

SUPPORTING SUBNATIONAL
GOVERNMENTS TO
IMPROVE FOUNDATIONAL
LEARNING: HOW TO DO IT
AND WHAT IT WILL COST?

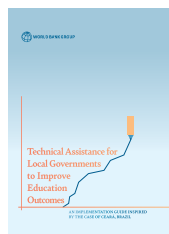


Learning With the State of Ceara in Brazil

This note presents the details of the operationalization and costs of the main elements of the Ceará state government’s technical-pedagogical assistance program for its municipalities, as described in the guide: [Technical Assistance for Local Governments to Improve Education Outcomes: An Implementation Guide Inspired by the Case of Ceará, Brazil](#). The successful partnership between state and municipal governments to achieve universal literacy under the Achieving Literacy at the Right Age Program (PAIC) resulted into a tripartite (central, regional and local) governance structure which has undergone adaptation throughout the implementation of the technical assistance program. This note looks at the evolution of the PAIC in terms of its structure and operationalization, from the program’s initial years up to the current year, highlighting among other things the lessons learned over more than a decade of public policy in the education area. Finally, the note draws attention to the PAIC key human and financial resources components to provide a reference for governments interested in implementing a policy inspired by the experience of Ceará.

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This note is related to the following reports:



Loureiro, Alves, Cruz, Assunção & Cardoso (2021). *Technical Assistance for Local Governments to Improve Education Outcomes*. Washington, DC. World Bank. <https://documents1.worldbank.org/curated/en/490641612772892206/pdf/An-Implementation-Guide-Inspired-by-the-Case-of-Cear%C3%A1-Brazil.pdf>



Holanda, Barbosa, Cruz & Loureiro (2021). *Implementing a Results-Based Financing Mechanism for Subnational Governments to Improve Education Outcomes*. Washington, DC. World Bank. <https://documents1.worldbank.org/curated/en/56147160611232725/pdf/Implementing-a-Results-Based-Financing-Mechanism-for-Subnational-Governments-to-Improve-Education-Outcomes-An-Implementation-Guide-Inspired-by-the-Case-of-Ceara-Brazil.pdf>



Loureiro, Cruz, Lautharte & Evans (2020). *The State of Ceara in Brazil is a Role Model for Reducing Learning Poverty*. Washington, DC. World Bank. <https://openknowledge.worldbank.org/handle/10986/34156>

1 • TECHNICAL ASSISTANCE PROGRAM FOR THE MUNICIPAL SECRETARIAT OF EDUCATIONS OF CEARÁ	5
1.1 • LITERACY SUPPORT	6
1.2 • STRENGTHENING GOVERNANCE AND CREATING INCENTIVES	7
1.3 • PROMOTION OF PEDAGOGICAL USE OF LEARNING ASSESSMENTS	8
2 • OPERATIONALIZATION AND COSTS PER TECHNICAL ASSISTANCE COMPONENT	10
2.1 • STAFF AND GOVERNANCE	11
2.2 • STRUCTURED MATERIAL	20
2.3 • TRAINING	23
2.4 • LEARNING ASSESSMENTS	24
2.5 • AWARDS AND INCENTIVES FOR SCHOOLS	27
3 • HOW MUCH WOULD IT COST TO REPLICATE A PAIC-INSPIRED TECHNICAL ASSISTANCE PROGRAM FOR SUBNATIONAL GOVERNMENTS	30
4 • FINAL CONSIDERATIONS	34



TECHNICAL
ASSISTANCE
PROGRAM FOR
THE MUNICIPAL
SECRETARIAT OF
EDUCATIONS OF
CEARÁ

1 • TECHNICAL ASSISTANCE PROGRAM FOR THE MUNICIPAL SECRETARIAT OF EDUCATIONS OF CEARÁ

The Brazilian state of Ceará has transformed its education system. Despite the state's low socioeconomic level its education system is currently among the top performers in the country. As large as Austria or Papua New Guinea, the state is the fifth poorest of Brazil's 26 states. Despite its relative poverty, the state has since 2005 experienced the largest increase in the National Education Quality Index (IDEB) at both the primary and lower secondary education levels, with 11 of its municipalities ranked among the top 20 in the 2019 IDEB. A series of education reforms initiated in 2007 led the state to occupy fourth place among all the Brazilian states in the IDEB in lower secondary education, and sixth place in primary education.

The success of Ceará in the education sphere is based on five interdependent pillars: (i) technical assistance provided to municipalities to improve learning; (ii) financial incentives for municipalities that achieve educational outcome goals; (iii) political leadership to put learning at the heart of education policy, and implement substantial education reforms; (iv) transferring primary and lower secondary schools management to municipal governments, thereby enabling them to plan and implement local educational policy with a high degree of autonomy; and (v) establishing solid and reliable M&E systems to continuously measure the key educational results, including student learning outcomes.¹

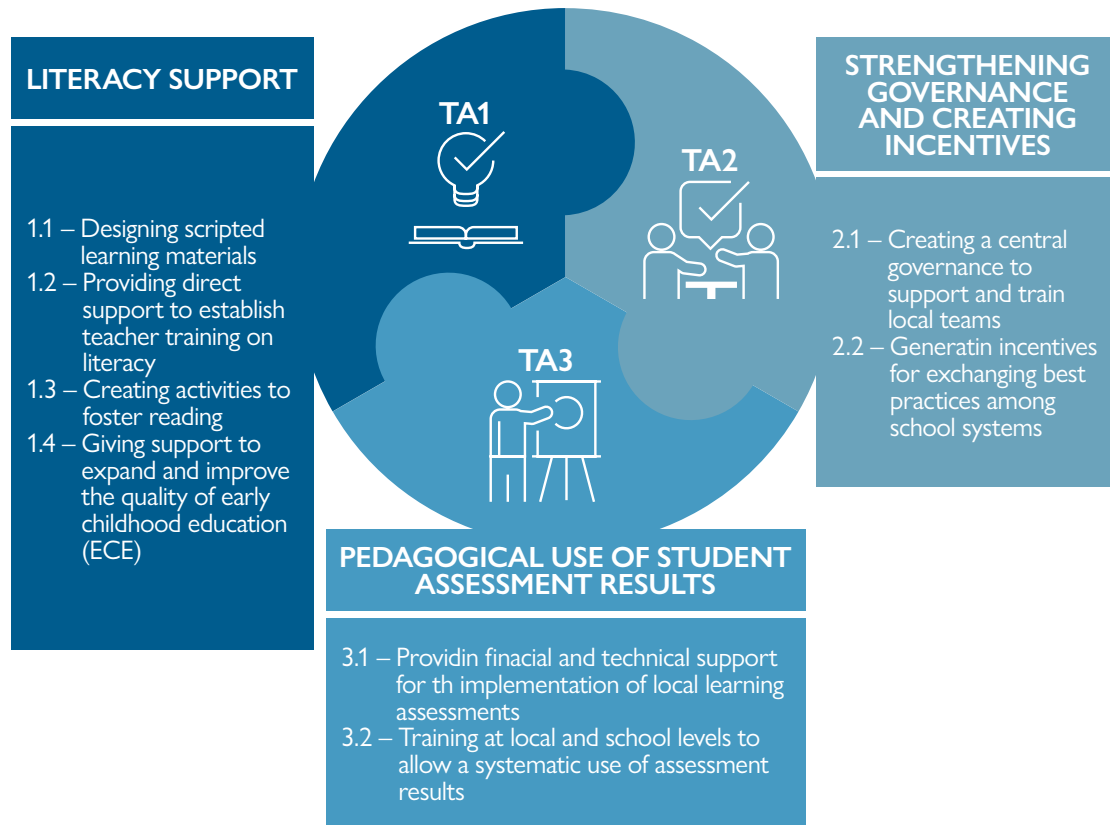
This note focuses on the technical assistance provided to the state's municipalities which proved to be a key driver of educational success in Ceará. In 2007, the Ceará government established the 'Achieving Literacy at the Right Age Program' (*Programa de Alfabetização na Idade Certa, PAIC*), which set out a clear goal: all students in public schools should be able to read by the end of grade 2 (age 7). Unlike most states in Brazil at that time, a large majority of primary students in Ceará were already enrolled in public schools run by their municipal governments. To achieve PAIC's goal, the state government provided substantial technical support to the 184 municipalities. Municipal education secretariats receive structured learning materials outlining a clear routine for classes and prioritizing basic skills, especially literacy, in the early grades. Teachers began to receive regular training on the use of such materials, and on classroom observation and feedback. Low-performing municipalities received additional support. The state also provides budget and curriculum support for early childhood education (ECE) to ensure that children start right. The state supplies training and materials to assist municipal secretariat of educations to increase teaching time in classes, adopt meritocratic criteria for the selection of school principals, and provide incentives - financial and non-financial - for teachers whose students meet literacy targets. Thus, to achieve the

