



IEG
INDEPENDENT
EVALUATION GROUP

WORLD BANK GROUP
World Bank • IFC • MIGA

PROJECT PERFORMANCE ASSESSMENT REPORT



BRAZIL

Pernambuco Education Results
and Accountability Project

Report No. 114046
JUNE 26, 2017

© 2017 International Bank for Reconstruction and Development / The World Bank
1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

Attribution—Please cite the work as follows:
World Bank. 2017. Project Performance
Assessment Report: Brazil—Pernambuco
Education Results **and** Accountability Project.
Washington, DC: World Bank.

This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent.

The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

RIGHTS AND PERMISSIONS

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to this work is given.

Any queries on rights and licenses, including subsidiary rights, should be addressed to World Bank Publications, The World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2625; e-mail: pubrights@worldbank.org.

Report No.: 114046

PROJECT PERFORMANCE ASSESSMENT REPORT

BRAZIL

**PERNAMBUCO EDUCATION RESULTS AND ACCOUNTABILITY PROJECT
(IBRD LOAN NO 77110)**

Human Development and Economic Management
Independent Evaluation Group

Currency Equivalents (annual averages)

Currency Unit = Brazilian real (R\$)

2010	US\$1.00	R\$1.8
2011	US\$1.00	R\$1.7
2012	US\$1.00	R\$2.0
2013	US\$1.00	R\$2.2
2014	US\$1.00	R\$2.4
2015	US\$1.00	R\$3.3
2016	US\$1.00	R\$3.7

All dollar amounts are U.S. dollars unless otherwise indicated.

Abbreviations

IBGE	Instituto Brasileiro de Geografia e Estatística
IDEB	Basic Education Development Index
IDEPE	Índice de Desenvolvimento da Educação de Pernambuco
IEG	Independent Evaluation Group
INEP	The Instituto Nacional de Estudos e Pesquisas Educacionais
PISA	Programme for International Student Assessment
PPAR	Project Performance Assessment Report
SAEPE	State-Level Student Assessment System
SEE	Secretariat of Education
SEPLAG	Secretariat of Planning and Administration
TTL	task team leader

Fiscal Year

Government: January 1–December 31

Director-General, Independent Evaluation:
 Director, Human Development and Economic Management:
 Manager, Corporate and Human Development:
 Task Manager:

Ms. Caroline Heider
 Mr. Auguste Tano Kouame
 Ms. Marie Gaarder
 Ms. Susan A. Caceres

Contents

1. Background.....	1
Education in Brazil	1
The State of Pernambuco: Background	2
2. Objectives, Design, and Their Relevance.....	3
Objectives	3
Relevance of Objectives	3
Design	4
Relevance of Design	5
3. Implementation	6
Planned versus Actual Expenditure by Component.....	7
Implementation Arrangements.....	7
4. Achievement of the Objectives.....	8
Objective 1: Improve the Quality of Public Education.....	8
Objective 2: To Improve Efficiency of Public Education	12
Objective 3: Improve Equity in Public Education	14
Objective 4: Introduce Management Reforms.....	15
5. Efficiency.....	16
6. Ratings	17
Outcome.....	17
Risk to Development Outcome.....	18
Bank Performance.....	18
Borrower Performance.....	20
Monitoring and Evaluation	21
7. Lessons.....	22
References.....	24
Appendix A. Basic Data Sheet.....	27
Appendix B. Additional Data	29
Appendix C. List of Persons Met.....	32

This report was prepared by Susan A. Caceres and Julia Franca who assessed the project in January 2017. The report was peer reviewed by Erik Bloom and panel reviewed by Judyth L. Twigg. Aline Dukuze provided administrative support.

Figures

Figure 1. Secondary Education IDEB (Pernambuco and Northeastern States), 2005–2015	11
Figure 2. Rate of Distortion in Fundamental Education (Pernambuco and Northeastern States), 2006–2015.....	13
Figure 3. Secondary Education Dropout Rate by School Location, 2007–2015	14

Tables

Table 1. Brazil’s Gross Enrollment by Level by Year (in percent)	1
Table 2. Appraisal and Actual Cost of Project by Component.....	7
Table 3. SAEPE Mean Mathematics Score by Grade, 2008–2015.....	10
Table 4. SAEPE Mean Portuguese Score by Grade, 2008–2015	11
Table 5. Mean SAEPE Results by School Location, 2008–15	15
Table 6. Project Results Framework.....	22

Principal Ratings

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Satisfactory
Risk to Development Outcome	Negligible	Negligible	Moderate
Bank Performance	Satisfactory	Moderately Satisfactory	Moderately Satisfactory
Borrower Performance	Satisfactory	Moderately Satisfactory	Satisfactory

* The Implementation Completion and Results (ICR) report is a self-evaluation by the responsible World Bank Global Practice. The ICR Review is an intermediate Independent Evaluation Group (IEG) product that seeks to independently validate the findings of the ICR.

Key Staff Responsible

<i>Project</i>	<i>Task Manager or Leader</i>	<i>Sector Director</i>	<i>Country Director</i>
Appraisal	Ricardo Rocha Silveira	Chingboon Lee	John Briscoe
Completion	Michael Drabble	Reema Nayar	Martin Raiser

IEG Mission: Improving World Bank Group development results through excellence in independent evaluation.

About this Report

The Independent Evaluation Group (IEG) assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the World Bank's self-evaluation process and to verify that the World Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20–25 percent of the World Bank's lending operations through fieldwork. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or World Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government and other in-country stakeholders, interview World Bank staff and other donor agency staff both at headquarters and in local offices as appropriate, and apply other evaluative methods as needed.

Each PPAR is subject to technical peer review, internal IEG panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible World Bank country management unit. The PPAR is also sent to the borrower for review. IEG incorporates both World Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the World Bank's Board of Executive Directors. After an assessment report, has been sent to the Board, it is disclosed to the public.

About the IEG Rating System for Public Sector Evaluations

IEG's use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEG website: <http://ieg.worldWorld Bankgroup.org>).

Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current World Bank country and sectoral assistance strategies and corporate goals (expressed in poverty reduction strategy papers, Country Assistance Strategies, sector strategy papers, and operational policies). *Relevance of design* is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least-cost compared with alternatives. The efficiency dimension is not applied to development policy operations, which provide general budget support. *Possible ratings for outcome:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, highly unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for risk to development outcome:* high, significant, moderate, negligible to low, and not evaluable.

World Bank Performance: The extent to which services provided by the World Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan or credit closing, toward the achievement of development outcomes). The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for World Bank performance:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for borrower performance:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Preface

This Project Performance Assessment Report (PPAR) reviews the experience and achievements of World Bank support to education in the Pernambuco Education Results and Accountability Project in Brazil.

The project was approved on April 14, 2009, became effective on December 3, 2009, and closed on November 30, 2015. The project closed 23 months after the original date of December 31, 2013, to permit additional time for the Government of Brazil and the government of Pernambuco to request and sign an additional financing agreement from the World Bank. The Government of Brazil ultimately decided not to sign due to fiscal issues. The project was restructured (level 2), which did not alter the development objectives but changed key performance indicators to better measure the outcome. A split rating is not applied, as outcome targets were not revised.

This project was selected for a field-based assessment because it focused on improving education quality, using data from student assessment, and improving public financial management. The information gained from this field-based study will be an input into a learning engagement on national large-scale assessment systems.

This report presents findings based on a review of the Project Appraisal Document, the Implementation Completion and Results Reports, Implementation Completion and Results Report Reviews, aides-memoires, World Bank reports, and other relevant materials. An Independent Evaluation Group (IEG) mission visited Brazil January 11–20, 2017, to interview government officials, regional coordinators, principals, and representatives from foundations (see appendix C for list of persons interviewed).

The assessment aims to verify whether the operation achieved its intended outcomes. The report provides additional evidence and data from after project closure for a more complete picture of the outcomes and factors that influenced them.

IEG gratefully acknowledges the logistical assistance and support of the staff in the World Bank Brasília office, particularly Mr. Michael Drabble and Ms. Renata Pereira de Mello, as well as assistance from Ms. Renata Kominsky in Secretariat of Planning and Administration. Julia Franca provided invaluable assistance during the mission with translation at meetings and contextual understanding. She provided data and research support that enriched the report.

Following standard IEG procedures, a copy of the draft report was sent to the relevant government officials and agencies for their review and feedback. No comments were received.

Summary

The request for this project was initiated in 2008 by the State Government of Pernambuco and the government of Brazil. At the time, improving education quality, efficiency, equity and sector management were priorities for the State Government of Pernambuco. Challenges at the time of project preparation were the flow of students and the quality of education in fundamental and secondary education, as Pernambuco's Basic Education Development Index (IDEB) for fundamental and secondary education scores were lower than the Brazil's overall score according to the Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (INEP).¹ On April 14, 2009, a loan of US\$154 million from the International World Bank for Reconstruction Development was approved for the State Government of Pernambuco (with a guarantee by the Government of Brazil). The operation closed on November 30, 2015, which was 23 months after the original date. The extension was to provide additional time for the government of Brazil and the State Government of Pernambuco to request and sign an additional financing agreement from the World Bank, which was ultimately not signed due to fiscal issues.

The objectives of the operation were “to (a) improve the quality, efficiency, and equity of public education; and (b) introduce management reforms that will lead to greater efficiency in the use of the Borrower's public resources in the education sector” (World Bank 2009a, 6). The relevance of objectives was high given the commitment to address challenges related to the objectives by the State Government of Pernambuco in multiple strategic documents. The government's vision was to change the state's public sector management to be performance based and focused on results. Relevance of design was substantial. The operation financed a portion of the government's broader program through a sectorwide approach of eligible expenditure programs, such as a school standards program, the State-Level Student Assessment System (SAEPE), literacy, and an overage correction program. It also disbursed based on performance conditions.

By a number of measures, education quality improved over the course of the operation. The state Índice de Desenvolvimento da Educação de Pernambuco (and federal IDEB) increased for both fundamental and secondary education. The percentage of children scoring advanced or proficient on Prova Brasil (Brazil's national assessment at fundamental education levels) increased, based on levels developed by QEdU (a Brazilian educational foundation).² There was a positive trend in both mathematics and Portuguese (in the SAEPE) in every grade level between 2008–15. Although the trend for rural schools in Pernambuco increased across all grades assessed, a performance gap remained between rural and urban schools. Data were not disaggregated by student characteristics such as socioeconomic status, race, or gender; changes in these aspects were unknown.

Efficiency in relation to student flow (rates of distortion and dropout) has improved within the state, as the age-grade distortion rate decreased from 29 percent to 18 percent (according to INEP data).³ The percentage of 19-year-olds who completed secondary education in Pernambuco rose from 34 percent in 2008 to 56 percent in 2014.⁴ The dropout rate decreased in low fundamental grades from 4 percent in 2008 to 2 percent in 2014, in high fundamental education grades from 14 percent in 2008 to 2 percent in 2014, and in secondary education from 20 percent to 4 percent (World Bank 2016 and the Secretariat of Education).

The state made substantial progress on its results-based management model in the education sector over the course of the operation. Data became part of the conversation with principals, teachers, and parents, as well as senior secretariat officials and the governor. This open and transparent data promoted accountability.

The project's outcome is rated satisfactory based on the high relevance of the objectives and substantial relevance of design; high achievement in improving education quality; and substantial achievement in two objectives (to improve educational efficiency and introduce management reforms) and modest achievement in the remaining objective (improve equity). Efficiency was rated substantial, with the expected positive returns from the government's performance management system and smooth implementation of the operation. All of the activities funded in this operation continued to be part of the government's education program and were institutionalized, but financial risks are present; thus, the risk to the development outcome is moderate. While preparation leveraged previous World Bank experience in Brazil and in the Pernambuco, measurement of the equity objective was missing. The World Bank team actively engaged with the government in relation to education quality, providing analytical work focusing on classroom practices. The performance of the World Bank is rated moderately satisfactory at entry and satisfactory during supervision; thus, overall performance is moderately satisfactory. The borrower's performance is rated satisfactory. The project received high-level government support and was implemented and coordinated well by the implementing agency with the other secretariats; thus, its performance is satisfactory.

