learning happens in Brazilian schools until the 1990s, after a new generation of leaders took office under the new democratic regime. In 1992, Ceará’s Education Department began testing a sample of 14,000 fourth and eighth-grade pupils in 156 state schools in Fortaleza. This effort expanded gradually into one of the oldest testing systems in Brazil, becoming known as SPAECE (Permanent System of Evaluation of Basic Education of Ceará), which eventually tested all pupils in all state and municipal schools. The initial results for the expanded testing system disappointed. “It is true that the results for SPAECE in 2003 and 2004 were below expectations and not reflecting the public investment in basic education,” wrote Sofia Lerche Vieira, a former Secretary of Education (2003-06). “It was an innovation with strong potential for reversing the culture of school failure. The work of socializing the indicators involves a pedagogy of dissemination. Nothing was done with punitive intent, but rather to show the dimensions of the problems of teaching and learning, as well as to show the zones of excellence.”

With the global expansion in the use of information technology, school systems developed sophisticated instruments to measure learning on a larger scale. In Latin America, 13 republics adopted standardized testing from 1990 to 1998. In the two decades since SPAECE testing began, the number of Brazilian states with their own testing systems grew from two to 20, with much debate over

the quality and impact of these evaluations. The widely publicized results of the OECD’s Program of International Student Assessment (PISA) reinforced this trend. Latin Americans regularly were among the poorest performers among 15-year-old students from 65 countries tested in reading, science and mathematics. In recent PISA tests, Brazilians ranked 55th in reading and 58th in mathematics and science.

Since 2007, the state government of Ceará expanded SPAECE as a source of detailed public information on learning in state and municipal schools. The tests show that the schools have a steep mountain to climb.

The PAIC program achieved major advances in literacy in the first two years of primary school. Second-grade pupils in municipal schools rose from the lowest category (illiteracy) in 2007 to an intermediate level in 2011, only to fall back to minimum learning in 2012, even though eight of the 20 regions of Ceará rose to the intermediate level. Progress continued through the fifth grade of municipal schools, as learning in Portuguese and mathematics rose from the lowest to intermediate levels. The share of pupils on the lowest rungs of the learning ladder fell dramatically in the five years from 2008 to 2012, shrinking from 80% to 34% in mathematics and from 60% to 32% in Portuguese. However, starting in the 9th grade, learning appeared to stagnate, with the bulge in those in the lowest categories growing to 61% in Portuguese and 76% in mathematics, reinforcing our own impressions from classroom observations.



According to the principal of a large primary school in the coastal town of Camocim, “70% of pupils in the second grade still cannot read and many in the sixth to ninth grades still can’t read. We lack a method to evaluate them exactly.” Deficiencies in educational strategy and classroom content become endemic in the sixth to ninth grades, which reform initiatives so far have neglected. Stagnation in test results persists through the final year of high school, with the lowest learning categories embracing two-thirds of students in Portuguese and 77% of students in mathematics.

High failure rates contribute to dropouts, along with the low quality of teaching and subject content in regular secondary schools, as opposed to the new professional schools. In Ceará, two-fifths of state secondary schools had dropout rates averaging 46%. The World Bank reported in 2012 that 20% of pupils in Brazilian schools failed promotion each year, the worst level of grade repetition in Latin America.

Officially, Brazilian schools are supposed to conduct 200 days of classes each year. However, the number of useful class days shrinks because of frequent teacher absences, when teachers leave for outside training sessions and when schools send pupils home to allow their staffs to perform bureaucratic tasks. In a detailed study of classroom teaching practice in several Latin American countries, the World Bank found that “school systems are not focused on the issue of instructional time.” Brazilian teachers spend only 64% of class time actually teaching, against an international benchmark of 85%, recognizing

that this average hides a wide range of quality and time teaching within school districts and within individual schools. “The average teacher time off-task across the sample means that in a 200-day school year, students miss 20 full days of instruction,” the researchers observed. “More than half of those lost days are because teachers are physically absent from the classroom, arriving late to class, leaving early or conducting other business during class time.” To its credit, the Education Department of Ceará is conducting experiments to develop collaborative efforts within schools to improve teaching.