1 For more details see: Laurel, Andre; Rodrigues Da Cruz Boari, Louise; Lautharte Junior as Ildo Jose; Evans, David K. *Ceará is a model to reduce learning poverty*. Washington, D.C. : World Bank Group, 2020. <https://documents1.worldbank.org/curated/en/200981594196175640/pdf/The-State-of-Ceara-in-Brazil-is-a-Role-Model-for-Reducing-Learning-Poverty.pdf>

PAIC goal the state government constructed an effective collaborative regime with its 184 municipalities, offering technical support to their secretariat of educations based on three key components (Figure 1).²

Figure 1:

Components and Subcomponents of Technical Assistance for the Municipal Secretariat of educations of Ceará



1.1 • LITERACY SUPPORT

- Provision of **structured teaching materials** to municipalities, especially those with limited resources. These materials provide concrete guidance on classroom activities and use of time, with clear pedagogical routines proposed for each school day. The materials are aligned with the state curriculum, which follows a clear learning sequence to prioritize basic skills, especially literacy at the right age.

2 For more details on Ceará state government support to its municipalities see: Loureiro, A.; Alves, F.; Cruz, L.; Assuncao, M.; Cardoso, T. *Technical Assistance to Subnational Governments to Improve the Results of Education: A Guide to Implementation Inspired by the Case of Ceará*. Washington, D.C.: World Bank Group, 2021. <https://documents1.worldbank.org/curated/en/668901612774260683/pdf/An-Implementation-Guide-Inspired-by-the-Case-of-Cear%C3%A1-Brazil.pdf>

- **Training on pedagogical practice and use of resources** is a key ingredient of the program. State teacher trainers organized regular training sessions for groups of municipal technical personnel to strengthen teacher training activities in each municipality. In municipalities with lower levels of literacy, the state conducted direct training for teachers. Training was focused on the use of structured materials and classroom routine and practices, rather than on theoretical knowledge, and included classroom observations by the trainers.
- **Reading promotion activities** included the creation of small libraries in classrooms and a magazine for teachers to share best practices for promoting reading outside of school.
- Guidance for municipalities to develop **a curriculum for early childhood education (ECE) to foster equity in skills development during early childhood**. The state team supported municipal teams in developing a suitable curriculum for Early Childhood Education and provided funding for the construction of ECE units to expand access.

1.2 • STRENGTHENING GOVERNANCE AND CREATING INCENTIVES

- Establishment of a **collaborative governance structure** on three levels: (1) a central state coordination unit responsible for engaging the political leaders of each municipality, preparing training courses, monitoring and supporting regional teams; (2) regional state teams to support municipal secretariat of educations in administrative, pedagogical and training issues, and to monitor PAIC results; and (3) municipal teams, responsible for implementing program strategies and training teachers and school principals.
- **Strengthening the pedagogical management capacity of municipalities** to implement and monitor a structured literacy policy. The state government established indicators and instruments to support schools and municipalities in monitoring pedagogical actions and learning outcomes. Indicators include student performance and attendance, number of books read, the use of structured materials, and compliance with the school days provided for by law. The state also supported structuring processes on the following: elimination of multi-series classes; effective use of pedagogical time and the school year; strengthening the autonomy of schools; incentives for teachers working in literacy classes; and the adoption of meritocratic criteria in the selection of school principals.
- Promoting the **exchange of good pedagogical management practices** and fostering a healthy competitive environment. At the end of each year, the *Escola Nota 10* award offers financial rewards to acknowledge the best performing teachers and schools. To receive the prize in full, high-performing schools are required to help schools that are lagging behind over the course of a year. Underperforming schools which improve their performance in the following year also receive an award. This strategy assists the

exchange of good practices between teachers and school leaders and encourages other practitioners involved in education.³

1.3 • PROMOTION OF PEDAGOGICAL USE OF LEARNING ASSESSMENTS

- Assistance to municipalities in the implementation of a **learning diagnostic assessment** for each student at the beginning of the school year. The state prepared a diagnostic evaluation of language and mathematics, defined protocols for its application, and created a digital platform to collect the results. The municipalities are responsible for printing, applying and inputting data. The digital platform displays a detailed diagnostic of students' learning, including their previous knowledge of mathematics and Portuguese. The results are disaggregated by class and student, and guide teacher training.
- Establishment of an **annual standardized literacy assessment in the 2nd year** to measure students' performance (SPAECE-Alfa). At the end of the school year, all grade 2 students undergo a learning assessment to provide information to local governments about students' learning progress. This evaluation is also key to the various incentive mechanisms adopted in Ceará (e.g. distribution among municipalities of the ICMS quota and the Escola Nota 10 award).
- **Training on regular learning monitoring** offered by the state government on the pedagogical use of these assessments as a way to improve teaching practices. This training aims to improve the data analysis skills of educational teams and promote the increasing participation of education practitioners in monitoring student learning outcomes.

3 For more details about the Grade 10 School Program see: Goldemberg, D.; Cod, P.; Lautharte, I. *Can incentive partnerships improve underperforming schools? Evidence from Ceará state in Brazil*. Washington, D.C.: World Bank Group, 2020. <https://documents1.worldbank.org/curated/en/509941616141843380/pdf/Can-Peer-Mentoring-Coupled-with-Incentives-Affect-School-Turnaround-Evidence-from-Ceara-State-in-Brazil.pdf>

A large, stylized number '2' graphic in a dark blue color, centered on the page. The number is composed of two overlapping shapes: a top curve and a bottom curve, creating a sense of depth and movement.

OPERATIONALIZATION
AND COSTS PER
TECHNICAL ASSISTANCE
COMPONENT

2 • OPERATIONALIZATION AND COSTS PER TECHNICAL ASSISTANCE COMPONENT

This section presents the operationalization of the technical assistance (TA) program of the state government of Ceará for its municipalities, highlighting its key features and its evolution from inception through to 2021.

The program currently costs the state of Ceará approximately R\$ 38 million per year (around USD 7 million (1USD = R\$ 5.2 in November 2021)). This amount represents about 1.2% of the total budget of the Ceará Secretariat of education for 2020 (R\$ 3.13 billion).⁴ The cost per capita is R\$ 34 per year per student (from pre-school to 9th grade lower secondary education), which corresponds to a mere USD 6 – a very low outlay considering that the program directly affects more than 1.1 million students (about 180,000 in literacy training alone)⁵ in 184 municipal education networks. There is ample evidence that the policy not only has a direct impact on learning but also magnifies the effects of literacy results-based financing.

PAIC costs disaggregated by component in 2010 and 2020 are summarized in Table 1. Notwithstanding the scope expansions of 2011 and 2015 involving hiring extra staff, the program also witnessed cost reductions and optimized processes (e.g. changes in the production of structured materials and evaluations), which decreased individual component costs significantly. Therefore, comparative values (inflation corrected) must be treated with caution.

4 Updated budget: R\$ 3,128,371,254.12. Amount paid: R\$ 2,651,843,561.87. Amounts obtained from the *Ceará Transparente* website, Executive Expenses. <https://ceartransparente.ce.gov.br/?locale=pt-BR>. Accessed on July 5, 2021.