Lessons

Based on the experience of this project, several lessons can be drawn:

- **Formidable results (dropout, distortion, student learning) can be achieved, but these results take time and may not be evident within the typical implementation period of a World Bank operation.** Because of the extensions (not related to implementation), the World Bank's closure report had more years of data to draw on than the typical five-year operation to demonstrate results. This report had even more data to present. This suggests the importance of country monitoring systems, beyond project-focused ones. It also suggests the long-term vision and support that are needed by governments and the World Bank to register improvements, particularly in relation to student learning. In this case, the government began the initial steps of implementing its vision in 2007 and 10 years later, when the IEG mission occurred, the trend of improvement was clearly evident.
- **The success and sustainability of this operation depends largely on the government's commitment to (and ownership of) its comprehensive sector program, sector policies, and sector management system.** Attribution of results in this operation goes beyond the World Bank financing to the broader government program. Notably, there has been continuity in education policies and programs in the state government, despite there being multiple governors. This continuity has stabilized the performance monitoring system so that data served as a feedback loop to the system. The government's management process comprised planning, budgeting, and monitoring; thus, the collection of data (related to performance indicators) was critical to monitor the efficacy of public services.

- **Assessment data were used for multiple purposes (including pedagogical purposes) and among multiple stakeholders.** Some of the factors that contributed to the use were quality and usability of data, analysis of test results, open and timely dissemination of data, and political continuity over time. As a result, data were part of the conversation at every level from the governor, the Secretariat of Education, regional coordinators, and school principals and teachers and made available to parents. For the system to further identify weaknesses in student learning, results will need to be disaggregated.
- **Equity objectives require clear definition and measurement and may need additional efforts.** In this operation, equity was a stated objective, but the equity concern was not clearly articulated or measured. The operation tracked average school scores, which masked heterogeneity. It also focused on low-performing schools, but a performance gap remained between rural and urban schools. Efforts to improve school averages were insufficient to reduce these inequities.
- **Although the reform began before the World Bank was involved, the World Bank added value through transmission of knowledge from experiences and lessons in Brazil and Pernambuco.** The World Bank produced several economic and sector works specific to Brazil, which facilitated policy dialogue within the Pernambuco. It disseminated the results of the study analyzing classroom practices, which reinforced the need to focus attention on what teachers do. International best practices were used to inform the structure of the school bonus program. The World Bank assisted in the evaluation of the early implementation of the school bonus program. The client valued the World Bank's knowledge contribution.

Auguste Tano Kouame
Director
Human Development and Economic Management
Independent Evaluation Group

1. Background

1. This Project Performance Assessment Report (PPAR) reviews the experience and achievements of World Bank support for education in the state of Pernambuco in Brazil (2009–15). This project was selected for a field-based assessment because it focused on improving education quality, using data from student assessment, and improving public financial management. The information gained from this field-based study will be an input into a learning engagement on use of data from national large-scale student assessment.

Education in Brazil

2. Compulsory education in Brazil is nine years of fundamental education.⁵ The education system also provides preprimary (which is offered in crèches for children under three years old or preschool for those between four and six years old) and secondary education (three years). Education is a shared responsibility among federal, state, and municipal governments. Municipalities offer preprimary and fundamental education. States are responsible for secondary education and partner with the municipalities in relation to fundamental education. The federal government organizes education policy and regulates higher and professional education.⁶ There are many differences by states, regions, and municipalities in terms of performance and implementation due to variations in capacity and resource allocation.

3. Enrollments at all levels have grown remarkably since 1995 (table 1). These gains have been the result of the educational financing reforms that corrected inequities in funding across states and investments in the conditional cash transfer program (Bolsa Familia; Bruns, Evans, and Luque 2011). During this time, enrollment gains have been registered in the poorer regions: Northeast, North, and Center-West. Gaps in enrollment between income groups have disappeared for fundamental education but remain for secondary education.⁷ For example, the secondary education enrollment for the poorest and wealthiest groups were respectively 53 percent and 87 percent in 2008.⁸

Table 1. Brazil's Gross Enrollment by Level by Year (in percent)

Level	1995	2002	2008
Primary	111	125	119
Secondary	49	83	93
Tertiary	13	23	35

Source: IBGE Pesquisa Nacional por Amostra de Domicílios data (http://www.ibge.gov.br/home/estatistica/indicadores/trabalhoerendimento/pnad_continua/analise02.shtm); and Instituto de Estudos do Trabalho e da Sociedade (IETS 1992–2008).

4. There has been continuity in education policy by the federal government, despite changes in presidents and political parties. The Fund for Maintenance and Development of Primary School and the Valorization of Teaching was established in 1996 and was reauthorized into a bigger funding mechanism for basic education in 2006 (as the Fund for Maintenance and Development for Basic Education and the Valorization of Education Professionals). It continues to provide additional financial resources to northern states. There has been a consistent focus on national student learning assessment beginning with the administration of President Fernando Henrique Cardoso (1995–2003) and followed by successors Luiz Inácio

Lula da Silva (2003–11) and Dilma Rousseff (2011–16; Brooke, Alves, and De Oliveira 2015). The Basic Education Assessment System comprises two complementary tests (Sistema Nacional de Avaliação da Educação Básica and Prova Brasil). In 2006, these assessments were applied on a census basis in all public schools. With this school-level data, the Basic Education Development Index (IDEB)—a quality ranking of state education systems—was developed. This index continues to be the benchmark for setting educational improvement targets.

5. Although there are indications student learning is increasing (see appendix B), education quality remains a key concern. Poorer regions (Northeast, North, and Center-West) are associated with lower levels of learning, based on recent Programme for International Student Assessment (PISA) results (in comparison to the South and Southwest regions). Studies point to teacher qualification and training as potential reasons. Teacher preparation tends to be oriented to theory, rather than pedagogy or practice. Individuals with lower academic performance and socioeconomic background have entered teaching. Teacher hiring is based on an examination, rather than on actual teaching practice (Louzano et al. 2010). Stakeholders told the Independent Evaluation Group (IEG) mission that, in addition to teacher quality, instructional leadership by principals was also a concern.

The State of Pernambuco: Background

6. Pernambuco is a northeastern state in Brazil. In 2010, Pernambuco had a population of 8,796,448 people, with few indigenous people (0.069 percent; according to data from the Instituto Brasileiro de Geografia e Estatística [IBGE]).⁹ The state comprises a variety of racial groups: mixed (53 percent), white (40 percent), and black (5 percent). Most of the population (80 percent) resides in urban areas.

7. The state has a per capita income in 2014 of Brazilian reals (R\$)802, which is higher than other Northeastern States such as Ceará (R\$616) or Alagoas (R\$604), but lower than states such as Rio de Janeiro (R\$1,193), São Paulo (R\$1432), or the Federal District (Brasília, R\$2,055). The level of absolute poverty in Pernambuco declined from 66 percent in 1995 to 50 percent in 2008 (according to data from IBGE).¹⁰

8. A new governor in Pernambuco, elected in 2006, brought a vision of changing the state's public sector management. Based on the experience in Minas Gerais, Pernambuco wanted to base public sector management on performance and results. Minas Gerais showed other Brazilian states that reforming management resulted in improved outcomes (Vinuela and Zorato 2015).

9. Education was a priority for the state government, as there were a number of challenges in the sector. The IDEB for fundamental and secondary education in Pernambuco was lower than Brazil's overall score (according to Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira [INEP] data).¹¹ Secondary education was ranked (based on the federal IDEB) near the bottom among states in Brazil (20 out of 27) in 2007.¹² The secondary education dropout rate was 24 percent, which was one of the highest among states in Brazil in 2007. Because of the high repetition rate, a large share of students were overage (in both fundamental and secondary education). Before the project began, more than 20 percent of enrolled secondary education students were two or more years older than the norm for the educational level.

10. Educational equity concerns in the state of Pernambuco related to secondary enrollment by income and racial groups. In 2008, 32 percent of the poorest students were enrolled in secondary education, whereas 75 percent of the wealthiest were enrolled. Forty-six percent of white children between 15 and 17 years old were enrolled in school, but only 38 percent of black children were enrolled (according to INEP).¹³

2. Objectives, Design, and Their Relevance

Objectives

11. According to the financing agreement and the project appraisal document, the objectives of the project were “to (a) improve the quality, efficiency, and equity of public education; and (b) introduce management reforms that will lead to greater efficiency in the use of the Borrower’s public resources in the education sector, all through the carrying out of interventions in the Secretariat of Planning and Management, Secretariat of Administration [SEPLAG], and Secretariat of Education [SEE]” (World Bank 2009a, 6; 2009b, 9). The objectives remained unchanged across the operation, but key performance indicators were revised. A split rating is not warranted and is not applied to calculate the outcome rating, as outcome targets were not revised.

Relevance of Objectives

12. The objectives aligned with priorities contained in multiple strategic documents developed by the State Government of Pernambuco, such as Plano Plurianual (2009–2011); Strategic Map (2007–11 and current); Medium-term Plan (2012–15); and Long-term Plan (2035). The government’s management process comprised planning, budgeting, and monitoring; thus, the collection of data (related to performance indicators) was critical to monitor the efficacy of public services. These indicators were used by the governor in meetings with secretaries to monitor progress and performance.

13. The government’s vision of performance management was further articulated in 2011 within the State’s Pact for Education or what the government pledged to the citizens of Pernambuco.¹⁴ A unique aspect of the pact was the reliance on several indicators tracked by school, regional unit, and statewide. These indicators provide the basis for monitoring education quality, equity, and efficiency.

14. The objectives remained consistent with Brazil’s country partnership strategies over the course of the operation. The priorities advanced within the World Bank’s strategy (2008 and 2011, current during preparation) emphasized improving the performance and accountability, which aligned with the objectives of improving efficiency and public sector management and improving quality of education. The objectives also aligned with the World Bank partnership strategy (2012–15, which is the most recent strategy) and its focus on improving the provision of public services for low-income households (World Bank 2008, 2011).¹⁵ Thus, the objectives have continued to be highly relevant for the government and the World Bank since the time of preparation and after closure. The relevance of the objectives is rated **High**.

Design

15. The project had two components. The first focused on programs to improve basic education and secondary education, due to the desire to support programming at the basic level instead of strictly focusing on secondary education. It included basic education because the state had a shared responsibility with municipalities for fundamental education. The second component provided technical assistance to improve public sector management in the education sector.

COMPONENT 1: IMPROVE BASIC AND SECONDARY EDUCATION

16. **Basic standards program.** The goals of the Basic Standards Program were to bring consistency across state schools in physical conditions and to make the working environment more attractive and comfortable for teachers and students.

17. **Literacy and overage correction programs.** The literacy program, implemented by the Ayrton Senna Foundation, supported children in low fundamental education (grades 1–5) to prevent overage and repetition issues. The Roberto Marinho Foundation implemented the overage correction program. This interactive program contained educational activities based on a life-oriented curriculum to connect educational relevance to life. The program was implemented in classrooms in state schools in high fundamental and secondary education and delivered by teachers trained in the interactive pedagogy. The Roberto Marinho Foundation provided the materials (that is stories, video clips, visuals, lesson plans), training, and monitoring. After a year and half of the program, students graduated. These two foundations were selected because they had prior experience implementing these programs in the state.

18. **State-Level Student Assessment System (SAEPE).** A student learning assessment was implemented for three grades in fundamental and secondary education annually. The intent of the system was (i) to use this data at every level of the system (State, Municipal, regional coordinating unit, school) by policy makers, principals, teachers, and (ii) to disseminate the results to parents and teachers.

COMPONENT 2: IMPROVE PUBLIC SECTOR MANAGEMENT IN THE EDUCATION SECTOR

19. **General public sector and education management.** This component was intended to enhance the performance management and financial management (including the accounting system, e-Fisco) within the education sector. Another aspect of the management system involved generating performance indicators (student assessment data and dropout, repetition, and process indicators) to monitor sector performance by strategic, technical, and operational groups.

20. Resources also built internal staff capacity in SEPLAG to implement the project and coordinate the work of multiple secretariats involved in the operation. In addition, resources were allocated to conduct studies such as an impact evaluation of the school bonus performance program and assessment of the Basic Standards Program.

Relevance of Design

21. The operation financed specific eligible expenditure programs through a sectorwide approach. Eligible expenditure programs included school improvements, school management, maintenance, learning materials, regional education units, technology, literacy and overage correction programs, and student assessment. The narrowed focus of this operation was reasonable, considering it financed a portion of the government's broader education program. The theory of change should be viewed in relation to the broader government program (not just the items financed by the World Bank), as the government simultaneously implemented a number of complementary activities (see section 3) that also supported attainment of the objectives. For example, education quality was anticipated from the standard program, literacy program, use of student assessment data, and curriculum and training activities (supported by the SEE). Educational efficiency was expected from the literacy program, overage program, school development plans, and teacher and principal training (supported by the SEE).