Management problems persist. Alessandra Dalmássio Sanches, 34, newly appointed director of the Irmã Simas primary school in the periphery of Fortaleza, struggles to keep teachers in the classrooms. “We have teacher shortages because some teachers were released to study for master’s degrees, others got their retirement notices and another got a doctor’s note to call in sick,” Alessandra said. “Our school runs on three shifts.

This afternoon we have 12 classrooms full of pupils, two of them without teachers. This morning we had four classes lacking teachers. The Municipal Education Department eliminated the post of vice-principal for smaller schools. So I go into the classrooms to teach and so do the coordinators who are supposed to plan and supervise teaching practice. Of three lunchroom employees, two were absent today. I do accounting for the school, sign off on merchandise deliveries, meet with parents and deal with quarrels and intrigues. There are schoolyard fights during



Alessandra Dalmássio Sanches,
principal, Fortaleza

recreation period. I am in the school for two of the three shifts, morning and afternoon or afternoon and evening. When I'm not there in the morning, teacher absences begin to increase. I like challenges but these challenges are tough."

The PAIC literacy program for the early grades of primary school faces challenges in towns like Quixelô (population:15,000), one of many small communities "emancipated" to become independent *municípios* in the democratization process of the 1980s and early 1990s. I visited Quixelô to attend a "training" session for the municipality's teachers, with regular school classes suspended for the day. The program consisted of a series of political speeches to a bored gathering of teachers and other municipal employees occupying the grandstand of a sports facility. When I said to a regional coordinator that these meetings seemed a waste of time, he replied that teachers preferred hearing speeches to teaching their classes. Throughout Brazil, education authorities divert teachers from classroom work at great expense for this kind of mass training

session without any follow-up or practical effect.

Despite the small size of the *município*, the schools of Quixalô perform on tests near the state average. However, local patronage politics slows the process of teaching and learning. "We train the teachers and visit classrooms to see if what teachers learn in training sessions is being applied," says Idelúcia Cândida, 42, who supervises the PAIC literacy program for the early years of primary school in Quixalô. "We monitor reading and writing monthly, diagnosing the progress of each pupil and discussing the results with their teachers. Test results show that there is a blockage in pupils' learning after the third grade that shows up in fifth grade tests. In small *municípios* like ours, leadership of the schools changes every four years with local elections, with lots of political maneuvering. New teachers come in without experience in teaching small children to read and write. Many only taught the eighth and ninth grades. So we fall back. After making progress up to 2010, we fell back in 2011 and 2012, with only 48% of our kids able to read and write in 2012."

6. Education and democracy

The development of public education in Ceará, as elsewhere in Latin America, is a long struggle with mixed and lagging results. It is joined with the growth of democracy, raising persistent hopes for economic progress and social redemption. Schooling grew along with popular voting in most western countries, as well as in Brazil and other Latin American republics.

The worldwide expansion of public education reached its climax late in the 20th Century. Until the 1950s, most European children went to work after completing their primary education. Secondary schooling was available mainly for the middle and upper classes. Over the past half-century, Latin America realized a mass expansion of school enrollments that rich countries took two centuries to achieve.

"The spread of democratic voting rights plays a leading role in explaining why some nations forged ahead in education and others fell behind," Peter Lindert observed in his *Growing Public: Social Spending and Economic Growth since the Eighteenth Century*. Poor countries lagged a century behind rich countries in schooling. Lindert argued that "differences in basic schooling have long been recognized as one of the keys to global income inequalities." He added that the benefits of more years of primary schooling are much higher than returns on higher education in developing countries or the benefits from any level of schooling in rich countries.

Over the past two centuries advances in education worldwide accompanied increases in per capita incomes,

declines in mortality, better nutrition, concentration of populations in towns and cities, enhancement of the social and economic role of women, and the spread of printed and electronic mass communications. In Brazil, average levels of schooling rose from one year in 1920 to 3.8 years in 1970, then doubling to 7.5 years by 2010. Meanwhile, real incomes per capita multiplied tenfold since 1900 and population grew 12-fold. However, GDP per capita remained at between one-fourth and one-fifth of the levels of rich countries, as it was a century earlier, raising important issues of productivity in education.