5 A total of 1,110,115 registrations in the municipal and state networks of the state of Ceará pre-school (184,159), Primary (480,275) and Lower Secondary (445,681) in 2020. In literacy there are 179,820, 89,765 in the 1st grade and 90,055 in the 2nd grade. Data from Qedu Analytical: <https://bi.qedu.org.br/>. Accessed on July 5, 2021.

Tabela 1

Summary of
program costs

COMPONENTS	2010		2020
	NOMINAL TOTAL (2010)	REAL TOTAL (2020)	NOMINAL TOTAL (2020)
Team and governance	-	-	R\$ 11,110,219
Structured materials and literature books	R\$ 17,798,840	R\$ 30,968,542	R\$ 5,000,000
Training	R\$ 449,491	R\$ 782,077	R\$ 1,000,000
Learning assessments	R\$ 2,991,315	R\$ 5,204,646	R\$ 5,188,616
Incentives for schools	R\$ 20,250,000	R\$ 35,233,361	R\$ 15,663,822
Total	R\$ 41,489,646	R\$ 72,188,626	R\$ 37,962,657

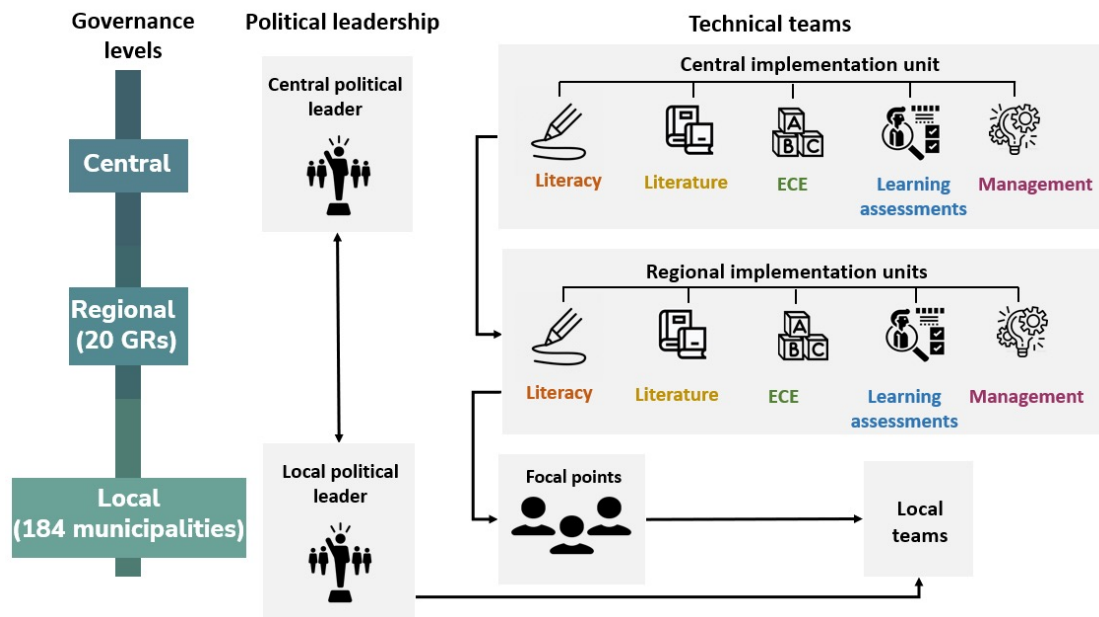
Note: In the right-hand column, the values for books, standardized evaluation and schools incentives were adjusted at real prices given that contracts date from 2018, 2016 and 2019 respectively.

2.1 • STAFF AND GOVERNANCE

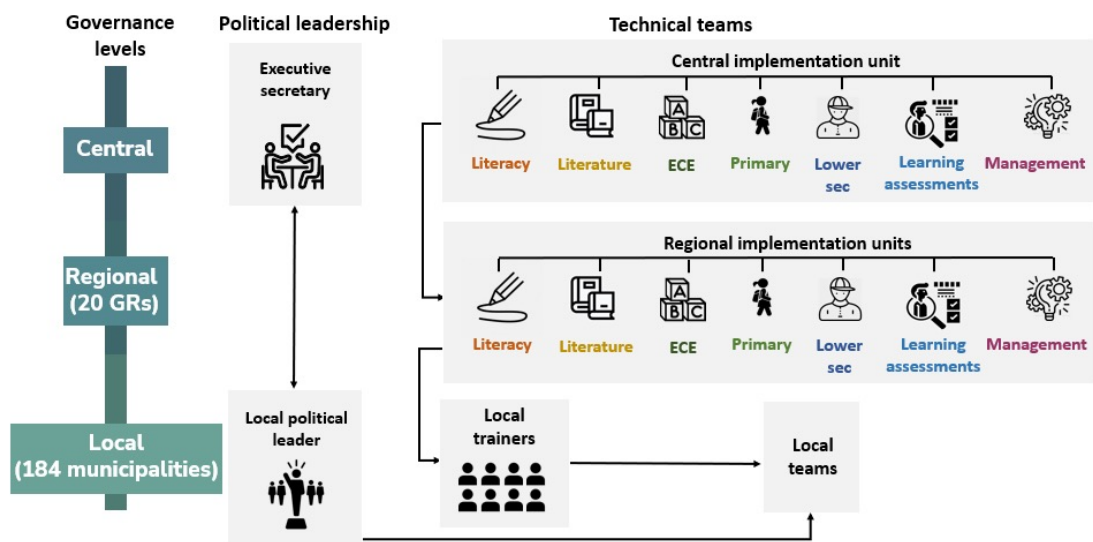
The implementation of PAIC had as one of its pillars the existence of a well-defined and cohesive governance structure. The creation of this governance is due, in part, to the decentralization of the provision of primary education to municipalities, another foundation of the state government's literacy policy. To support municipalities in improving educational outcomes, it was established that the state government would offer technical assistance in the programmatic axes and implement a standardized evaluation to verify the learning outcomes in the 2nd year. In turn, municipal governments would make their teams available to participate in the formative actions and implement the strategies proposed by the program. For the execution of these activities, a governance was established between the technical teams of the state government and municipal governments, with a model of cascading training and cooperation. The existing governance structure in the first years of the program and the current one is presented in Figure 2 and detailed below. The changes reflect the expansion of politics for other years of teaching, the result of the excellent levels of literacy achieved.

a – Start of the program (2007-2010)

Figure 2
PAIC
Teams and
Governance



b – Current (2019-2021)



2.1.1 • Political Leadership

Political leadership from the State government played a decisive role in the TA governance structure by seeking the support of local political leaders, which enabled cooperation between the technical teams of the state and municipal governments. The central political leader in Ceará, the State Governor, committed himself to the program’s objectives and was instrumental in presenting the initiative to municipal leaders in the state, to ensure their engagement and, importantly, to confirm that the technical support of the state government would be free of party-political interference.⁶ Once the program objectives, policy guidelines and implementation were settled between state and local governments, the Governor continued to signal interest in the program by attending key events, and encouraging local political leaders to do the same.

WHAT’S CHANGED RECENTLY?

With the consolidation and expansion of the program, it was decided to establish in 2019 an Executive Secretariat to ensure the commitment and engagement of local political leaders and establish partnerships to speed up program implementation. The Secretariat consists of two coordination units – a pedagogical unit and an early childhood (EC) unit. The latter focuses on improving local municipal social programs for the EC group. The Executive Secretariat is under the overall charge of a manager with extensive knowledge of the PAIC, possessing good communication skills and with proven ability to build bridges between government political and technical staff (Table 2). The coordination unit teams each comprise a manager, a coordinator and a technician, similar to the staffing structure in the training coordination.

Table 2
Executive Secretary Profile and Functions (2019-2021)

MINIMUM STRUCTURE	AVAILABILITY	RESPONSIBILITIES	PROFILE
1 Manager	Full time	Engagement of local political leaders. Create conditions for establishing relationships of trust, accelerate program execution, establish partnerships to assist policy implementation.	Knowledge of the program, communication skills, able to ensure close working relationships between political and technical teams.