22. Design was not clear in relation to equity and the specific aspects to improve. Data at the time revealed enrollment inequities at the secondary level among poor and black students, rather than fundamental (according to INEP). Education performance was a consistent concern at both the fundamental and secondary level, with considerable intra-school variance (World Bank 2009b). Based on reports to the IEG mission, equity was defined in terms of school-level performance or low-performing schools, rather than geographical aspects (for example, rural areas) or student characteristics such as poverty, gender, or race. The basis for targeting additional support to address education inequities was the state's index (Índice de Desenvolvimento da Educação de Pernambuco [IDEPE]), which was the appropriate method for identifying lower performing schools. At the start of the operation, data were not disaggregated further by student characteristics, thus making targeting refinements based on student characteristics unfeasible, but geographical targeting of rural areas would have been possible, and consistent with identified performance disparities in PISA between rural and urban students in Brazil (OCDE 2016; INEP 2008). However, the state's index should have identified rural schools.

23. The theory of change in the results framework linked outputs of public sector management and the education sector (plans, e-Fisco, data, studies) with the implementation of the results-based management in education. The technical assistance component supported internal knowledge building and capacity of the government's implementation of results-based management. As the government's vision became clearer (with its Pact for Education), the studies (as a vehicle for knowledge) became less necessary and resources were directed toward monitoring progress and implementation of the pact.

24. For the Standard Program, the selection of schools was based on the state's index, but an additional criterion was added—those containing at least 400 students. This meant a focus on larger municipal areas such as the state capital, Recife, (rather than rural areas) by the Standard Program. Some stakeholders told the IEG mission about the poor conditions in rural schools, whereas others suggested urban areas had the most need. These conflicting views may relate to the political reality that urban areas have more voters, as the population was predominantly urban.

25. Although it was an investment loan, disbursements were also based on performance-related conditions. Key performance indicators linked to disbursements were (i) the number of state schools meeting basic standards; (ii) the share of students in the state system certified as literate at the end of the first cycle; (iii) the number of overage illiterate students in the public system in low fundamental education certified as literate; (iv) the number of overage students in the state system in high fundamental education certified as promoted or accelerated; (v) the number of overage students in the state system in secondary education certified as completed; (vi) the SAEPE applied to grades 2, 4, and 8 annually in all state schools; (vii) the SAEPE being disseminated to parents; (viii) the development and monitoring of an action plan of remedial measures; (ix) the development of a strategic plan for the education sector, linked with budget cycle; and (x) the development of an action plan for strengthening financial management and procurement function. The performance conditions were relevant to monitor. Aspects related to public sector management and results of student learning assessments were not tied to disbursement-linked indicators, which were appropriately classified as unconditional. The relevance of design is rated **Substantial**.

3. Implementation

26. The project was approved on April 14, 2009, became effective on December 3, 2009, and closed on November 30, 2015, which was 23 months after the original closing date of December 31, 2013. Extensions were granted to permit additional time for the government of Brazil and State Government of Pernambuco to request and sign the additional financing from the World Bank.¹⁶ The extension was not due to slow disbursements (as they were on schedule), but rather to simplify internal World Bank procedures and consolidate the Additional Financing within an existing loan. The government of Brazil ultimately decided not to sign due to fiscal issues. The project was restructured (level 2) in 2013, which did not revise the development objectives. Instead, it changed key performance indicators and the scope of activities but not outcome targets. For this reason, a split rating is not warranted and is not applied to calculate the outcome rating.

27. There were several factors that assisted project implementation. First, the governor recruited and hired a class of civil servants based on merit. Some of these civil servants implemented this operation and then remained in the secretariat. Staff capacity in the secretariat positively aided project implementation. Second, there was continuity to the reform program, as the subsequent elected governors (who were also from the same party) maintained the focus on result-based management and continued implementing annual student learning assessments. Third, the state adopted several complementary policies and programs related to the objectives of this operation. It has been converting shift schools to full-time schools, as instructional time is a factor associated with increased student learning (Patall, Cooper, and Allen 2010). The state implemented several other programs, such as teacher and principal professional development, curriculum development, and school committees to appoint school principals for three-year terms.

28. Over the course of the operation, the landscape changed in relation to fundamental education, which affected initial plans. Although the state pursued a gradual transition (as opposed to an immediate shift, as adopted by other states) in the responsibility for fundamental education with municipalities, the landscape changed from preparation to the end of the operation. The number of urban state schools decreased from 880 in 2008 to 800 in 2014, and

urban municipal schools increased respectively from 1,478 to 1,557.¹⁷ For the state to influence basic education and provide annual assessments to students in municipal fundamental education schools, the state would need to incentivize participation. Additionally, municipalities simultaneously implemented overage correction programs.

29. The federal government made changes in the organization of fundamental education, which impacted all the state and municipal education systems. In 2013, compulsory education began at four years of age instead of six years (via Law 12.796). This change was part of the National Education Plan and was expected to be gradually implemented over the next three years. It should reduce the repetition rate (in later years), as children are now ready for school.

Planned versus Actual Expenditure by Component

30. The project fully disbursed the US\$154 million loan. Actual contributions from the State Government of Pernambuco were US\$597.86 million. Neither the government nor the World Bank were able to provide actual costs for each component. Stakeholders reported that this level of detail was not relevant because the World Bank funded a portion of the government's broader program through a sector wide approach (table 2).

Table 2. Appraisal and Actual Cost of Project by Component

<i>Component</i>	<i>Appraisal Estimate (US\$, thousands)</i>	<i>Actual Cost (US\$, thousands)</i>
Component 1: Improve basic education	652,630	—
Component 2: Outreach, capacity building, and monitoring and evaluation	36,155	—
Total project cost	656,630	—

Source: World Bank (2009b and 2016a).

Note: — = data not available.

Implementation Arrangements

31. Because the operation supported management and education performance, SEPLAG was the implementing agency. Its coordinated with the World Bank to comply with World Bank requirements and reporting and to ensure the management and effective coordination of activities by the other two secretariats administering the activities related to the two components. The SEE dealt with the education components, while the Secretariat of Administration executed the public sector management and procurement-related actions. The SEE partnered with the Roberto Marinho Foundation and the Ayrton Senna Institute to implement the overage and literacy programs because these nongovernmental organizations were already in charge of programs within the state. Stakeholders told the IEG mission that these arrangements successfully built internal capacity and were used in subsequent World Bank (and Inter-American Development Bank) operations. No other development partners were involved in the education sector during the operation.

SAFEGUARDS COMPLIANCE

32. The project did not trigger any of the World Bank's safeguard policies. It was classified category C for environmental assessment (Operational Policy 4.01), as no construction or rehabilitation of schools was anticipated with the World Bank's financing. One covenant in the legal agreement prevented the building of school libraries. In the previous World Bank education operation, an environmental and social management framework was developed that could have been used if the standards program were changed beyond refurbishing and equipping of schools. The Indigenous Peoples Plan was not triggered, as few indigenous people were contained in the state's population and part of state schools. Thus, safeguard monitoring was not applicable and not conducted by the World Bank team.

FINANCIAL MANAGEMENT AND PROCUREMENT

33. Financial management and procurement were rated satisfactory or moderately satisfactory over the course of the operation. The state's financial management and procurement systems were used during the operation, as the government implemented a major software system to automate a range of management processes. The project underwent audits by the government's highest audit board, and it found good fiduciary management.

34. The implementing agency undertook corrective actions based on mainly minor issues, such as misclassification of values, identified by the World Bank team. The Bank team also suggested enhancements to strengthen financial controls. The government made an effort to automate these controls within e-Fisco. The audit in the early years was delayed, partially due to the slow response from the World Bank to the terms of reference for the audit. There were delays in World Bank disbursements when the government submitted eligible expenditures for advance payment. To resolve the issue, the implementing agency submitted reimbursement, rather than advance payment, for actual eligible expenditures. By the end of the project, there were no delays in procurement.

4. Achievement of the Objectives

Objective 1: Improve the Quality of Public Education

35. The project supported three activities to improve quality of public education: (i) implementation and dissemination of state-level student assessment, (ii) a school standards program, and (iii) a school incentive program. The evidence of the implementation of these activities and of their effects is presented in this section.

OUTPUTS

36. **State standardized assessments.** The SAEPE was developed and tested in 2005. SEE contracted the Centro de Políticas Públicas e Avaliação da Educação from Universidade Federal de Juiz de Fora to develop and implement the assessment. For benchmarking purposes, the test was aligned with the federal assessment tests such as Prova Brasil. This operation financed the application of the assessment with all students in grades 3 and 5, and one grade, 9, in secondary education in all state and municipal schools. Prior to 2008, the assessment was done in fewer grades. The application in all municipal schools was an

accomplishment, as the SEE did not control municipal schools. This was made possible by incentives provided by the state, as well as by the fact that municipalities recognized the benefit of their participation in the assessment. With the annual data, the state developed its own index (IDEPE) composed of student assessment results and the flow of students.

37. Results from the assessment (SAEPE) were disseminated to parents, students, teachers, and principals. A banner displaying the results (and other school-level indicators) was visible in the schools visited by the IEG mission. Principals the IEG mission met said test results were shared at parent meetings. They believed parents understood the information and the results helped them gauge their child's learning. School-level results were available (via a portal) to school staff and SEE personnel but were not publicly displayed on the SEE's website. Using the assessment data (and other educational indicators) for pedagogical purposes is important to identify overall learning trends, common errors in children's understanding, and students who need additional remediation. The assessment data were also used to raise public awareness about the education system and individual schools.

38. **Standards program.** The standards program was implemented in 221 state schools and rehabilitated 63 schools (in terms of furniture and equipment). Schools (containing more than 400 students) were selected based on IDEPE scores. After the midterm review, schools were selected based on those scoring in the lowest 40 percent of performance (rather than just the lowest 20 percent). The standards focused on physical structure, such as accessibility, ambiance, landscaping, and specification of furniture. Stakeholders believed the additional furniture made the school better equipped for a full day of school: tables for lunch, mirrors in the bathroom, fans or air conditioning, and so on. Many of these schools were converted to full-day programming, which is important, as instructional time is a factor associated with learning (Patall, Cooper, and Allen 2010).

39. Every stakeholder interviewed (i.e., civil servants, regional coordinators, and principals) also stressed the important contribution the standards program played in professionalizing the school environment. A teacher's room with a computer for teachers to use, table, and lockers for teachers to securely place their belongings were established. Professionalizing the work environment is one way to persuade individuals with higher academic performance to teach.

40. In schools receiving the standards program, there were larger changes in repetition and dropout rates (World Bank 2016a). Learning achievement was similar among schools that received and did not receive the standards program. In the case of secondary education, greater scores were noted in schools not receiving the standards program (World Bank 2016b). One potential explanation provided by World Bank staff is that the initial level of achievement was higher (in the comparison schools), suggesting a narrowing in the gap.

41. **School incentive program.** The state introduced a school-level bonus program to incentivize all actors in the school to set improvement targets and receive a financial stipend if the target was achieved. It was expected that a financial incentive would motivate all staff to focus and increase their efforts directed toward student learning and promotion. Regional coordinators also received a bonus if at least half of their schools met their targets. Targets were established annually by schools based on IDEB scores. The target became easier to achieve after the initial year of the program. In one regional unit, the percentage of schools

achieving their target ranged from 61 percent (in 2008) to 96 percent in 2014,¹⁸ suggesting variability of targets. Overall, 52 percent of schools met targets during the first year, and 79 percent of schools met their targets and received a bonus in the second year (Bruns, Evans, and Luque 2011). Some stakeholders felt the program became an entitlement rather than an incentive (in the later years of implementation), as nearly all schools received the bonus. Schools with more ambitious targets made more progress (Ferraz and Bruns 2015). The difficulty in setting targets was noted by all stakeholders. Representatives of the SEE indicated plans to continue the incentive program.