Modern education must prove useful in order to flourish. Ceará's schools gradually are following a path traveled by today's advanced countries more than a century ago. Eugen Weber described this process in his *Peasants into Frenchmen: The Modernization of Rural France, 1870-1914*:

People went to school not because it was offered or imposed, but because it was useful....It was the attendant circumstances that made adequate facilities and teachers more accessible; that provided roads on which children could get to school; that, above all, made school meaningful and profitable, once what the school offered made sense in terms of altered values and perceptions.

As in rural Ceará until the 1980s or 1990s, in France during the late 19th Century "the schoolroom or schoolhouse tended to be ramshackle," according to



Ex-President of Mexico Lázaro Cárdenas (1934-40) at a rural school in the mountains of Oaxaca State. 1967.

Weber, and “both teacher and taught were ignorant of the material they were to deal with, and in which the capacity to draw letters or pronounce them completely outweighed any capacity to comprehend.” Much of the rural population spoke only local dialects and barely understood French. Enrollments multiplied rapidly after the Third Republic made primary schooling compulsory in 1882, but as recently as 1950 France was graduating only 32,000 high school students, while in Italy only 5% of the population had finished secondary school.

Russia emancipated its serfs in 1861, nearly three decades before Brazil abolished slavery. In the four decades before the First World War, the number of primary schools in Russia multiplied five-fold, mainly under local control, while literacy rates soared. As in Ceará today, the growth of education in Czarist Russia accompanied improvements in freedom and material conditions. As told by the historian Jeffrey Brooks in *When Russia Learned to Read*, “New tools, implements and paraphernalia appeared among the lower classes throughout Russia, and they were purchased by people who sought a better way of life.” Among the novelties were iron plows, tin roofs, brick stoves and suits, dresses and shoes made in factories, as well as a surge of popular literature focusing on religion, romance and adventure.

Seemingly unrelated events around the turn of the 20th Century, such as the Canudos massacre of 1897 and the Mexican Revolution of 1910, inspired movements aimed at educating illiterate populations of Latin America. “Redeem the Indian, educate the masses,” was a slogan of the Mexican Revolution espoused by José Vasconcelos, rector of the National University, as he founded the

Federal Education Department in 1921 and launched “cultural missions” to Indian communities. Events in Mexico strengthened *indigenista* movements in Peru and Bolivia. In his classic *Seven Essays on Peruvian Reality* (1928), José Carlos Mariátegui, the household idol of Peruvian Marxism who wrote profusely on education, described a reality that resembled schools in Ceará at the time:

The problem of illiteracy is almost intact. The State so far has been unable to establish schools throughout the national territory. The difference between the size of the job and the resources at hand is enormous. Teachers are lacking for the modest program of popular education authorized by the budget. Less than 20% of all teachers are normal school graduates.... The career of primary school teacher, subject to the taunting and contamination of landowners and local political chiefs, is one of misery, without any stability.

Successive Brazilian constitutions proclaimed education as a basic human right. Although 132 countries enshrine education as a constitutional right, scholars have found that these legal guarantees mean little in terms of achievement. The education authorities in Ceará are trying to overcome a culture of failure, which made few demands on schools, teachers and pupils. World Bank researchers point out that “the association between years of schooling and growth falls to close to zero once *education quality* (measured by average scores on internationally benchmarked tests) is introduced. It is the quality of education that counts for economic benefits from schooling.”

In the early years of Brazil’s First Republic (1889-1930),

the state of Ceará had enrolled only 7.3% of school-age children and was spending only 64 U.S. cents per pupil each year, less than in Czarist Russia but much more than in China and India at the time. Primary school enrollments in Brazil multiplied from only two million in 1932 to 35 million in 2001, before falling back to 30 million in 2012 because of falling birth rates. In 1932, there were only 56,208 secondary school students in all of Brazil, increasing to over eight million by 2012.

It all started precariously. In 1845, a public Lyceum opened in Fortaleza for secondary education. Twenty years later there were only 207 students registered in the Lyceum, of whom 140 attended classes and only 10 passed their courses. By 1888, shortly before a military coup overthrew Emperor Pedro II and a republic proclaimed, the number of primary schools and enrollments had multiplied nearly seven-fold. However, some numbers were grossly inflated and many schools functioned in teachers' homes with few pupils attending. In 1955, a researcher for the Ministry of Education reported:

Rural school buildings in large measure are unoccupied or poorly used, some never used. No support or inspection accompanied construction, often with federal funding, but inferior building materials caused their collapse. Many rural schools operate in crowded rooms of private homes, for which the teacher pays rent out of her miserable salary....I know a teacher, graduating with high purpose from Normal School, who wanted to conduct the kind of primary school that she learned about from her professors and books. She traveled on horseback from town every day to the locality to teach classes in a small room of a farmhouse. Since there were no desks, she had big doors dragged from an abandoned house to make tables and benches. Enrollment in this school embraced 42 pupils of both sexes, with an average of 30 attending daily.