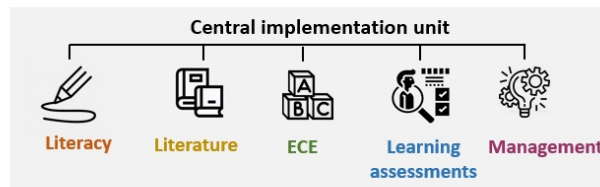
⁶ Described in Loureiro, Alves, Cruz, Assunção and Cardoso (2020).

2.1.2 • Central Team

The technical team at the central level is organized in 5 program priority areas to ensure literacy development by grade two. In the state secretariat of education (SEDUC), a coordination unit (COPEM) responsible for cooperation with the municipalities was established to cover five key thematic areas: (1) literacy; (2) literature and reading; (3) early childhood education; (4) learning assessment; and (5) management. Areas 1-3 represent the PAIC's core objective: to provide children with incentives and assistance to acquire adequate literacy and reading skills as a basis for the acquisition of new knowledge. Areas 4-5 (learning assessment and management) aim to strengthen pedagogical work to ensure the desired outcomes in terms of student literacy.⁷

Table 3

Profile and functions of central teams in each program priority area (2007-2010)



IN EACH REGIONAL UNIT	AVAILABILITY	RESPONSIBILITIES	PROFILE
1 Manager	Full time	Organizes training strategies (theme, content, materials)	Experience in primary education management and teaching, compatible academic training preferably including published work on relevant program areas (literacy, basic education, etc.).
1 Coordinator	Full time	Liaises and dialogues with regional and representative institutions (UNDIME, APRECE)	
1 Technician	Full time	Carries out technical and administrative actions to support regional levels	
1-2 Consultants	Part-time	Assists the design of training courses, training tools, instruction materials, etc., and supports the SEDUC team to implement training courses.	Professors with a PhD, preferably teaching undergraduate courses.

Each thematic area is responsible for preparing its structured material, training courses and M&E tools. Areas 1-3 (literacy, literature and early childhood) have more pedagogical content, structured materials and training sessions than the others, and the central team is responsible for preparing,

⁷ Details of PAIC structure in the early years can be found in [Collaboration regime to guarantee the right to learning: the Literacy in the Right Age Program \(PAIC\) in Ceará](#) (Department of Education - SEDUC & United Nations Children's Fund - UNICEF, 2012).

acquiring and organizing them.⁸ The *learning assessment area* designs diagnostic evaluations, coordinates the hiring and deployment of third-party consultants, interprets the evaluation results to guide possible future pedagogical work, and organizes training sessions for regional and local teams to interpret the results and use them to guide their pedagogic strategies. Finally, the *management component* has extensive responsibility not only for school management but also for education policy management. This involves, among other things, organizing training sessions for school principals on monitoring students' learning, and meetings with municipal secretariat of educations to strengthen policy monitoring and implementation.

At the central level, each thematic area is represented by three full-time team members and one or two part-time consultants to provide technical support. The full-time *manager* is charged with organizing training strategies (themes, contents and teaching materials), a *coordinator* to liaise with regional teams and representative institutions (civil society, municipal secretariat of educations and mayors), and an *administration officer* to provide support to the regional units. The three jobs require professionals with basic education management and teaching experience, a relevant academic background and preferably a record of published academic work on the relevant program areas to which they are attached. The part-time *consultants* are university professors with PhDs and, preferably, teaching degrees, hired to assist COPEM with the design and implementation of training sessions and processes and the design of formative assessments, strengthening full-time teams. The central team, responsible for training regional teams to monitor the implementation of PAIC strategies by municipal governments, holds four meetings per year with these teams to address subjects including planning, monitoring, evaluation and teacher training. When a municipality has learning outcomes that are below expectations, the central team joins the regional team to more closely monitor and improve the municipality's literacy strategies and training processes.

WHAT'S CHANGED RECENTLY?

Given the learning improvements achieved in grades 1 and 2, the Ceará government decided in 2011 to expand the program through to the end of primary education (3rd to 5th grade), and in 2015 to the 6th to 9th grade. PAIC assumed two new program priority areas (Figure 1B) - Portuguese language and mathematics - and the teams were expanded as a result to include eight topics: literacy, early childhood education, Portuguese language for primary education (EF1), Portuguese language for lower secondary education (EF2), mathematics EF1, mathematics EF2, learning assessment and education management. The literature area was expanded up to the 9th grade, to be taught thereafter as part of the literacy and Portuguese language components.

8 The Early Childhood Education area also includes support for the construction of early childhood education units/centers financed with a loan from Brazil's National Social & Economic Development Bank (BNDES). This support involved (i) the state building one unit while the municipality committed to build another, or (ii) the state agreed to finance half the costs of the units. Given that this initiative involved external financing and the fact that the cost of building school installations varies significantly by region and country, this analysis does not consider the item.

At the central level, each axis has three members with exclusive dedication and one to two consultants with partial dedication to provide technical support. Among the team with exclusive dedication, there is a manager responsible for organizing the training strategy (including themes, contents and pedagogical materials), a coordinator who articulates with regional teams and representative institutions (civil society, municipal education departments and mayors) and a technician who implements administrative activities to support regional units. The three positions require professionals to have management and teaching experience in basic education, academic training compatible with the axis and, if possible, academic production in the theme of the axis in which they operate. Consultants with partial dedication, on the other hand, consist of university professors with doctorates and, preferably, teaching degrees. They support in the design and implementation of trainings and in the design of formative instruments to strengthen the team at the Secretary. The central team prepares regional teams to monitor municipalities in the implementation of the program's strategies. To this end, it holds, with the regional teams, four meetings per year in each axis on themes of planning, monitoring, evaluation and teacher training. When a municipality presents below-expected learning outcomes, the central team joins the regional team to monitor more closely the trainings and the implementation of strategies for literacy in the municipality.

2.1.3 • Regional Team

Regional teams consist of three or four full-time staff, together with (more recently) trainers employed in each priority area. The Ceará secretariat of education is represented in regional teams that primarily focus on supporting municipal education secretariats in areas such as strengthening municipality's capacity to diagnose learning issues in the schools, plan pedagogical interventions to improve student learning, and implement, monitor and evaluate appropriate corrective strategies. The regional teams work with municipal staff, carrying on training sessions prepared by the central team to local municipal education teams, and conducting regular visits to follow up learning indicators and discuss pedagogical interventions. In PAIC's early days such indicators were recorded on paper, but since 2010 a computerized system has been operating to ease communication between the central and local cadres in this respect. The staffing structure of the regional team is similar to that of the central unit: three full-time professionals, consisting of a manager (strategic oversight, etc.), a coordinator to support the manager, maintain contact with municipal education authorities and monitor performance progress, and one or two staff members to provide technical and administrative support for training and monitoring municipal teams. The personnel of the regional team is expected to have pedagogy training, classroom experience, and leadership, management and monitoring skills, as well as being able to liaise with local entities.⁹

⁹ As detailed on the program's website: <https://paic.seduc.ce.gov.br/index.php/o-paic/eixos-do-programa/eixo-de-gestao/130-gerentes-do-paic-atribuicoes-e-perfis>

Table 4

Profile and functions of regional teams (2007-2010)

IN EACH REGIONAL UNIT	AVAILABILITY	RESPONSIBILITIES	PROFILE
1 Manager	Full-time	Manages regional activities.	Secretariat of education public employee. 90% possess degree in pedagogy. Expected to display leadership, management and monitoring skills, and good ability to dialogue with local entities.
1 Coordinator	Full-time	Supports the manager and dialogues with municipalities. Monitors the agreed goals.	
1-2 Technicians	Full-time	Technical-administrative support to train and monitor municipal teams.	

WHAT'S CHANGED RECENTLY?