OUTCOMES

42. Education quality (by a number of measures) improved over the course of the operation. Data provided by the SEE showed that the IDEPE increased at every level.¹⁹ For example, in low fundamental education the score increased from 4.0 to 4.4; in the final grades, the index rose from 3.4 to 3.5; and the secondary index score rose from 3.0 to 3.3 (according to the SEE). Another measure of learning (and quality) is evident from the federal basic education assessment, Prova Brasil. In the state of Pernambuco, the percentage of children scoring advanced or proficient on Prova Brasil increased, based on levels developed by QEdu (a Brazilian educational foundation).²⁰ The percentage of children in fifth grade of fundamental education who scored proficient or advanced in Portuguese increased from 24 percent in 2011 to 43 percent in 2015. The percentage in this group who scored proficient or advanced in mathematics increased from 20 percent in 2011 to 29 percent in 2013. The percentage of children in ninth grade of fundamental education who scored proficient or advanced in Portuguese increased from 13 percent from 2011 to 24 percent in 2015, and in mathematics the percentage slightly increased from 7 percent in 2011 to 10 percent in 2015.

43. Similarly, a positive trend was observed in both mathematics and Portuguese in the SAEPE in every grade level between 2008–15 (tables 3 and 4). Although the same scale (0–500) is used for each grade assessed by SAEPE, the results between grades should not be compared, as they each have different proficiencies. For this reason, higher mean scores shown in tables 3 and 4 in the lower grade of fundamental education, should not be interpreted as lower quality in subsequent grades. In mathematics, the change between 2008 and 2015 ranged from nine points in the third grade of fundamental education (508 to 518) to 28 points in the fifth grade of fundamental education (163 to 191; table 3). In Portuguese, the change between 2008 and 2015 ranged from four points in third grade of fundamental education (508 to 512) to 32 points in the third year of secondary education (232 to 265; table 4).

Table 3. SAEPE Mean Mathematics Score by Grade, 2008–15

<i>Mathematics</i>	<i>Year</i>								<i>Change 2008– 15</i>
	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	
grade 3 FE				508.79	516.37	502.89	503.13	518.11	9.3121
grade 5 FE	163.61	171.35	171.12	185.71	189.11	184.88	186.74	191.94	28.33
grade 9 FE	221.95	225.18	225.59	231.57	231.54	232.74	233.74	233.17	11.22
year 3 SE	241.83	247.04	243.48	249.12	253.81	257.09	263.99	265.98	24.15

Source: Secretariat of Education.

Note: FE = fundamental education; SE = secondary education.

Table 4. SAEPE Mean Portuguese Score by Grade, 2008–15

<i>Portuguese</i>	<i>Year</i>								<i>Change 2008– 15</i>
	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	
Grade 3 FE				508.00	513.71	507.70	497.24	512.59	4.5822
Grade 5 FE	159.47	160.36	162.77	170.23	170.98	171.14	174.48	179.66	20.20
Grade 9 FE	211.02	216.16	218.54	220.35	224.32	224.26	229.68	226.65	15.63
Year 3 SE	232.73	240.99	238.08	245.65	247.89	253.98	257.99	265.04	32.32

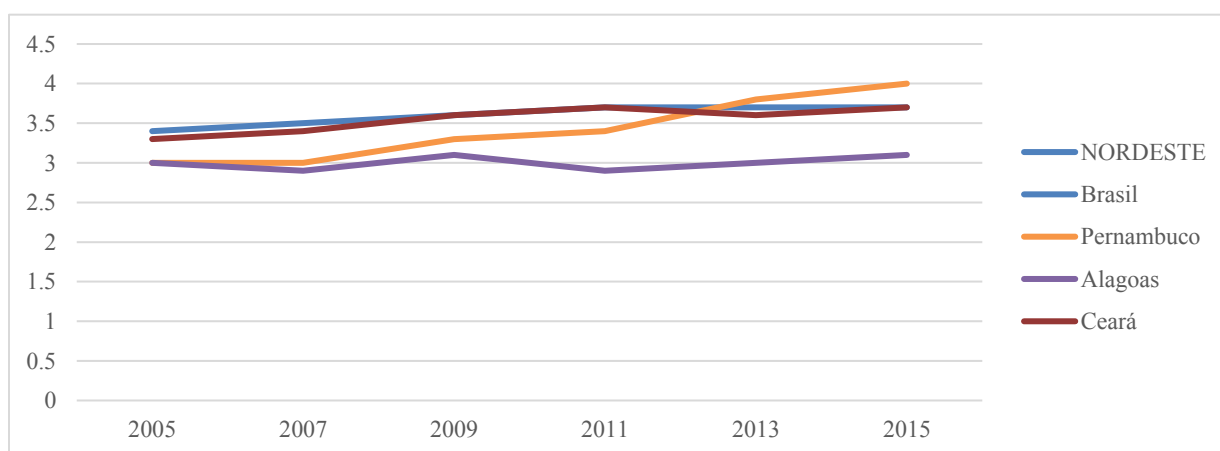
Source: Secretariat of Education.

Note: FE = fundamental education; SE = secondary education.

44. Likewise, other indicators also demonstrated improved quality. Pernambuco's federal IDEB score rose over the course of the operation. For the high fundamental education, this index increased from 2.4 in 2005 to 3.8 in 2015. For secondary education, Pernambuco shared the first-place rank with São Paulo in the most recent IDEB (2015).²³ Between 2007 and 2015, the index rose from 3.0 to 4.0. Although a state-focused operation is not expected to affect PISA results (for all of Brazil), the PISA results for Pernambuco are presented to highlight another source of data showing improvement. The median science score in Pernambuco in 2008 was 355, and this increased to 383 in 2015 (according to Organização para a Cooperação e Desenvolvimento Econômico data from 2008 and OCDE 2016).²⁴ The rate of literate students at the end of the first cycle of low fundamental education grades increased from 55 percent at baseline to 86 percent at the end of the project (World Bank 2016a).

45. Comparing Pernambuco's secondary IDEB scores with other Northeastern states and Brazil as a whole revealed greater change in Pernambuco over the course of the operation, which was statistically significant compared with the state of Alagoas but not compared with the state of Ceará and Brazil. The secondary education index rose in the Alagoas from 2.9 in 2007 to 3.1 in 2015. In Ceará the secondary index rose from 3.4 in 2007 to 3.7 in 2015. Across Brazil, the index rose from 3.5 in 2007 to 3.7 in 2015. The slope of change in Pernambuco was also greater than in Northeastern states (figure 1).

46. The achievement of this objective is rated **High**.

Figure 1. Secondary Education IDEB (Pernambuco and Northeastern States), 2005–15

Note: IDEB = Basic Education Development Index.

Objective 2: To Improve Efficiency of Public Education

47. The project supported three activities to improve the efficiency of public education: (i) a literacy program; (ii) an overage correction program; and (iii) school plans and the monitoring of them.²⁵ Efficiency should be interpreted as improving the progression and flow of students within the system. The evidence of the implementation of these activities and of their effects is presented in this section.

OUTPUTS

48. **Literacy program.** Literacy tutors, basic education teachers, and regional coordinators were trained. Instructional materials (textbooks, registries, and consumables) were distributed to schools to support literacy programs for children in grades 1–2. Regional coordinators visited schools regularly to monitor implementation.

49. **School plans.** Every state school created school development plan (Plano de Desenvolvimento da Educação)—a program sponsored by the federal government. Plans were compiled into a website, and regional coordinators monitored the implementation of the plans. The IEG mission was shown the interactive planning tool and completed examples. Plans included a section to identify issues or challenges and solutions to resolve them, such as activities to improve teachers' practices or to remediate learning deficiencies through peer helpers who provided summary notes (for students who missed class) or parent meetings. Schools were also provided resources by the federal government to implement the activities in the plan.

50. **Overage correction program.** Overage students in fundamental and secondary education were enrolled in programs (such as Se Liga, Accelera, and Travessia) developed by the Ayrton Senna Foundation and the Roberto Marinho Foundation. The SEE and these foundations trained teachers and provided instructional materials. The Travessia program used a variety of interactive pedagogical methods and life-oriented curriculum to accelerate children's learning. Over the course of the operation, 8,443 children participated in the overage program, and 11,337 overage illiterate students in low fundamental education were enrolled in the Se Liga illiteracy correction program. These numbers represent low coverage out of total state enrollment.²⁶ These numbers were lower than planned and were revised during implementation, as initial planning was overly optimistic of parental demand. At the same time, municipalities implemented their own programs (World Bank 2016a). A total of 14,405 overage students in secondary education were certified and completed the cycle. Certification was based either on completing the overage correction program or passing classes (that is, as indicated on a report card).

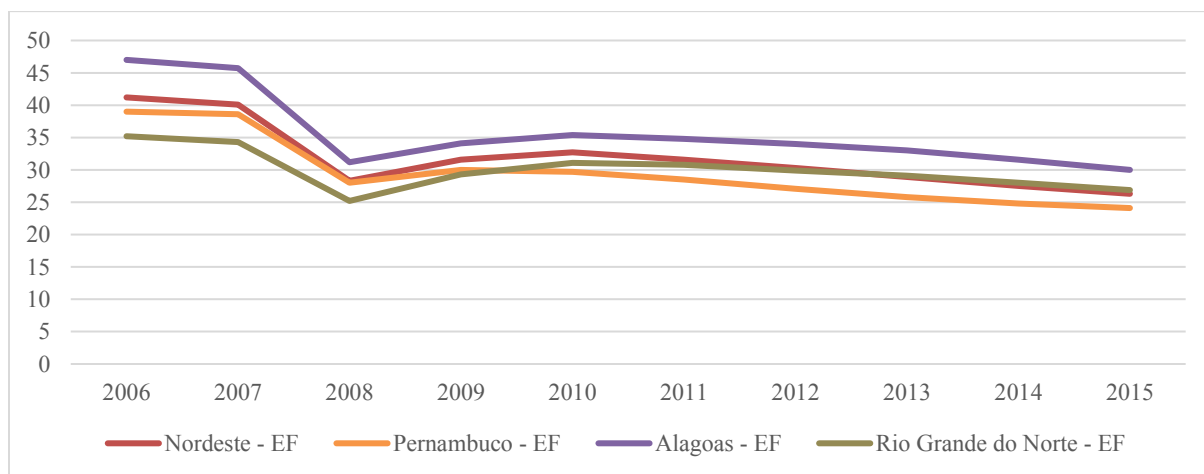
OUTCOMES

51. By several measures, efficiency in relation to student flow (rates of distortion and dropout) has improved within the state. The age-grade distortion has improved (29 percent to 18 percent)—with a greater change in Pernambuco than across Brazil (23 percent to 14 percent).²⁷ The percentage of 16-year-olds in the state who completed fundamental education increased over the course of the operation. Prior to the operation (2005–08), it was approximately 43 percent, increasing to 65 percent in 2014 (according to data from the

Observatório do Plano Nacional de Educação).²⁸ This figure implies that double the number of children completed fundamental education in Pernambuco (51,215 youth in 2001 and 103,719 in 2014). Likewise, the percentage of 19-year-olds completing secondary education in the Pernambuco has risen from 34 percent in 2008 to 56 percent in 2014. Secondary education showed more growth than fundamental education (37,641 youth in 2001 and 83,515 in 2014).²⁹ Similarly, the dropout rate decreased in low fundamental education grades from 4 percent in 2008 to 2 percent in 2014, in high fundamental education grades from 14 percent in 2008 to 2 percent in 2014, and in secondary education from 20 percent to 4 percent (World Bank 2016a and the SEE³⁰).

52. Comparing the trend in measures of student flow in Pernambuco with other Northeastern states and Brazil shows the impressive and statistically significant gains registered in Pernambuco.³¹ Figure 2 contrasts the distortion rate in fundamental education with that other Northeastern states. See figure B.3 in appendix B for the comparison among states for Secondary Education distortion rates (which also showed greater change in Pernambuco at 31 percent). A similar trend was evident in dropout rates in fundamental and secondary education in Pernambuco compared see other Northeastern States and Brazil, which was statistically significant.³² (See figures B.3, B.4, and B.5 in appendix B.)

Figure 2. Rate of Distortion in Fundamental Education (Pernambuco and Northeastern States), 2006–15



Source: InepData—Consulta de Informações Educacionais. See http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard_.

53. Over the course of the operation, repetition rates have remained similar or decreased. The repetition rate in low fundamental education (grades 1–5) remained around 11 percent on average for the period 2008–13, whereas secondary education remained around 9 percent. In high fundamental education grades, the percentage decreased from 21 percent in 2008 to 13 percent in 2014. Stakeholders told the IEG mission that a culture of repetition still permeated teachers’ attitudes, and it will take additional efforts to change the mental models of teachers.

54. The achievement of this objective is rated **Substantial**.

Objective 3: Improve Equity in Public Education

55. Increased equity was supported through school targeting of the activities noted in the previous objectives. Priority schools were determined by IDEPE and INEP, and the objective's effect is presented in relation to rural and urban schools, as this was the only way to disaggregate data.