Beginning in the 1930s, the federal government began transferring resources to state and municipal schools, becoming a medium of political patronage that grew fast after the end of military rule in 1985. As federal resources increasingly became available, the number of *municípios* multiplied from 1,574 in 1940 to 5,570 today. The Education Ministry found in 1987 that only half of its resources sent to the Northeast were reaching the region's classrooms. In Ceará, official statistics listed many more people receiving school lunches than there were pupils.

School enrollments in Ceará more than tripled in the two decades after 1945 while the number of schools expanded by 455%. Yet 60% of the school-age population remained outside classrooms. Enrollments rose by half to 372,000 in 1962-66 alone under an inter-agency plan sponsored by USAID, supporting a big

increase in employment of school staff, many of whom were political appointees. The military regime (1964-85) created a system of federal universities along the lines of the state universities of the United States, increasing the number of available student places fourfold. Increased federal funding supported a huge expansion of teaching jobs, which remained subject to political patronage. Between 1978 and 1984, the number of teachers in Ceará increased by 80%, leading to complaints of excessive hiring, even though many schools remained without teachers, with distortions blamed on political favors. According to one researcher, politicians made appointments "without any technical commitment or criteria for the improvement of the quality of teaching. The democratization of education begun in 1964 and continued by succeeding governments suffers a rude blow, above all for the lack of commitment that comes to dominate the educational scene in Ceará, with political patronage inhibiting corrective effort in public education."

Facing difficulties, long struggles produced some exceptional educators. Elival Pereira, 40, was born in the countryside of the *município* of Jucás, the youngest of nine children. He was director of the new professional schools in Jucás and in Iguatu. "I finished the fifth grade when I was 15 years old and the ninth grade when I was 18. I entered university when I was 22, after I already had been teaching for four years. I taught school for a full eight-hour day and then traveled every night in a *pau de arara* pickup truck for five years to study literature at an extension of the state university at night. The extra effort was a challenge and a stimulus for me. When you must achieve something in life, it shows when you are very small. When I was small I liked to study. I played at being a teacher, though in the 1980s it was hard to study because there were few schools. I started teaching when I still was in high school. I just imitated older teachers. It was hard because most of the pupils were about my age, some even older, and many of them didn't take me seriously when I taught mathematics, science and geography. But we became accustomed to each other and I was invited to teach in other schools."

In the mid-1990s, the federal government expanded its program of televised lessons, *Tele Ensino*, which had been operating tentatively since the 1970s. For lack of other options, both Elival Pereira and Josimar Saraiva, now the director of the professional school in Quixeramobim, seized the chance. "I studied by *Tele Ensino* in primary school and then taught in *Tele Ensino*," Elival said. "In *Tele Ensino* I taught everything. After we watched the TV lesson, I started a discussion. The system had its faults, but that was

what we had at the time. The biggest difficulty was when the signal failed during a thunderstorm. So we grabbed the book and taught the lesson anyway. Later the ministry recorded the lessons and sent us videocassettes. I liked *Tele Ensino* when I was a pupil, with carefully timed lessons and then discussions, which helped my education. As a teacher, I think I contributed to *Tele Ensino*. Working with TV was not a problem for me. It was a question of content. My background was in literature, but I had to teach mathematics and physics. I studied a lot to do this job so the pupil could learn. We are very limited in the classroom by the textbook and by whatever we can create. We need something more profound, like the Reading Circles, which strengthens the work of the school. When you challenge the student, even if he recognizes his limitations, he will feel your confidence that he will go forward. He will say to himself: 'The teacher believes in me, that I can read this, that I can talk about this in class, that I can write about this.'