With the expansion of the program, it became difficult for the regional team to monitor the municipalities in so many different key areas. As a result, eight trainers (one per priority area) were hired to carry out training and support for the design and implementation of pedagogical interventions. Employed on a part-time basis (around 32 hours per week), these professional trainers, selected through public notice, constitute a talent bank available for call-up when required. Most are primary school teachers with experience in the relevant subjects.

Table 5

Profile and functions of regional teams (2019-2021)

IN EACH REGIONAL UNIT	AVAILABILITY	RESPONSIBILITIES	PROFILE
1 Manager	Full-time	Manages regional activities.	Secretariat of education public employees. 90% have a degree in pedagogy.
1 Coordinator	Full-time	Supports the manager and dialogues with municipalities. Monitors the agreed goals.	
1-2 Technicians	Full-time	Technical-administrative support to train and monitor municipal teams.	
1 Trainer per program priority area	Part-time (32 hours per week)	Support, monitoring and training of municipal teams in the relevant program area.	Professionals with training and experience in the appropriate program priority area.

2.1.4 • Local Team

To prioritize and support the day-to-day implementation of the PAIC in each municipality, the state government introduced a financial incentive to sponsor a focal point in each city to help in program’s implementation and serve as a link between municipal and regional teams. The stipend of R\$1,000.00 per municipality could be awarded to one individual or split among three municipal employees (‘focus points’ or municipal coordinators, usually one manager and two advisors), and it was considered a bonus for their program management and implementation responsibilities at local level. Municipal coordinators are expected to manage program work plans, actions and objectives, be the liaison between the municipal education secretary and the regional team, guide pedagogical planning initiatives in respect to program’s goals, monitor the distribution of teaching materials, coordinate PAIC-related training sessions, support the application (and disclosure of the results) of diagnostic learning evaluations, and prepare and submit progress reports to regional management. The profile and skills required for the role of municipal coordinator are similar to those of the regional coordinator: teaching experience at the primary education level, leadership qualities, and management and communication skills.

WHAT’S CHANGED RECENTLY?

The aim of the stipends was to encourage municipalities to appoint specific members of staff to focus on strengthening program implementation, especially in terms of employing enhanced technical skills to diagnose, plan and monitor learning. Many cities have acknowledged the importance of appointing municipal managers to lead the PAIC at local level, and have institutionalized such jobs. Many municipal teams are organized in the same thematic areas found in COPEM. Therefore, the government of Ceará, also in response to the expansion of program priority areas, decided to use the stipends towards hiring six trainers (instead of local coordinators) to support in training activities, PAIC’s implementation and the design of pedagogical interventions. Most of these individuals, educators or professionals with a teaching degree and experience in one of program’s thematic areas, are employed part-time for 28 hours per week.

Table 6
Profile and functions of regional teams (2019-2021)

IN EACH MUNICIPALITY	AVAILABILITY	RESPONSIBILITIES	PROFILE
6 trainers	Part time (28 hours per week)	Conduct training according to the PAIC methodologies; monitor and evaluate program implementation, prepare pedagogical intervention strategies.	Education practitioners with experience in one of program’s thematic areas. For the education management area, professionals have management and evaluation experience.

2.1.5 • Costs

During the early years of PAIC the stipends were at the time were worth R\$1,000.00. Adjusting this value to reflect 2020 prices, the cost of the ‘focus points’ in the 184 municipalities of the state of Ceará would in theory be equivalent to approximately R\$3.2 million. As for the current structure of the program, the costs estimated in Table 7 below were based on (i) the average salary of active employees for each function, and (ii) the grants provided by the state of Ceará (Law No. 15,276 of 2012) for trainers. On this basis, the total cost of teams currently involved in the program amount to around R\$11.1 million per year.

Table 7

Team Costs
(2020)

	TEAMS AND GOVERNANCE	UNIT COST	SALARY/ STIPEND	NO OF UNITS	MONTHS	HUBS	TOTAL COST (R\$ NOMINAL)
Central team	COPEM						
	Manager of the thematic area	R\$5,469	Monthly salary	8	12	1	R\$ 524,981
	Coordinator of the thematic area	R\$3,687	Monthly salary	8	12	1	R\$ 353,996
	Technician of the thematic area	R\$2,376	Monthly salary	8	12	1	R\$ 228,068
	Consultants (experts)	R\$2,300	Stipend	12	10	1	R\$ 276,000
	EXECUTIVE SECRETARIAT						
	Manager	R\$5,469	Monthly salary	2	12	1	R\$ 131,245
	Coordinator	R\$3,687	Monthly salary	2	12	1	R\$ 88,499
	Technician	R\$2,376	Monthly salary	2	12	1	R\$ 57,017
	Subtotal						
Regional team	Advisor	R\$5,469	Monthly salary	1	12	20	R\$ 1,312,452
	Manager Mais PAIC	R\$3,687	Monthly salary	1	12	20	R\$ 884,990
	Technician	R\$2,376	Monthly salary	1	12	20	R\$ 570,170
	Trainer	R\$ 1,200	Stipend	8	10	20	R\$ 1,920,000
	Subtotal						
Municipal team	Trainer	R\$ 420	Stipend	6	10	189	R\$ 4,762,800
Total							R\$ 11.110.219

2.2 • STRUCTURED MATERIAL

At the beginning of the program, the state government purchased part of the didactic material from publishers and designed another part itself, thereby considerably reducing costs. A study by the *Ceará Committee for the Elimination of Illiteracy* (which gave rise to PAIC), identified theoretical and methodological gaps in teachers' knowledge of child literacy (SEDUC, 2012). The state adopted as a strategy to fill these gaps the development of didactic materials aligned with teacher training and the school literacy curriculum. The literacy policy thus included structured material for 1st and 2nd grade teachers and students with a daily routine of learning activities. The material for the 2nd grade was acquired from publishers and co-funded by the Ministry of Education. Public procurement notices determined that the cost of these kits (and the respective teacher training involved in learning to handle them) should not exceed R\$ 94.00¹⁰R\$ 164.00 at current values). As for the 1st grade, the state government hired a team of experts from a local university to develop a material that included a didactic proposal, activity and reading books, and posters, games and cards to assist teachers.¹¹ The printing cost of this material was much lower – estimated at R\$ 16.00 per student (R\$ 27.00 at current values).¹²

Table 8

Cost of teaching materials at the beginning of the program

STRUCTURED MATERIAL	UNIT COST	UNIT	NUMBER OF STUDENTS	NOMINAL TOTAL (2010)	REAL TOTAL (2020)
Creation and printing of material for the 1st grade	R\$ 16	Structured material per student	107,957	R\$ 1,673,858	R\$ 2,912,377
Purchase of kits for the 2nd grade	R\$ 94	Structured material per student (including teacher training)	129,125	R\$ 12,531,813	R\$ 21,804,339
Total				R\$ 14,205,671	R\$ 24,716,717

10 The 2009 public notice set the maximum amount at R\$ 80.00, while the 2011 public tender notice raised it to R\$94.00. The amounts reported by SEDUC (2012, Appendix 1) for the acquisition of structured material and technologies for 2nd year literacy between 2008-2011 cost an average R\$97.00 per student. The 2011 value is an intermediate figure.

11 For a description of the materials, see SEDUC (2012, p. 128) and <https://paic.seduc.ce.gov.br>

12 Value estimate based on data from SEDUC (2012, Appendix 1) for the reproduction of materials. We were unable to identify layout/production costs

WHAT'S CHANGED RECENTLY?