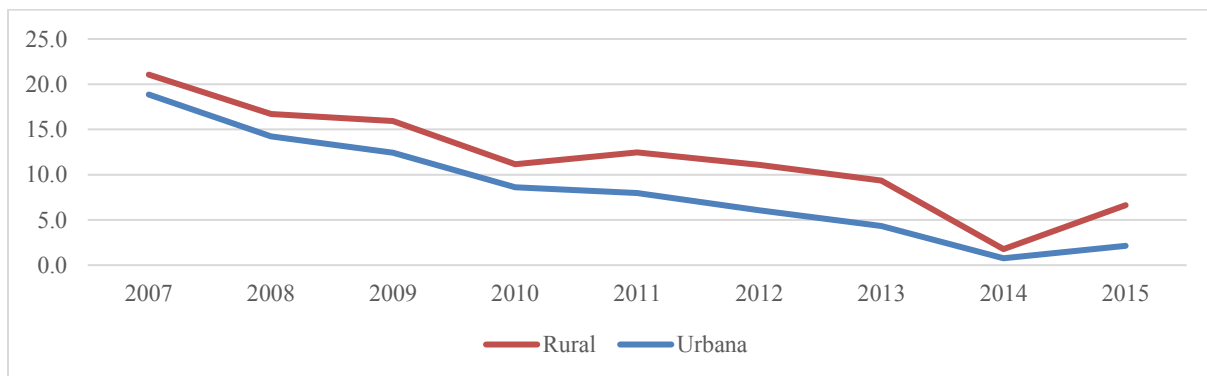
OUTPUTS

56. The standard program was implemented in 221 state schools (out of 800 state schools in 2014).³³ In addition to professionalizing the environment for teachers, the standards program permitted converting schools to offering a full-time education program instead of a shift operation. Not surprisingly, these full-time secondary education schools had higher infrastructure index scores than the average for the state and had a higher pass rate of subjects (based on student report cards). Although the World Bank reported that the infrastructure index showed a decline in inequality in the provision of infrastructure (0.142 to 0.126) between 2009 and 2014, it is not clear how this was determined (World Bank 2016a). The SEE plans to standardize all remaining state schools through the manual developed during the operation. Principals (in the remaining schools) are expected to use resources provided by the state to meet the standards.

OUTCOMES

57. Student flow rates were disaggregated by school location (urban versus rural) to examine whether inequities were evident at the start of the operation and subsequently decreased. Figure 3 shows that the dropout rate for rural schools decreased, but a gap remained with urban ones. For example, the dropout rate for rural schools decreased from 20 percent in 2007 to 6 percent in 2015, whereas the rate for urban schools decreased from 19 percent in 2007 to 2 percent in 2015. Differences between the pass rate of urban and rural schools were not present at the start of the operation and have improved similarly for both rural and urban schools (74 percent in 2007 to 90 percent in 2015).

Figure 3. Secondary Education Dropout Rate by School Location, 2007–15



Source: SEE.

58. To assess improved equity, SAEPE results were disaggregated by location (rural versus urban).³⁴ The trend for rural school in Pernambuco is increasing and is observed across all grades assessed (see table 5), but a performance gap remains between rural and urban schools.

Prior to the project, scores were lower for rural schools in comparison to urban ones at both fundamental and secondary education levels, except in the case of third grade of fundamental education. This suggests a continued need to target programing and support to rural schools in the future.

Table 5. Mean SAEPE Results by School Location, 2008–15

<i>Year</i>	<i>Year 3 FE</i>		<i>Year 5 FE</i>		<i>Year 9 FE</i>		<i>Year 3 SE</i>	
	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>
2008	—	—	168.54	155.17	215.51	212.00	233.24	229.02
2009	—	—	169.16	155.08	220.93	219.02	241.67	237.40
2010	—	—	171.88	159.09	224.25	220.98	228.64	233.58
2011	519.36	540.33	179.83	165.92	224.50	223.57	246.22	242.15
2012	526.23	544.85	181.89	173.91	229.90	225.93	248.69	241.83
2013	516.57	538.83	182.83	169.86	230.74	226.42	254.81	247.78
2014	520.20	533.17	185.89	174.83	237.19	231.58	259.05	250.22
2015	546.00	539.25	189.53	175.49	233.18	231.37	266.39	255.11
Points ^a	+27	-1	+21	+20	+18	+19	+33	+26

Source: Secretariat of Education.

Note: ^aTotal points gained or lost between the first and last years with data. — = no data, as the grade was not assessed by SAEPE that year; FE = fundamental education; SE = secondary education.

59. Data in the SEE were not disaggregated by other aspects of student characteristics such as socioeconomic status, race, or gender. Thus, any changes in these aspects were unknown.

60. The achievement of this objective is rated **Modest**.

Objective 4: Introduce Management Reforms

61. The operation provided financial and technical resources for the government to introduce management reforms that would lead to greater efficiency in the use of the Borrower's public resources in the education sector. The description of the implementation of the management reforms is presented in this section, along with evidence of the effects from the reform.

OUTPUTS

62. The state made substantial progress on its results-based management model in the education sector over the course of the operation. This is an achievement, as performance management in Brazilian states such as Minas Gerais, Pernambuco, Rio de Janeiro, and Ceará were associated with improved state-level educational outcomes (Vinuela and Zorato 2013).³⁵ Typically, these systems integrate monitoring and the management processes. In the case of Pernambuco, the management process in the education sector aligned planning, budgeting, implementing, and monitoring.

63. Monitoring was subsequently elevated when the state introduced the Pact for Education in 2011. Multiple indicators were routinely monitored at every level of the system. The constant monitoring of data permitted a deeper understanding and detection of issues at the sector, region, or school level. Data were also tracked by locality, and these data were shared with the IEG mission. As a result, data became part of the conversation with principals,

teachers, and parents, as well as senior secretariat officials and the governor. Senior-level SEE officials reviewed what was done in relation to follow-up actions, which contributed to better use of sector resources.

64. Data were also analyzed for other purposes. For example, SEE used the results of student assessment data to identify professional development needs and address identified issues (that is what do students understand or get wrong and what do they know). The state index, IDEPE, became the basis for selecting priority schools (284 out of 875 schools) or those that received more intensive intervention and monitoring by regional coordinators and received the Basic Standards Program (World Bank 2016a).

65. In the schools visited by the IEG mission, indicators were displayed in a poster (near the principal's office or entrance), making the data visible to teachers and parents. A section on the SEE website was created to disseminate the SAEPE results. Media attention in Pernambuco focused on the state and federal indexes (IDEPE and IDEB) rather than test results, based on analysis of media reports between 2010–2016.³⁶ News reports also featured schools in poor neighborhoods that made substantial improvement.

OUTCOME

66. The IEG mission collected anecdotal evidence of the effect of introducing management reforms. Enhancements and efficiencies were made to e-Fisco and the management processes. The time it took to procure goods decreased from six months to 20 days. More SEE personnel directly delivered services to schools (50 percent to 88 percent), rather than occupy administrative functions, which is a measure of efficiency (World Bank 2016a). One important contribution of the project was financing the regional coordinating units. The coordinators and other staff in the unit were key to reinforcing data usage from the SEE to school principals and teachers. Performance indicators were tracked quarterly and were also the basis for evaluating performance of SEE staff.³⁷

67. Open and transparent data appeared to promote accountability. The data from the annual assessment of student learning was widely disseminated, particularly via the state IDEPE for each school. Assessment was part of a broader reform vision, and data were used by a broad group of stakeholders. Analyses of the results were conducted, discussed, and shared in a timely manner. In the future, further disaggregation and analysis of results are needed.

68. The achievement of this objective is rated **Substantial**.

5. Efficiency

69. The economic justification for the operation resided in the high returns to the individual from education and the benefits from the overage program. The economic rate of return was initially estimated (based on the overage program) to be 25 percent with a net present value ranging from R\$1.9 billion to R\$3.3 billion (World Bank 2009).³⁸ The overage program was expected to lower dropout and repetition rates; in practice, this assumption was valid for the rate for dropout but not for that of repetition. The estimate was updated to include other aspects financed by the operation, such as the basic standards program, literacy program, overage program, and monitoring and evaluation. The rate of return ranged from 14 percent to

18 percent, with a net present value ranging from R\$110 million to R\$176 million (World Bank 2016a).³⁹ This suggests that this operation's investment in basic and secondary education provided value for money.

70. Other aspects that demonstrated project efficiency were gains made from the public sector management reforms. Performance management is associated with improved state-level outcomes (Vinuela and Zorato 2013). Moreover, the trajectory of change in number of indicators has been greater in the state of Pernambuco than in other Northeastern states and Brazil. The utilization of data at every level of the system helped identify performance issues that lead to greater efficiency in how resources were used. Additionally, the refinements in the specificity of the data will help the system improve where resources are directed.

71. Financial management and procurement improved over the course of the operation. Efficiencies were made in process of procuring and contracting, thus reducing the time (from six months to 20 days). Procurement and financial management staff have remained with SEPLAG, suggesting that capacities built over the course of the operation have remained.

72. The project was implemented well and disbursed on schedule. It was extended, but this was done to allow time for the additional financing to be signed by the government of Brazil, not because of slow disbursements; nearly all financing disbursed when the additional financing request was initiated. The rationale for including the additional financing was to simplify internal World Bank processing requirements.

73. The efficiency of the project is rated **Substantial**.

6. Ratings

Outcome

74. The relevance of objectives is rated high, and relevance of design is rated substantial. The objectives aligned with multiple government strategies, including the Pact for Education. Achievement of the first objective, improve the quality of education, was high. Two objectives, improve efficiency of education and introduce management reforms, were rated substantial. One objective, improve equity of education, was rated modest, as the school-level targeting strategy focused on low-performing schools, but more attention was needed for rural schools—as the gap between rural and urban ones remained. Multiple sources of data showed increased average student learning at the Fundamental and secondary education in the state. The secondary education dropout rate decreased from 20 percent in 2007 to 4 percent in 2015 (and gains were greater in the state of Pernambuco than in other Northeastern states and Brazil). The outcomes attained are attributable to the government's broader program and policies, of which the World Bank financed a portion. Efficiency is rated substantial. This outcome rating is consistent with minor shortcomings in preparation, design, and implementation.

75. The outcome is rated **Satisfactory**.

Risk to Development Outcome

76. Several factors mitigate the risk to maintaining the improvements made during this operation and the development outcomes (and a few risks, such as environmental or natural disasters are not relevant to this situation). All the activities funded in this operation continue to be funded as part of the government's broader education program. Activities have been institutionalized. For example, although the certification process of the basic standards program has ended, the operation manual was established, and schools are expected to comply and meet the standards, although sanctions or incentives are not established. Each school has an allocated maintenance budget.

77. Results-based management and performance monitoring has continued in the state over the span of three governors. Stakeholders told the IEG mission that the education sector (compared with other sector's in the state) had one of the most refined data monitoring systems. The state hosts visitors from other states to share their management model and process. Education data are reviewed at every level of the system (governor, SEE, and senior staff, regional coordinators, principals, and teachers), and responsibility for addressing the performance indicators is delineated. Within the Pact for Education, the state expanded its efforts to monitor student learning in fundamental education overseen by municipalities. The state's management process incorporates stakeholder consultation.

78. Several municipalities have embraced the key priority of improving the quality, efficiency, and equity of public education and are implementing similar initiatives, as the visible improvements in the state had a catalytic effect on municipalities. During the operation, internal procurement and financial management capacity was enhanced within the staff of SEPLAG. The internal audit affirmed the adequacy of the internal control and the e-Fisco system, creating confidence in the robustness of the financial flows.

79. A threat to the development outcome is the financial situation in the state. Deficits occurred in the state in 2014 and 2015 (Pernambuco Statement of Government Operations; Government Finance Statistics Standards) that were not present in 2011. Moreover, Brazil's economy has contracted. Given Brazil's fiscal situation, there are no imminent plans for a follow-up operation in Pernambuco; however, the World Bank is engaged in planning with the federal government and Ministry of Education for a secondary education operation.

80. The risk to the development outcome is rated **Moderate**.

Bank Performance

QUALITY AT ENTRY

81. Quality at entry is rated **Moderately Satisfactory**. Initial meetings discussed whether the operation should focus on education or include other sectors such as water and management. Meetings were held with officials from multiple ministries: treasury, planning, administration, water, and education. For implementation simplicity, the operation focused on education.