A new Index of Opportunities in Brazilian Education (IOBE) ranks four *municípios* of Ceará's *sertão* in the top ten among Brazil's 5,570 *municípios*. Designed by Reynaldo Fernandes, former president of the National Institute for Education Research (INEP), the new education opportunities index embraces data from standardized tests, enrollment and promotion rates in preschool and secondary education, hours spent in class, length of tenure and experience of principals and educational level of both teachers and parents. The leader among all Brazilian *municípios* was Sobral, which over the past two decades enjoyed political stability and a reputation for pioneering school reform. The three other Ceará *municípios* in Brazil's top ten are small towns with low per capita incomes: Groairas (10,487), Porteiras (15,010), and Brejo Santo (48,056). Three other Ceará towns were in the top 100 in the IOBE ranking. We tried to correlate IOBE rankings of all 184 Ceará *municípios* with their size, per capita incomes, homicide rates and standings in the United Nations Human Development Index (HDI). We found great diversity of experience and little correlation of these indicators, with educational excellence an outlier. What appears from this analysis is the strong influence of dedicated teams of educators, in schools and local bureaucracies, raising learning achievement in small *municípios*, implementing methods, goals and incentives developed by the state education department.

Institutional weaknesses and poverty impede most of Brazil's smaller *municípios* from collecting local

taxes. "What makes the difference in education is their capacity to manage the resources they receive, mainly transfers from the federal government, independently of local taxation," says Cidinha Lamas, who coordinates the Reading Circles program of the Braudel Institute in 34 of Ceará's *municípios*. "Many small *municípios*, such as Groairas and Porteiras, do much better than bigger ones."

There are many anomalies. Brejo Santo, deep in the southern *sertão*, ranked by IOBE as 10th among all Brazilian *municípios*, with a long history of clan feuds and a lots of murders (39 per 100,000 population). The critical factor seems to be leadership and teamwork. "I placed education at the center of my political priorities because of its impact on other aspects of local life," said Mayor Guilherme Sampaio

Landim, a physician who won a prize for raising learning in reading and mathematics in local schools to more than twice the national average. Brejo Santo, along with many other Ceará *municípios*, made broad social advances since 1991, nearly doubling its rating in the human development index, with big increases in longevity, incomes and education. The share of adults who finished primary school rose from 17% in 1991 to 46% in 2010, while the share of 18-20 year-olds who finished

secondary education soared from 7% to 36%, still leaving big deficits in both the coverage and quality of schooling.

Another outlier is Tabuleiro do Norte (population: 30,000), in a region of sandy soil, a trucking hub with a surging murder rate (75/100,000). Local gangs clone credit cards and deal in crack cocaine. Loudspeakers mounted on cars roaming the streets trumpet the qualities of teenage prostitutes, many of them new arrivals from neighboring states, as the girls wait at truck stops, motels and discreet love nests along the main highway linking Fortaleza to southern Brazil. The local judge fled after receiving death threats, never to be replaced. School completion rates remain low because there are few job opportunities to justify education, so many young people leave town to seek work elsewhere. Nevertheless, there is progress. Per capita incomes doubled. The share of adults who completed primary school rose from 14% in 1991 to 37% in 2010, while 18-20 year-olds finishing high school surged from 9% in 2000 to 33% in 2010. Tabuleiro is above average in the IOBE index for Ceará's *municípios* and in the upper one-fourth nationally. "Where in the past there were few of our students entering universities, now there are many," says Albert Einstein Freitas, principal of the



Elival Pereira, principal

Avelino Magalhães professional high school in Tabuleiro. "Full-time study gives adolescents new opportunities that keep them away from violence and crime. This is why so many families want their children to study at our school."

Overall, Ceará ranks fifth among 26 Brazilian states in education opportunities and second in homicides, while the other states of the Northeast, also poor and violent, occupy eight of the 11 lowest positions in the national IOBE standings. So we have seen advances in Ceará.

Efforts at reform must continue despite political

and fiscal uncertainties, so people can continue to live better lives and develop a benign view of their future. Human development occurs as individuals and institutions meet challenges and exercise responsibility. In modern times, reading, writing and keeping accounts became tools that spell the difference between tribes and civilizations. A long-term strategy for education demands time and patience. The cost of advancing in the quality of public education would be less than the cost of falling backward. The evolution of living standards hinges on two questions: "What do you know? What can you do?" ■