With the expansion of the program for other grades, the state government prepared structured materials in Portuguese and Mathematics in 2011 for 2nd to 5th grade students. In the years up to 2020, materials costs referred to printing. The most recent contract cost R\$ 5 million, amounting to R\$ 10 per student.¹³

Table 9

Current costs
of teaching
materials

MATERIAL	UNIT COST	UNIT	NUMBER OF STUDENTS	TOTAL (R\$, NOMINAL 2020)
Printing of student and teacher material for 1st to 5th grade	R\$ 10,41	Estimated cost of kit per student (includes cost of teacher materials)	480,275	R\$ 5,000,000
Total				R\$ 5,000,000

The *literature and reading thematic area* has as its main strategy the creation of a small library for each pre-school, 1st and 2nd grade classroom. In this effort, the Ceará government purchased books directly from publishers and organized literary competitions to promote literature by regional authors. In 2010-2011, around R\$ 3.3 million was spent on books bought directly through publishers, at a cost of R\$152 per classroom library consisting of 12 titles each (an average of R\$ 12.60 per book at nominal value).¹⁴ In contrast, the authors selected in the book competitions received prizes of R\$ 4,500.00, and the government was responsible for the final product (layout, illustration and printing, etc.). Thus, under the literary competition, total costs of classroom libraries amounted to approximately R\$224,000 (R\$54,000 in author's prizes plus R\$170,000 in book production), equivalent to R\$12.60 per class and R\$1.05 per book (see Tables 10 and 11).¹⁵

13 In 2021, the state government introduced new materials for Early Childhood Education and 1st to 9th grade students covering Portuguese Language, Mathematics, Science, History and Geography. This material was produced in partnership with NGOs, which absorbed production costs and the state government's printing costs. Details available at <https://idadecerta.seduc.ce.gov.br/>.

14 In <https://cearatransparente.ce.gov.br/> it is possible to access the contracts made between 2010 and 2011 for the acquisition of copies of children's literature works for the creation of Reading Corners in the public schools of the 184 municipalities participating in the Literacy Program in the Right Age -PAIC. Unlike the 2010 contracts, that indicate the unit value of the books, the number of classes involved and the school year, the 2011 contracts display only the overall value and, in some cases, the number of classes.

15 This calculation considers the value of the prize and the printing of 12 titles, and apportions it by number of classes. The estimate was based on the terms of reference of the 2013 public call for tenders for PAIC+ available at https://paic.seduc.ce.gov.br/images/Editais/edital_concurso_literario_n_003_2012.pdf. The printing contracts regarding titles for children aged 4-6 and 7-8, are available at (<https://cearatransparente.ce.gov.br/portal-da-transparencia/contratos/contratos/133277?locale=pt-BR>) and <https://cearatransparente.ce.gov.br/portal-da-transparencia/contratos/contratos/113284?locale=pt-BR>).

Table 10

Costs of book collections at the beginning of PAIC

COLLECTION OF 12 BOOKS	COST PER BOOK	COST PER COLLECTION	ESTIMATED NO. CLASSES (EI, 1ST AND 2ND GRADES)	NOMINAL TOTAL (2010)	REAL TOTAL (2020)
Acquisition from publishers	R\$ 12,60	R\$ 152	21870	R\$ 3,318,295	R\$ 5,773,564
Literary prizes and production costs	R\$ 1.05	R\$ 13	21870	R\$ 274,875	R\$ 478,260
Total				R\$ 3,593,169	R\$ 6,251,824

WHAT'S CHANGED RECENTLY?

After creation of the first classroom libraries, the state government decided to discontinue the purchase from publishers and maintain only the literary competition, updating library collections every two years, thus amortizing the investment. Following the expansion of the program to other grades, libraries were installed to benefit students in the 3rd to 9th grades. Additionally, training sessions to support teachers in the usage of those books was merged into the trainings provided by the literacy and Portuguese language thematic areas.

The last public tendering notice, from 2017, offered a prize slightly smaller of R\$ 4,000 for authors. For group 1, 12 titles were selected containing an average of 21 pages, organized in three categories: (a) early childhood education; (b) 1st and 2nd grades; and (c) 3rd to 5th grades. For group 2, the collection consisted of 15 books averaging 94 pages in two categories: (a) 6th to 7th grades; and (b) 8th to 9th grades. In summary, the total price of producing the book collections is just over R\$1 million. The average cost of a collection for group 1 is R\$ 19 and R\$ 34 for group 2.¹⁶

Table 11

Current costs of book collections

COLLECTIONS	COST PER BOOK	COST PER COLLECTION	No.	NOMINAL TOTAL 2018	REAL TOTAL 2020
Early Childhood Education and Primary Education (12 titles)	R\$ 1.55	R\$ 18,56	38259	R\$ 687,942	R\$ 749,857
Lower Secondary Education (15 titles)	R\$ 2.29	R\$ 34,41	10061	R\$ 346,121	R\$ 377,272
Total				R\$1,034,063	R\$ 1,127,129

16 The literary competitions were launched in 2017. The public calls for tender are available at: <https://paic.seduc.ce.gov.br/index.php/fique-por-dentro/editais>. Printing contracts for 2017 and 2018 cover Early Childhood Education, 1st and 2nd grades, 3rd to 5th grades and lower secondary, and are available at <https://cearatransparente.ce.gov.br/>.

2.3 • TRAINING

Since the introduction of PAIC, the governance structure established between COPEM and regional and municipal teams involves central trainers conducting regular training sessions for regional trainers, who go on to train local trainers of teachers, school managers, etc. (the *cascade model*) in the relevant program priority areas. The main costs of the system are for materials, catering and logistics. Training, initially in seven hubs ('poles'), was soon extended to all the 20 regions. When a municipality underperforms, the central team provides direct support to training at municipal level. Four meetings per year are held in each program priority area according to the established governance levels (COPEM-region, region-municipality, municipality-schools). The main costs of these meetings are for materials (produced and printed by the central team), refreshments, and transportation. The state government sponsors most costs apart from the transport of municipalities' staff. The cost of renting venues is rarely an issue since meetings are usually organized in publicly-owned buildings.

Table 12 shows the estimated annual costs per meeting in each training priority area according to the SEDUC budget (2012). The costs of the more intensive management, literacy and early childhood education trainings tend to be higher. Education management costs include expenditure on visits by regional teams to the municipalities. Visits to education secretariats with low learning rates may also be more frequent and incur greater costs. The meetings that take place during such visits can vary from discussions between the regional and municipal teams on active learning strategies and diagnostics, pedagogical guidance, on-site classroom observation, or inspections of low-performing schools. Finally, the literacy and ECE activities cost more due to the need for more intensive teacher-training preparation, higher expenditure on structured learning materials and longer training times.

Table 12
Training costs
at the beginning
of the program
(2007-2010)

TRAINING PRIORITY AREAS	UNIT COST	UNIT	No. TRAININGS PER YEAR	NUMBER OF HUBS	NOMINAL TOTAL (2010)	REAL TOTAL (2020)
Literacy	R\$ 1,099	Meeting per regional hub	4	20	R\$ 87,899	R\$ 152,937
Learning evaluation	R\$ 739	Meeting per regional hub	4	20	R\$ 59,096	R\$ 102,822
Early childhood education	R\$ 1,154	Meeting per regional hub	4	20	R\$ 92,296	R\$ 160,588
Education Management	R\$ 2,185	Meeting per regional hub	4	20	R\$ 174,786	R\$ 304,113
Literature	R\$ 443	Meeting per regional hub	4	20	R\$ 35,414	R\$ 61,617
Total					R\$449,491	R\$782,077

WHAT'S CHANGED RECENTLY?

Trainings currently take place in 8 priority areas: literacy, early childhood education, Portuguese for EF1, Portuguese for EF2, mathematics EF1, mathematics EF2, learning evaluation and education management. The reading (literature) element is tackled in the literacy and Portuguese language sessions. It is worth noting that the state capital, Fortaleza, has become an independent hub to reflect the large number of schools in the city. Current costs of training are about R\$1 million annually (approximately R\$ 1500 per training meeting per hub. Given that there are 184 municipalities in Ceará, the average cost per city is R\$ 170 per annum.