82. The operation was built on the World Bank's broader support in the state and across Brazil, as well as lessons learned (such as school development plans from the World Bank's Fundescola projects in North and Center-West Brazil). The World Bank produced several analytical studies focusing on schools, classrooms, and teacher practices (i.e., classroom observation, schools that were positive deviants in terms of achievement, teacher policies), which were disseminated and used in policy dialogue. The project benefited from the World Bank's prior experience implementing sectorwide approaches (in Ceará) and the World Bank's prior experience in Pernambuco. Lessons were learned in relation to selection of indicators and implementation arrangements. Based on the experience, a unit within SEPLAG coordinated the operation.

83. Risks and mitigation measures were appropriately identified. The methods the government used to calculate indicators was examined. The fiduciary assessments reviewed the state's financial management, arrangements for flow of funds, the e-Fisco system, the control mechanism, and capacity. A clear list of budget lines within the eligible expenditure program were established—with appropriate flexibility so that small revisions would not require a restructuring.

84. There were weaknesses. Measurement of the equity objective was lacking, as disaggregated indicators to demonstrate improved equity were not included in the results framework (see the Monitoring and Evaluation section). The appraisal document was not clear about the equity concerns. It analyzed intraschool variation in student learning, but not interschool equity issues. Targets for some indicators were overly optimistic and needed to be lowered during implementation.

QUALITY OF SUPERVISION

85. Quality of supervision is rated **Satisfactory**. There were three task team leaders (TTLs) over the course of the operation, with the initial one overseeing the preparation and most of the implementation period. The second TTL was part of the supervision team and was familiar with the operation when the original TTL retired. When the second TTL moved to a new position in another region, a third TTL (based in Brasília Brasília) took over. The remainder of staff were consistent members of the World Bank's supervision team—including a well-connected consultant—providing continuity for the client. Although there was overlap between the TTLs and missions contained both outgoing and incoming TTLs, the transitions could have been better executed. Two TTLs had extensive operational experience, and the overall team had a thorough understanding of the education system in Brazil and of country financial management systems.

86. The World Bank team provided active support throughout the life of the project and focused on the development outcome. World Bank supervision reports regularly tracked outcomes such as learning composite from the assessment and repetition rates. Data were scrutinized by the World Bank team. Supervision missions routinely visited schools in Recife. Comments were provided by a manager (or designate) to internal supervision reports, supporting the actions taken by the team. The World Bank team implemented several actions to mitigate the negative effects from the rotation policy that removed all senior staff involved with preparation and implementation. It relaunched the project, retrained staff, and outreached with the government to ensure merit-based hiring resulted in capable staff. Missions detected

implementation issues that the World Bank team worked with the government and implementing agency to resolve. When the government decided to implement an incentive, policy advice was provided by the World Bank in relation to how to structure the bonus (school or individual), based on research and lessons. The incentive program was evaluated by the World Bank with the support of a consultant. The midterm review examined the implementation issues and justifiably revised the scope of several activities.

87. The World Bank team engaged actively with the government in relation to education quality and classroom practices. The World Bank produced several economic and sector works specific to Brazil, which facilitated policy dialogue within the state. It disseminated the results of the study that analyzed classroom practices, which reinforced the need to focus attention on what teachers did.

88. Overall Bank Performance is rated **Moderately Satisfactory**.

Borrower Performance

GOVERNMENT PERFORMANCE

89. Government performance is rated **Satisfactory**. There was a high level of ownership for the operation in the state government, which continued with several governors. This commitment was signaled by the governor with the implementation arrangements, by placing state SEPLAG at the forefront of the project. It was also evident from the participation by senior-level officials in preparation and supervision meetings. Governors and high-level officials of the SEE participated in ceremonies for school bonuses and graduates of the Roberto Marinho Foundation program.

90. Project effectiveness occurred within seven months of World Bank Board of Executive Directors approval (April 14, 2009, to December 3, 2009). All covenants were complied with by the government by the second supervision mission (October 2010). The government's financial commitments were higher than originally planned.

IMPLEMENTING AGENCY PERFORMANCE

91. Implementing agency performance is rated **Satisfactory**. Performance was steadfast throughout the operation and the agency was diligent in providing timely and satisfactory report to the World Bank. When the flaws were found in the certification process, an external firm was hired to conduct subsequent certification process. Updated indicators were provided to the World Bank team regularly. Audits were not qualified. There were no delays in procurement by the end of the project. The implementation agency managed the operation well, including coordination with the other secretariats. The SEE decided to adopt a school-level incentive program awarded to all, rather than individuals, following the World Bank's advice. It annulled a contract for the firm that provided unsatisfactory performance. There were minor performance shortcomings in performance that did not affect implementation. For example, it had difficulty preparing terms of reference, and technical assistance activities were slow to implement.

92. The overall Borrower Performance is rated **Satisfactory**.

Monitoring and Evaluation

93. **Monitoring and evaluation design.** The appraisal document provided a detailed plan for monitoring and evaluation. It defined the indicators and the method by which to calculate them. Baseline data were specified. One strength of the monitoring and evaluation was that key performance indicators were part of the government's internal monitoring system. Thus, there was a high level of ownership for updating and monitoring the data. However, the results framework only contained indicators to measure three of the objectives (improved quality, improved efficiency, and introduction of management reforms) but none to measure attainment of the other one (improved equity; table 6). The results framework did not specify disaggregated indicators to demonstrate improved equity, as average school-level indicators would not demonstrate improved equity. Project activities (and the government's broader program) targeted schools with low IDEB scores to likely lead to improved equity, but would require data to show how inequalities among poor, rural, or racial or gender groups improved or additional analysis. This level of detail was not integrated into the results framework (table 6). In addition, some of the targets were set too high.

94. **Monitoring and evaluation implementation.** As part of its results-based management in the education sector, data were collected regularly and shared with the World Bank. During the restructuring, targets were lowered in relation to the coverage and literacy programs, as the state reduced the scale. The shortfall in achieving some targets was due to a lower number of coverage students in the program.

95. A number of studies (such as school transport, safety, early childhood education, coverage or literacy programs, school standards, teacher career management, and assessment policies) expected to be funded as part of the technical assistance component. Some of these studies were completed by the SEE, whereas others, such as school transportation and safety, were dropped. The internal reports provided to the IEG mission would not be enough for an evaluation.

96. **Monitoring and evaluation use.** Education progress was reviewed against indicators and the results were disseminated. The governor, secretary and other stakeholders used education indicators as a feedback loop within the system to gauge progress in the sector. These indicators also fed into budget and planning cycles. Education indicators (including process indicators such as teacher attendance and student grades) were monitored every six months by a unit within the State Secretariat. This unit provided regular updates to the governor, SEE, and regional coordinators. Regional coordinators then disseminated the information to principals and teachers. Data were also used by SEE to identify professional development needs and address weaknesses. The state index, IDEPE, was used to select priority schools.

97. The quality of the monitoring and evaluation is rated **Substantial**.

Table 6. Project Results Framework

<i>Outcome or Output</i>	<i>Improve Quality</i>	<i>Improve Equity</i>	<i>Improve Efficiency</i>	<i>Introduce Management Reforms</i>
Outcomes	Change in state (and federal) assessment scores in Portuguese and math for secondary education and fundamental education (upper grades) Change in completion rate for secondary education and FE (high) Literacy rate	—	Change in repetition rate for secondary education and FE (high). Change in age-grade distortion rate secondary education and FE (high)	—
Intermediate Outcomes	Share of low FE students certified as literate Monitoring of school development plans	—	—	Monitor strategic plan (Pact for Education) via indicators Disseminate SAEPE assessment data to SEE, schools, and parents
Outputs	Number of state schools meeting Basic Standards Program criteria Number of schools with School development plans Technical studies and evaluations	—	Number of overage illiterate students in low FE certified as literate and promoted Number of overage students in high FE promoted Number of overage secondary education students complete cycle.	SAEPE assessment in grades 2, 4, and 8 Strategic plan for SEE (Pact for Education) Implementation of e-Fisco and project module Technical studies

Source: Adapted from World Bank 2009b.

Note: — = no data available; FE = fundamental education; SAEPE = State-Level Student Assessment System; SEE = Secretariat of Education.

7. Lessons

98. Based on the experience of this project, several lessons can be drawn:

- Formidable results (dropout, distortion, student learning) can be achieved, but these results take time and may not be evident within the typical implementation period of a World Bank operation.** Because of the extensions (not related to implementation), the World Bank's closure report had more years of data to draw on than the typical five-year operation to demonstrate results. This report had even more data to present. This suggests the importance of country monitoring systems, beyond project-focused ones. It also suggests the long-term vision and support that are needed by governments and the World Bank to register improvements, particularly in relation to student learning. In this case, the government began the initial steps of implementing its vision in 2007 and 10 years later, when the IEG mission occurred, the trend of improvement was clearly evident.

- **The success and sustainability of this operation depends largely on the government's commitment to (and ownership of) its comprehensive sector program, sector policies, and sector management system.** Attribution of results in this operation goes beyond the World Bank financing to the broader government program. Notably, there has been continuity in education policies and programs in the state government, despite there being multiple governors. This continuity has stabilized the performance monitoring system so that data served as a feedback loop to the system. The government's management process comprised planning, budgeting, and monitoring; thus, the collection of data (related to performance indicators) was critical to monitor the efficacy of public services.
- **Assessment data were used for multiple purposes (including pedagogical purposes) and among multiple stakeholders.** Some of the factors that contributed to the use were quality and usability of data, analysis of test results, open and timely dissemination of data, and political continuity over time. As a result, data were part of the conversation at every level from the governor, SEE, regional coordinators, and school principals and teachers and made available to parents. For the system to further identify weaknesses in student learning, results will need to be disaggregated.
- **Equity objectives require clear definition and measurement and may need additional efforts.** In this operation, equity was a stated objective, but the equity concern was not clearly articulated or measured. The operation tracked average school scores, which masked heterogeneity. It also focused on low-performing schools, but a performance gap remained between rural and urban schools. Efforts to improve school averages were insufficient to reduce these inequities.
- **Although the reform began before the World Bank was involved, the World Bank added value through transmission of knowledge from experiences and lessons in Brazil and Pernambuco.** The World Bank produced several economic and sector works specific to Brazil, which facilitated policy dialogue within the Pernambuco. It disseminated the results of the study analyzing classroom practices, which reinforced the need to focus attention on what teachers do. International best practices were used to inform the structure of the school bonus program. The World Bank assisted in the evaluation of the early implementation of the school bonus program. The client valued the World Bank's knowledge contribution.

References

- Brooke, Nigel, Maria Teresa Gonzaga Alves, and Lina Kátia Mesquita de Oliveira. 2015. *A Avaliação da Educação Básica: a experiência brasileira*. Belo Horizonte, Brazil: Editora Fino Traço.
- Bruns, Barbara, David Evans, and Javier Luque. 2011. *Achieving World Class Education in Brazil: The Next Agenda*. Washington, DC: World Bank.
- Ferraz, Claudio, and Barbara Bruns. 2015. *Incentives to Teach: The Effects of Pay-for-Performance in Education*. Washington, DC: World Bank.
- INEP (Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira). 2008. *Resultados nacionais—PISA 2006: Programa Internacional de Avaliação de Alunos (PISA)*. Brasília, Brazil: O Instituto.
- OCDE (Organização para a Cooperação e Desenvolvimento Econômico). 2016. *Brasil no PISA 2015: análises e reflexões sobre o desempenho dos estudantes brasileiros / OCDE-*. São Paulo, Brazil: Fundação Santillana.
http://download.inep.gov.br/acoes_internacionais/pisa/resultados/2015/pisa2015_completo_final_baixa.PDF.
- Louzano, Paula, Valéria Rocha, Gabriela Miranda Moriconi, and Romualdo Portela de Oliveira. 2010. “Quem quer ser professor? Atratividade, seleção e formação docente no Brasil”. *Estudos em Avaliação Educacional* 21 (47): 543–568.
- Patall, E., H. Cooper, and A. Allen, A. 2010. “Extending the School Day or School Year: A Systematic Review of Research (1985–2009).” *Review of Educational Research* 80 (3): 401–436.
- Vinuela Lorena, and Laura Zorato. 2015. *Do Performance Agreements Help Improve Service Delivery? The Experience of Brazilian States*. Washington, DC: World Bank.
- World Bank. 2008. *Brazil—Country Partnership Strategy*. Washington, DC: World Bank.
- . 2009a. “Brazil—Loan Agreement for Loan 7711-BR Conformed.” Loan number 7711-BR, World Bank, Washington, DC.
- . 2009b. “Brazil—Pernambuco Education Results and Accountability Project.” Project Appraisal Document Report 43184-BR. World Bank, Washington, DC.
- . 2011. *Brazil—Country Partnership Strategy*. Washington, DC: World Bank.
- . 2016a. “Brazil—Pernambuco Education Results and Accountability Project.” Implementation Completion and Results Report ICR00003721, World Bank, Washington, DC.
- . 2016b. “Brazil—Pernambuco Education Results and Accountability Project.” Independent Evaluation Group, Implementation Completion and Results Report Review ICRR0020285, World Bank, Washington, DC.

¹ See InepData—Consulta de Informações Educacionais at <http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>.

² QEdU used data provided by INEP, but this classification is not considered official, as it was developed by José Francisco Soares based on the scale used in the Sistema Nacional de Avaliação da Educação Básica assessment.

³ See InepData—Consulta de Informações Educacionais at <http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>.

⁴ See Observatório do Plano Nacional de Educação at <http://www.observatoriodopne.org.br/>. For downloads visit <http://www.observatoriodopne.org.br/downloads>.

⁵ Fundamental education is divided into two stages: low fundamental education, grades 1–4, and high fundamental education, grades 5–8.

⁶ The federal government also has responsibility for a few basic education schools.

⁷ Enrollment at the fundamental education level is similar between the poorest and wealthiest, with only two percentage points between these groups (97 percent and 99 percent, respectively) (Observatório do Plano Nacional de Educação, <http://www.observatoriodopne.org.br/>).

⁸ See Observatório do Plano Nacional de Educação at <http://www.observatoriodopne.org.br/>. For downloads visit <http://www.observatoriodopne.org.br/downloads>.

⁹ The population is estimated to have increased to 9, 410, 336 people in 2016. See IBGE 2010 data at http://www.ibge.gov.br/home/estatistica/populacao/estimativa2016/estimativa_tcu.shtm.

¹⁰ See <http://www.ibge.gov.br/estadosat/perfil.php?sigla=pe>.

¹¹ In 2009, Brazil's IDEB for initial years of fundamental education was 4.4, whereas Pernambuco's was 3.7. Brazil's IDEB for final years of fundamental education was 3.7, whereas Pernambuco's was 3.0. See InepData—Consulta de Informações Educacionais at <http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>.

¹² Two other states shared the same IDEB score that year, so the rank varies from 18 to 20, based on alphabetical order.

¹³ See InepData—Consulta de Informações Educacionais at <http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>.

¹⁴ Some of the indicators monitored include federal and state indexes, approval rates, dropout rates, age-grade distortion, assessment participation, teacher attendance, and student attendance.

¹⁵ A new strategy is expected for fiscal year 2018.

¹⁶ For the government of Brazil, the additional financing was considered a new loan and required compliance with federal government processes.

¹⁷ INEP: InepData—Consulta de Informações Educacionais. See <http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>.

¹⁸ In 2011, the percent of schools meeting the target established for the incentive program decreased to 48 percent.

¹⁹ The index has a scale of 0–10.

²⁰ QEDu used data provided by INEP, but this classification is not considered official, as it was developed by José Francisco Soares based on the scale used in the Sistema Nacional de Avaliação da Educação Básica assessment.

²¹ In this case, the difference was between 2011 and 2015

²² In this case, the difference was between 2011 and 2015

²³ INEP: See InepData—Consulta de Informações Educacionais at <http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>.

²⁴ See OCDE data at http://download.inep.gov.br/acoes_internacionais/pisa/resultados/2015/pisa2015_completo_final_baixa.PDF.

²⁵ All activities in the operation had an effect on each of the objectives.

²⁶ According to the 2014 census, 1.36 million students were enrolled in fundamental education and 383,000 students in secondary education.

²⁷ InepData—Consulta de Informações Educacionais. See <http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>.

²⁸ See <http://www.observatoriodopne.org.br/downloads>.

²⁹ See <http://www.observatoriodopne.org.br/downloads>.

³⁰ Data were provided to the evaluation team from the SEE.

³¹ T-tests were computed between Pernambuco, two other Northeastern states (Ceará and Alagoas), and Brazil for distortion rates at fundamental education; in all cases $t > 5$. For secondary education, the distortion rate was statistically significant for Ceará ($t = 3.77$) and Brazil ($t = 2.55$), but not for Alagoas ($t = 1.17$).

³² For Ceará ($t = 2.25$) and Alagoas ($t = 3.21$), while significant at the 7 percent level for Brazil ($t = 1.95$).

³³ In 2014, there were also 200 rural state schools in Pernambuco. See InepData—Consulta de Informações Educacionais at <http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>.

³⁴ Categorization of schools as rural or urban provided by the SEE.

³⁵ In the case of Pernambuco, secondary IDEB showed greater improvement when compared with the flat trend in other Northern states.

³⁶ Media sources reviewed included Canal Futura, NE TV, PISA, Rede TVT, RTV Caatinga Univasf, TV Jornal, TV Jornal do Comercio, TV NBR, TV Paulo Freire, TV Senado, Univesp TV; CBN (radio); Estadão; G1; Jornal do Comercio; NE 10; Nova Escola; O Globo; Terra Notícias.

³⁷ The frequency of updating and reviewing indicators varied from monthly to annually.

³⁸ With a discount rate of 10 percent.

³⁹ The updated estimates were more conservative and did not include all possible benefits.

Appendix A. Basic Data Sheet

PERNAMBUCO EDUCATION RESULTS & ACCOUNTABILITY PROJECT (LOAN NO 7711- BR)

Table A.1. Key Project Data (US\$, millions)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	154.00	154.00	100
Loan amount	154.00	152.53	99
Cofinancing	0.00	1.47	n.a.

Source: Client Connection project portal.

Note: n.a. = not applicable.

Table A.2. Cumulative Disbursements Estimated and Actual

	FY10	FY11	FY12	FY13	FY14	FY15	FY16
Appraisal estimate (US\$, millions)	55.8	64.5	96.2	120.7	151.4	154.0	154.0
Actual (US\$, millions)	55.8	64.5	96.2	120.7	146.9	152.4	152.5
Actual as % of appraisal	100	100	100	100	97	99	99
Date of final disbursement: March 30, 2016							

Source: SAP—Project disbursement data.

Note: FY = fiscal year.

Table A.3. Key Project Dates

	Original	Actual
Concept Review	10/11/2007	10/11/2007
Negotiations	12/18/2008	12/18/2008
Board approval	04/14/2009	04/14/2009
Signing	12/03/2009	12/03/2009
Effectiveness	12/03/2009	12/03/2009
Closing date	12/31/2013	11/30/2015

Table A.4. Staff Time Budget and Cost for World Bank

Name	Title	Unit
<i>Lending and Supervision</i>		
Suzana Nagele de Campos Abbott	Consultant	LCC6C
Patricia M. Bernedo	Senior Program Assistant	GSPDR
Nicolas Drossos	Consultant	GGODR
Mariana Margarita Monti	Senior Counsel	LEGLE
Chris Parel	Consultant	GTCDR
Maria-Valeria Pena	Lead Sociologist	LCSSO
Daniela Pena de Lima	Senior Operations Officer	GHNDR
Armando Pinheiro-Castelar	Local Consultant ST	CASPL
Luis R. Prada Villalobos	Senior Procurement Specialist	GGODR
Ricardo Rocha Silveira	Senior Operations Officer	HDNHE
Sandra Monica Tambucho Perez	Senior Finance Officer	WFALN
Carla Zardo	Program Assistant	LCC5C
Maria Madalena R. dos Santos	Consultant	GEDDR
Michael Drabble	Task Team Leader	GED04
Andre Loureiro	Education Specialist	GED04
Sinue Aliram	Procurement Specialist	GGODR
João Vicente Campos	Financial Management Specialist	GGODR
Erica Pereira Amorim	Consultant	GEDDR
Regis Thomas Cunningham	Senior Financial Management Specialist	GGODR
Mariana Margarita Montiel	Senior Counsel	LEGLE
Marize de Fatima Santos	Program Assistant	GHNDR
Aracelly G. Woodall	Senior Program Assistant	GTIDR

Source: Implementation Completion Results Report.

Table A.5. Staff Time Budget and Cost for World Bank

Stage or Year of Project Cycle	Staff Weeks (no.)	Finance (Including Travel and Consultant Costs) (US\$, thousands)
Lending		
Fiscal year 2008		329.00
Total		329.00
Supervision and Implementation Completion and Results Report		
Total		904,000.00
Total		1,233,000.00

Source: Implementation Completion and Results Report

Appendix B. Additional Data

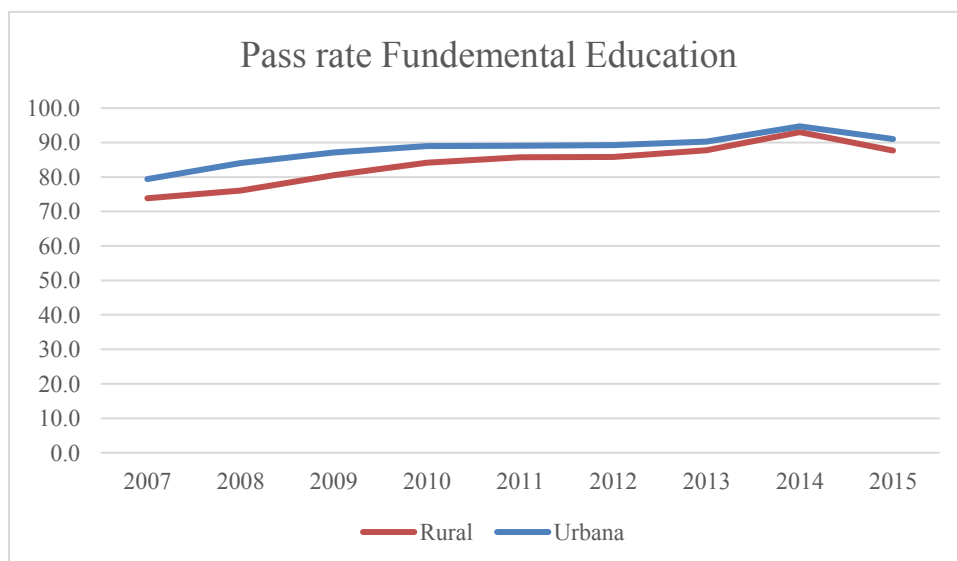
Table B.1. IDEB Index Score: Average by Education Level and Type, 2005–15

Year	Type of Education	IDEB Index Score		
		Low FE	High FE	SE
2005	Public	3.6	3.2	3.1
	Private	5.9	5.8	5.6
2007	Public	4.0	3.5	3.2
	Private	6.0	5.8	5.6
2009	Public	4.4	3.7	3.4
	Private	6.4	5.9	5.6
2011	Public	4.7	3.9	3.4
	Private	6.5	6.0	5.7
2013	Public	4.9	4.0	3.4
	Private	6.7	5.9	5.4
2015	Public	5.3	4.2	3.5
	Private	6.8	6.1	5.3

Source: InepData—Consulta de Informações Educacionais (<http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>).

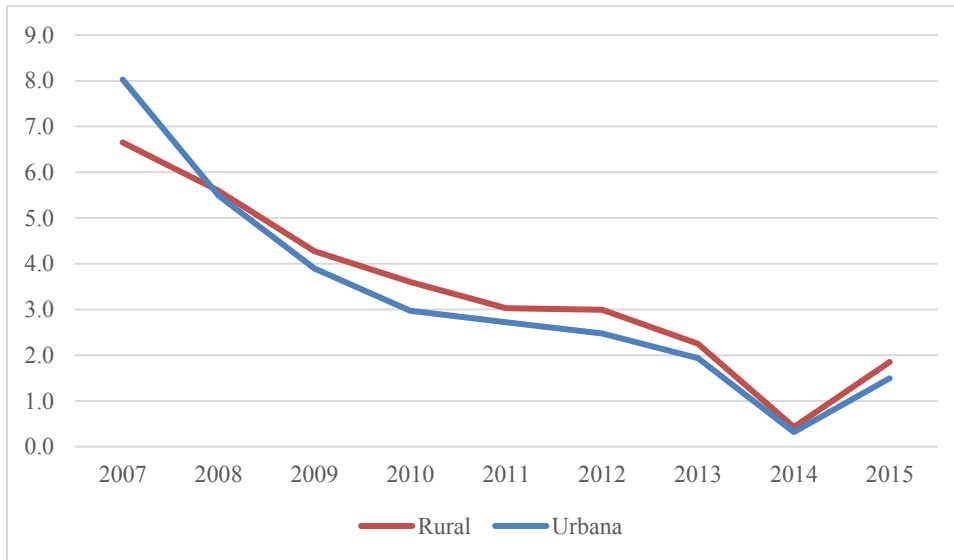
Note: FE = fundamental education; IDEB = Basic Education Development Index; SE = secondary education.