Table 13

Current training costs

UNIT COST	UNIT	No. TRAINING PRIORITY AREAS	No. TRAININGS PER YEAR	No. OF HUBS	NOMINAL TOTAL (2020)
R\$ 1,488	meeting per regional hub	8	4	21	R\$ 1,000,000

2.4 · LEARNING ASSESSMENTS

Learning assessments have been conducted since PAIC began in 2007. The state government has committed to annually funding and conducting a standardized learning evaluation to verify the reading levels of all students in the municipal and state networks by the end of the 2nd grade. The evaluation is prepared and implemented by an external entity, following strict application protocols, and using the item response theory (IRT) to allow for a comparison of literacy scores over time. The establishment of a regular standardized evaluation for 2nd grade students was an innovation in Brazil.¹⁷ The first contract to carry out the procedure in 2008-2010¹⁸ had an annual nominal value of around R\$ 3 million (nominal value of R\$ 23 per student). In addition to guiding pedagogical practices, standardized learning evaluation supports incentives for schools and municipalities through the *Escola Nota 10* award and the consumption tax distribution rules respectively.

PAIC's core team also developed diagnostic assessments for 1st and 2nd grades that teachers can apply themselves. Tests are based on the classical theory of items and contain 20 questions about the appropriation of the writing system, reading and writing skills. The assessments are applied at the beginning of each semester to appraise the learning level of each student and establish

17 Even before the introduction of PAIC, the Ceará government already applied standardized assessments for students in the 5th and 9th years of elementary school and the 3rd year of high school. In 2007, in addition to the 2nd year of elementary school, students from the 1st and 2nd year of high school were included.

18 Contract available at: <https://cearatransparente.ce.gov.br/portal-da-transparencia/contratos/contratos/281963?locale=pt-BR>

pedagogical strategies for schools throughout the municipal network. The central evaluation team, supported by consultants, prepare the tests and application protocols annually, delivering them through an online system created by the state government specifically to monitor PAIC implementation. Municipalities can print the materials, apply the tests, compile the results and submit all the data online. The results can be analyzed by the central, regional and municipal teams. The data allows reports to be generated according to school, class, student and descriptor. The costs of the diagnostic evaluation correspond to staff working time (recorded in section 2) and IT system operation and maintenance costs, neither of which could be identified.

Table 14

Cost of learning assessments at the beginning of PAIC

COMPONENTS	UNIT COST	NUMBER OF STUDENTS	APPLICATIONS PER YEAR	NOMINAL TOTAL (2010)	REAL TOTAL (2020)
Standardized evaluation	R\$ 23	129,125	1	R\$ 2,991,315	R\$ 5,204,646
Diagnostic evaluation	-	129,125	2	-	-

WHAT'S CHANGED RECENTLY?

From 2009 onwards, the diagnostic assessment began to include students from grades 3 to 5 and, since 2010, also includes a mathematics section for grades 3 to 5. In 2021, due to the COVID-19 pandemic, the state government decided to print the diagnostic evaluations for the 2nd and 3rd grades and distribute them to the municipalities. The two sections of the assessment - language and mathematics - contain 22 questions each, at a cost of R\$ 3 per student (see Table 10), totaling R\$ 600,000.¹⁹

The expansion in 2015 of PAIC for all primary and lower secondary education led to the inclusion of standardized evaluations for grades 5 to 9 into PAIC's budget, even though these large-scale assessments were already conducted in the Ceará. At present, grade 2 students take a literacy test, while grades 5 and 9 take a Portuguese language and mathematics test. According to data from the last contracts available for 2016-2019, the average cost of evaluations amounted to R\$ 12 per student. Compared with 2008-2010 costs, an efficiency drive led to a reduction in the average value per student from R\$23 to R\$12 (nominal values). The state government reports that this reduction resulted from improved test-related logistics, especially printing, transportation and personnel costs.²⁰

Table 15

Current cost
of learning
assessments

COMPONENTS	NOMINAL UNIT COST	No. OF STUDENTS	TEST APPLICATIONS PER YEAR	NOMINAL TOTAL (2016)	REAL TOTAL (2020)
Standardized evaluation (2nd, 5th and 9th grades)	R\$12	322,500	1	R\$ 3,940,922	R\$ 4,588,616
Diagnostic evaluation (printing costs for 2nd and 3rd grades)	R\$3	186,988	2	N/A	R\$ 600,000
Total					R\$ 5,188,616

19 More details about the tax incentive mechanism of Ceará in Holanda, M.; Barbosa, M.; Cruz, L.; Loureiro, A. *Implementing an Incentive Mechanism for Municipal Governments to Improve Education Outcomes: A Guide to Implementation Inspired by the Case of Ceará*. Washington, D.C.: World Bank Group, 2021.

20 To qualify for the award, schools must meet two criteria: having at least 20 students enrolled in the 2nd year of elementary school and achieving an average of 8.5 or higher in the literacy index. Supported schools, on the other hand, must have at least 20 students enrolled in the 2nd year and at least 50% of participation in the standardized assessment of the previous year. For more information on criteria and values, see the Law 14,371 of 19 of 2009, available in: <https://www.seduc.ce.gov.br/wp-content/uploads/sites/37/2018/10/lei-14371.pdf>

2.5 • AWARDS AND INCENTIVES FOR SCHOOLS

Two mechanisms were created to encourage municipalities to prioritize literacy: the changed rules for distributing a portion of Brazil's main consumption tax (ICMS) to the municipalities, and the *Escola Nota 10* award. While the ICMS incentive does not involve an additional cost to the state, since it represents merely the redistribution of an existing funding resource regularly due to municipalities, the *Escola Nota 10* award is an extra cost burden.

²¹Created in 2009, the *Escola Nota 10* award seeks to encourage schools to achieve better educational results by awarding the 150 schools best placed in the literacy performance index with a R\$ 2,500 prize per student. The program also supports the 150 schools with the lowest performance with an award of R\$ 1,250 per student and matches such schools with top performing schools to promote the exchange of experiences.²² To qualify for the award, schools in both groups must submit a financial execution plan. If this is approved by COPEM, the best performing schools receive 75% of the amount due and the remaining 25% are paid when schools meet two criteria: (i) maintain or improve their own results in the standardized evaluation; and (ii) support the partner school. For supported schools, 50% of the amount is received at the outset and 50% later, subject to the schools improving performance by a minimum value of 5.0 (out of 10).

Between 2009-2010, the annual budget of these incentive programs was approximately R\$ 20 million (Table 16).²³ Calculating the value per student and an average of 36 students per school, the best-performing schools received an estimated R\$ 90,000, while the lowest performers received R\$ 45,000.

Table 16

Escola Nota 10
costs (2009-
2010)

INCENTIVES	UNIT COST	UNIT	No. OF UNITS	NOMINAL TOTAL (2010)	REAL TOTAL (2020)
<i>Escola Nota 10</i> award	R\$ 90,000	High-performing schools	150	R\$ 13,500,000	R\$ 23,488,907
	R\$ 45,000	Low-performing schools	150	R\$ 6,750,000	R\$ 11,744,453
Total				R\$ 20,250,000	R\$ 35,233,360

21 For more details on the tax incentive mechanism of Ceará see Holanda, M.; Barbosa, M.; Cruz, L.; Loureiro, A. Implementing an Incentive Mechanism for Municipal Governments to Improve Education Outcomes: A Guide to Implementation Inspired by the Case of Ceará. Washington, D.C.: World Bank Group, 2021.

22 To qualify for the award schools must meet two criteria: have at least 20 students enrolled in the 2nd grade and achieve an average of 8.5 or higher in the literacy index. Supported schools, on the other hand, must have at least 20 students enrolled in the 2nd grade and at least 50% participation in the previous year's standardized assessment. For more information on the criteria and values, see Law 14,371 of June 19, 2009, at: <https://www.seduc.ce.gov.br/wp-content/uploads/sites/37/2018/10/lei-14371.pdf>

23 Annex 1 of SEDUC & UNICEF (2012).

WHAT'S CHANGED RECENTLY?