Figure B.1. Pass Rate in Fundamental Education by Location, 2007–2015



Source: InepData—Consulta de Informações Educacionais (<http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>).

Figure B.2. Dropout Rate for Fundamental Education by Location, 2007–2015



Source: InepData—Consulta de Informações Educacionais (<http://inepdata.inep.gov.br/analytics/saw.dll?Dashboard>).

Figure B.3. Distortion Rate for Secondary Education (Brazil, Pernambuco, and Other Northeastern States), 2006–15

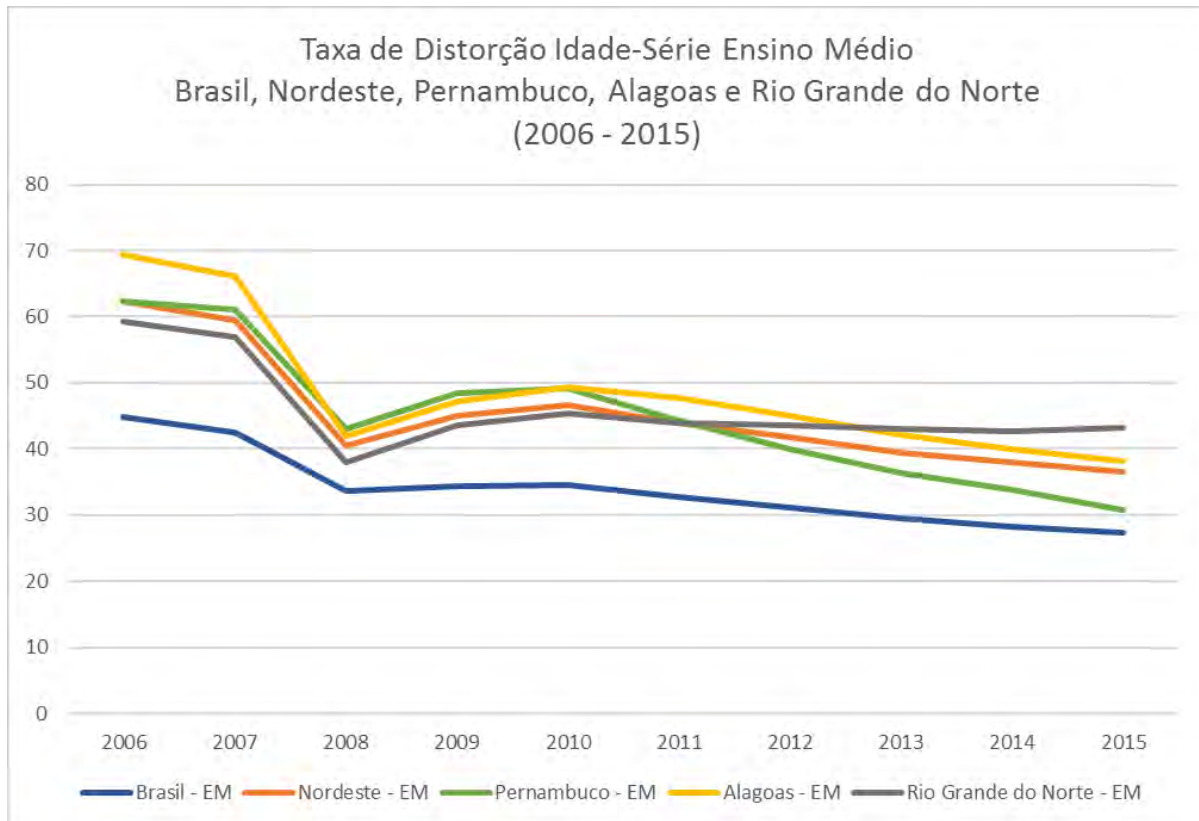


Figure B.4. Dropout Rate Fundamental Education (Brazil, Pernambuco, Other Northeastern States), 2007–2015

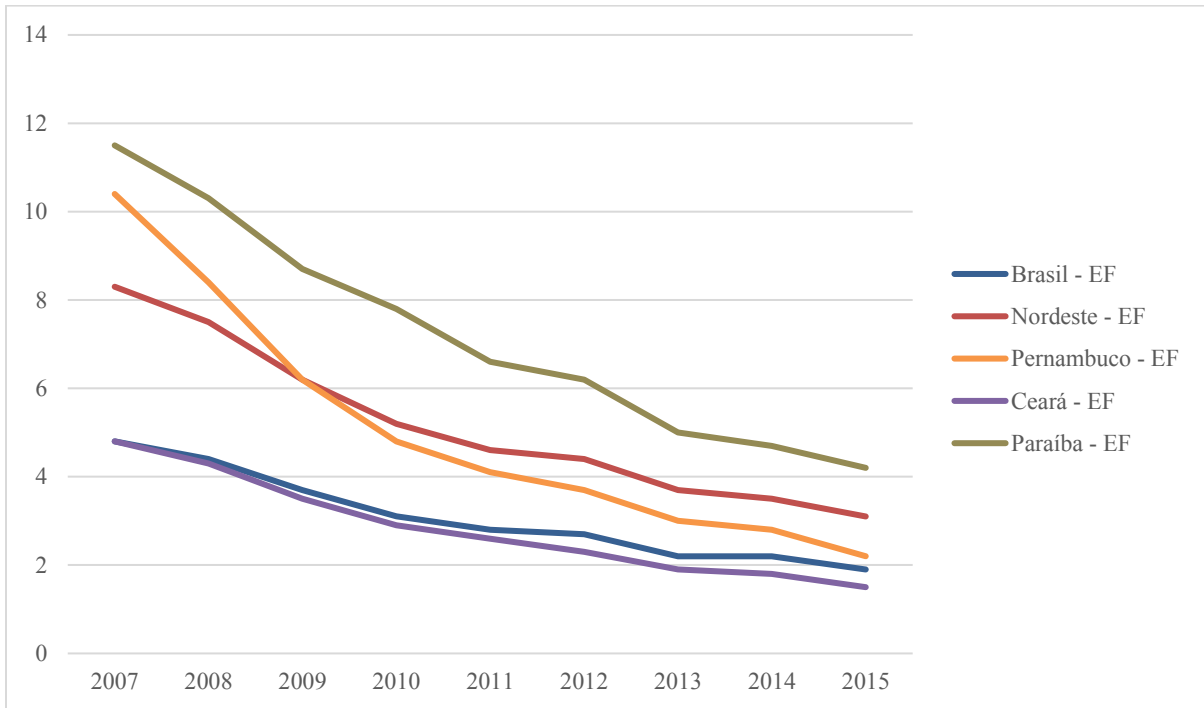
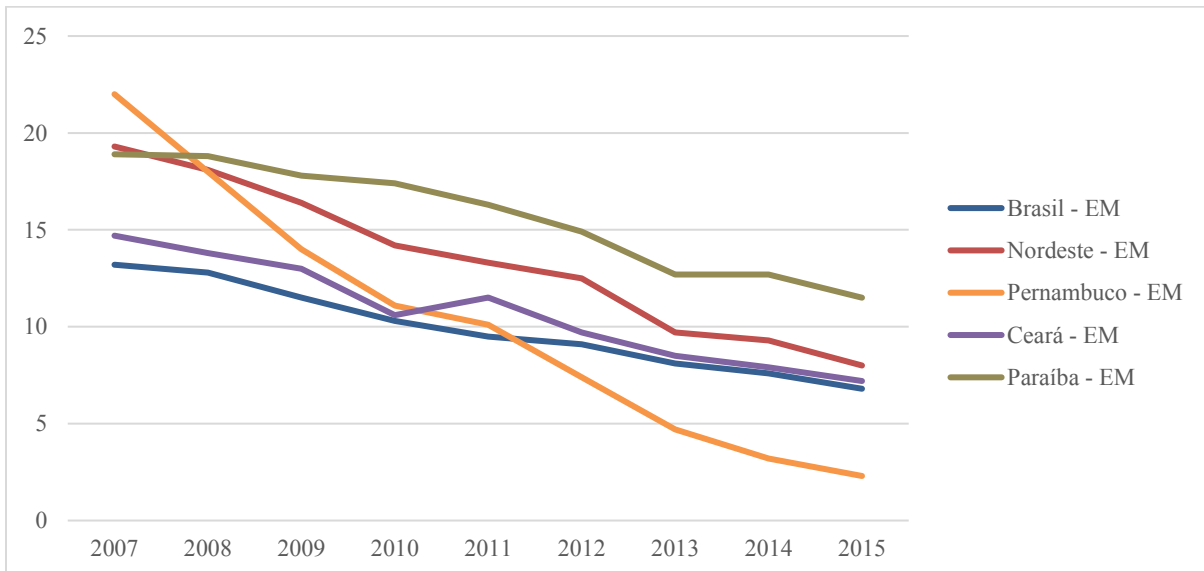


Figure B.5. Dropout Rate for Secondary Education (Brazil, Pernambuco, Other Northeastern States), 2007–2015



Appendix C. List of Persons Met

Flávia Diniz
Government Manager at SEPLAG

Cintia Albuquerque
Fundraising General Manager at SEPLAG

Marcos Vinícius
Fundraising Manager at the State Secretariat of Education (SEE)

Patrícia de Carvalho Freire
State Secretariat of Education

Renata Kosminsky
Government Manager at SEPLAG

Charlis Alberto Cabral de Moraes Júnior
Coordination of Planning and Articulation
Education Regional Management - Recife Sul

Marta Maria de Lira
Regional Manager of Education – Recife Sul
Education Regional Management - Recife Sul

Noêmia Karina Araújo da Silva
Development of Education Coordinator
Education Regional Management - Recife Sul

Andrea Rodrigues
School Director
EE Cândido Duarte

Eduardo Henrique Generoso de Souza
School Director
EE Lagoa Encantada

Niedja Pereira da silva
School Director - EE Missionário São Bento
Deputy School Director – EE Lagoa Encantada

Jaqueline Maux da Silva
School Director
EREM Mariano Teixeira

Romero Anderson Aguiar

School Diretor
EREM Olinto Victor

Carlos Eduardo Moreno Sampaio
Educational Statistics Director
INEP

Eduardo Carvalho Sousa
Education National Assessment System General Coordinator
INEP

Marcio Andrade Monteiro
Educational Instruments and Measures General Coordinator
INEP

Maria Inês Fini
President
INEP

Roberta Loboda Biondi
Research and Impact Evaluation Coordinator
Lemann Foundation

Teresa Cozetti Pontual
Curricula and Full-Time Education Director
MEC

Paulo Roberto Souza Silva
Secretary of Education of Olinda
Olinda Secretariat of Education, Sports and Youth

Shirley Moura
Executive Secretary of Network Management
Olinda Secretariat of Education, Sports and Youth

Vilma Guimarães
General Manager for Education and Implementation
Roberto Marinho Foundation – Travessia Project

Edilberto Xavier de Albuquerque Júnior
Executive Secretary of the Treasury
SEFAZ – Finance Secretary of Pernambuco State

Maria Fernanda G. Ribeiro
Pact for Education General Manager
SEPLAG-PE

Marcela Morais
Pact for Education Government Manager
SEPLAG-PE

Ana Selva
Executive Secretary of Educational Development
SEE - State Secretariat of Education

João Charamba
Executive Secretary of Network Management
State Secretariat of Education

Olavo Nogueira Filho
General Manager
Todos Pela Educação

Andre Loureiro
Education Economist, World Bank

Leandro Costa
Education Economist, World Bank

Michael Drabble
Task Team Leader, World Bank

Monica Tambucho
Disbursement, World Bank

Sinue Aliram
Procurement, World Bank

Susana Amaral
Financial Management, World Bank

Tania Lettieri
Operations Officer, World Bank

Ricardo Silva
Task Team Leader, World Bank