As with other elements of the program, *Escola Nota 10* initially focused only on literacy performance and was later expanded to other grades. In 2011, the award was applied to the 5th grade and, in 2015, to the 9th, with up to 150 schools receiving the award and a similar number of schools supported for each year of teaching. The value of the award per student was reduced to R\$2,000 for the best performing schools and to R\$1,000 for the lowest performing ones. Although in 2019 the maximum number of schools eligible to receive the award was 450 schools, only 362 reached the minimum requirements. The main challenge to the success of the award program today is performance at the 9th grade (only 62 schools rewarded). The *Escola Nota 10* in 2019 was budgeted at R\$15 million (nominal prices) divided between the three eligible grades. The highest-performing schools received an average award of R\$28,000 while the schools lagging behind received just under R\$14,000 (Table 17).²⁴

Table 17

Escola Nota 10
costs in 2019

INCENTIVES	UNIT COST	UNIT	NO. OF UNITS	NOMINAL TOTAL (2019)
<i>Escola Nota 10</i> award	R\$ 27,600	Higher performing schools	362	R\$ 9,991,200
	R\$ 13,800	Underperforming schools	362	R\$ 4,995,600
Total				R\$ 14,986,800

24 Law 15,923 of December 15, 2015, available at: <https://bela.ce.gov.br/index.php/legislacao-do-ceara/organizacao-tematica/educacao/item/4227-lei-n-15-923-de-15-12-15-d-o-15-12-15>

HOW MUCH
WOULD IT COST
TO REPLICATE A
PAIC-INSPIRED
TECHNICAL
ASSISTANCE
PROGRAM FOR
SUBNATIONAL
GOVERNMENTS

3 • HOW MUCH WOULD IT COST TO REPLICATE A PAIC-INSPIRED TECHNICAL ASSISTANCE PROGRAM FOR SUBNATIONAL GOVERNMENTS

For governments wishing to establish a TA program for subnational governments to improve learning and literacy outcomes, this section presents the main parameters for consideration. Table 18 summarizes the minimum staffing structure and reference costs for each component, using Ceará's values as a starting point. To facilitate estimates, the costs listed below are per unit (i.e. number of trainers, students, schools, etc.).

Table 18

Cost parameters and minimum staff numbers for a TA program for municipal secretariat of educations

COMPONENT	UNIT COST	UNIT	N° UNITS	MONTHS	OBSERVATIONS	
TEAM AND GOVERNANCE						
Central team	COPEM					
	Manager of the thematic area	\$5,469	Monthly salary	5	12	Minimum team: a manager, a coordinator, a technician and a consultant for the five priority areas (Early Childhood Education, Literacy, Reading, Evaluation, and Management).
	Coordinator of the thematic area	\$3,687	Monthly salary	5	12	
	Technician of the thematic area	\$2,376	Monthly salary	5	12	
	Consultants (experts)	\$2,300	Purse	5	10	
Executive Secretary	\$5,469	Monthly salary	1	12		
Regional team	Advisor	\$5,469	Monthly salary	1	12	
	PAIC Manager	\$3,687	Monthly salary	1	12	
	Technician	\$2,376	Monthly salary	1	12	
	Trainers	\$1,200	Bolsa	5	10	
Local team	PAIC Manager	\$400	Stipend	1	10	
	Technicians	\$300	Stipend	2	10	
TRAINING						
Teacher training	\$1,488	Per hub	5	4	4 annual meetings for each priority area	
STRUCTURED MATERIAL						
Structured material	\$10	Kit per student				
Books	\$19	Per 12-book collection			1 library per classroom (from preschool to 2nd grade), renewable every 2 years	
LEARNING ASSESSMENTS						
Printing diagnostic evaluations	\$3	Per student	1	2	Applied at the beginning of each semester	
Standardized evaluations	\$13	Per student	1	1	Applied at the end of the school year	
INCENTIVES MECHANISM						
Escola Nota 10 Award	\$92,000	Per award-winning school				
	\$46,000	Per school supported				

In terms of program structure, Ceará's experience in establishing five priority areas (early childhood education, literacy, literature and reading, education management and learning assessment), proved to be very successful at the local level, and could possibly be applied to other contexts. Two of the priority areas are particularly important from the pedagogical standpoint: literacy and early childhood education (ECE). While literacy is the core element of the technical assistance approach (structured material, training, monitoring and learning evaluation), ECE offers opportunities for all children to receive adequate stimuli during early childhood, which can have a positive impact on their development throughout their school years. The literature and reading component also has strong pedagogical appeal: there is no doubt that reading must continue to be encouraged among teachers and students as the key to improving literacy outcomes. Finally, the management and evaluation components (important for tackling gaps in educational and pedagogical management, and for understanding the value of learning assessments) underpin the entire literacy strategy. It is possible that Ceará's approach based on the abovementioned priority areas can provide a roadmap for local education authorities that are experiencing low literacy results in their schools.

In terms of staffing, notwithstanding the expansion of the PAIC in the later years, the Ceará state government secretariat of education maintained the basic staffing structure of the program, consisting of three practitioners per priority area at the central level supported by a number of experts. With the consolidation of the program, the government eventually appointed an Executive Secretary to dialogue with municipalities (probably worth considering by other interested parties).

The *regional* teams also played an important role in assuring the support of the state government would reach the most needed municipalities, being crucial intermediaries between the state and local governments. Ideally one regional trainer per priority area should be hired to support the training meetings/seminars while the regional units' regular teams focus on monitoring program strategies and actions.

At the *local* level, the provision of stipends served as an incentive for municipalities to establish "focus points" which proved to be invaluable for encouraging local teams, building technical capacity and promoting the sustainability of municipal level actions. A useful initiative in some cases was to split the stipend between three professionals (manager and two advisors) charged with tackling increased demands generated by PAIC activities in the municipalities.

As for the *training* component, the Ceará government held four meetings for each program area. ECE, literacy and reading training sessions tended to be long (more pedagogical content), while the management trainings involved visits to municipalities to boost their literacy strategies.

Regarding *structured material*, textbooks designed by experts and printed and distributed by central government proved to be a more cost-effective solution compared to the acquisition of material direct from publishers (as at the beginning of the program). As for 'reading' books, the classroom libraries were kept restocked from biennially-funded literary competitions, with production costs (printing, etc.) also defrayed every two years.

On the topic of learning assessments, *diagnostic evaluations* can be designed by the central unit

(state level) and applied twice a year by local governments, while the *standardized evaluations* should be applied annually at the end of the school year. The purpose of the latter is to strengthen ongoing program-related policies and adjust pedagogical strategies where necessary. It is essential to outsource the application of the standardized evaluation to a non-government entity. While this procedure costs more (especially if there is no pre-existing evaluation system), external surveillance can lead to efficiency gains over the years.

Providing *incentives* to schools is important. It is recommended that the incentives program should be aligned with the actual number of students who participate in the standardized learning assessment as a way of preventing only good students from being referred to take the tests. The award-winning schools receive twice as much per student than supported schools (a further way encourage better results from supported schools).

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FINAL
CONSIDERATIONS

4 • FINAL CONSIDERATIONS

Countries around the world are seeking short-term improvements in terms of access to education and teaching quality. It could be tempting to conclude that Ceará's education success is due to short-term improvement produced by a single reform.²⁵ Rather, evidence points to longer-term improvement due to a combination of a series of different reforms. At the same time, the implementation of reforms inspired in the Ceará case in education requires a deep understanding on how each of its key elements were implemented.

This note sought to provide an overview of the staffing requirements and costs involved in the PAIC with a view to informing governments that might be interested in working up technical-pedagogical assistance programs for their own local education authorities. The program implemented in Ceará has benefited from a number of efficiency gains over the years, which constitute an additional stimulus to the adoption of similar programs in other states and countries. The positive outcomes of the technical assistance in Ceará to strengthen the capacity of the local governments (secretariat of educations, managers, school principals, teachers, etc.) to improve students' learning and other basic skills, promote the sustainability of the program, and foster long-term benefits in building human capital of a country.

25 Lautharte, Ildo; de Oliveira, Victor Hugo; Loureiro, André. 2021. "Incentives for Mayors to Improve Learning: Evidence from State Reforms in Ceará," Brazil. *Policy Research Working Paper*; No. 9509. Banco Mundial. <https://openknowledge.worldbank.org/handle/10986/35024>

