Science, Technology & Innovation Indicators in the State of São Paulo / Brazil 2010 Highlights of Chapter 1 – Basic Education

- In the post-2000 period, basic education enrolments in Brazil practically stabilised at around 48 million, falling in primary schools (ISCED 1 & 2) and rising slightly in secondary schools (ISCED 3). Growth remained significant at the start of the decade in pre-primary education (ISCED 0), and in youth and adult education (known in Brazil by the acronym EJA).
- In São Paulo State, primary school enrolments stabilised at around 6 million while secondary school enrolments fell in the period 2004-06.

Brazil & São Paulo State: Enrolments by level & type of education, 2000, 2003 & 2006

Lovel and type of advention	Enrolments (x 1,000)					
Level and type of education	2000	2003	2006			
Brazil						
Total basic education	48,332	48,667	47,778			
Pre-primary	4,421	5,156	5,588			
Primary	35,718	34,439	33,283			
Secondary	8,193	9,073	8,907			
EJA - primary	2,272	3,316	3,516			
EJA - secondary	873	981	1,345			
São Paulo State						
Total basic education	9,435	9,322	9,203			
Pre-primary	1,130	1,326	1,375			
Primary	6,225	5,896	6,014			
Secondary	2,079	2,100	1,814			
EJA - primary	562	463	433			
EJA - secondary	348	346	402			

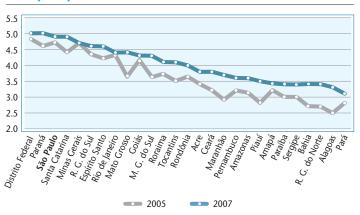
Source: INEP/MEC. School Censuses 1999 a 2006.

- In terms of access to basic education, universalisation of primary schooling made significant strides from the 1990s on, reaching 95% in Brazil and its regions, while secondary schooling advanced substantially. Education policy in Brazil and in São Paulo State also focused on keeping children in school, and on expanding youth and adult education.
- Inclusion of the low-income population improved between 1995 and 2006: the proportion of Brazilians aged 15 and over in families with incomes of less than the minimum wage per person who completed at most the second year of primary schooling fell from 36% to 23%, while the proportion reaching the secondary level (i.e. completing at least the first year of that level) rose from 9.7% to 26%.
- In São Paulo State, one of the pioneers of the expansion of secondary schooling in Brazil, this trend was even more pronounced. Whereas in 1995 only 10.2% of the appropriate-age cohort in families earning up to the minimum wage per person reached secondary school, in 2006 the proportion was 33.3%.
- In 2006, the proportion of children aged 7-14 attending school in São Paulo State was 98.8% (97.6% in Brazil). The proportion in the 5-6 age group was 90.8% in São Paulo State and 84.6% in Brazil. These are similar to the proportions verified in the developed countries.
- The illiteracy rate in Brazil fell from 13.8% in 1998 to 10.4% in 2006, while the illiteracy rate in São Paulo State fell from 6.6% to 5.0% in the same period. It is important to note that illiteracy is increasingly concentrated in the higher age groups: in São Paulo State illiterates accounted for less than 1% of the population aged 25 or less in 2006.
- The age-grade distortion in primary and secondary education has improved significantly in both Brazil and São Paulo State. In primary education, 32.2% of school students throughout Brazil were two years or more older than the recommended age for their gra-

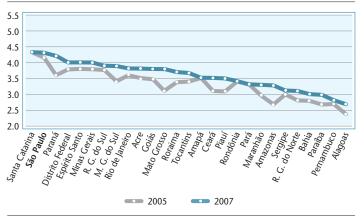
- de or school year in 2006, down from 47.4% in 1999. The corresponding proportions for São Paulo State were 11.5% and 25.0% respectively.
- In secondary education, the proportion of school students who were two years or more older than the recommended age for their school year was 51.1% in Brazil and 27.2% in São Paulo State in 2006, down from 60.2% and 46.5%, respectively, in 1999.
- With the improvement in student flow, the average time taken to complete primary schooling fell by about one year in both Brazil and São Paulo State between 1995 and 2004. In addition to the benefits accruing from this decrease in itself, it tends to act as an incentive to further study, as students who complete primary school at the right age are under less pressure from the need to seek employment.
- Learning outcomes in basic education improved moderately overall, although student achievement was significantly enhanced in the initial years of primary schooling. The Basic Education Development Index (IDEB) for the fourth year of primary schooling in São Paulo State reached 4.9 in 2007, rising from 4.7 in 2005 to rank third in the country overall. The national average was 4.2 in 2007, up from 3.8 in 2005.
- In secondary education, São Paulo State ranked second with an IDEB score of 3.8, tying with Minas Gerais and Mato Grosso do Sul. Santa Catarina, Paraná and the Federal District came first with IDEB scores of 4.0. The progress observed was due to a combination of positive grade and exam pass rates.

Brazil: IDEB scores for primary education (4th & 8th years) and secondary education (3rd year), by state, 2005 & 2007

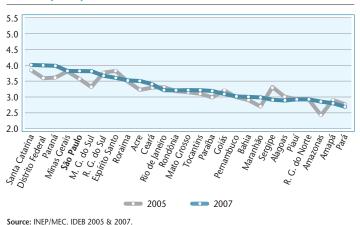




Primary, 8th year



Secondary, 3rd year



- Since 2000 Brazil has participated in PISA, the Programme for International Student Assessment, one of the most important of such assessment exercises in the world today. PISA is a three-yearly survey of 15-year-olds in the 30 member countries of the Organisation for Economic Co-Operation & Development (OECD) and many partner countries. Students near the end of compulsory education are tested in the domains of reading, mathematics and science. Each cycle focuses on one domain more than the others. Students from a random sample of public and private schools are selected according to age rather than grade or school year.
- The results obtained by Brazilian students in PISA 2000, 2003 and 2006 were not encouraging. Brazil ranked consistently among the lowest achievers on this criterion, even lagging behind other Latin American countries such as Chile, Mexico and Uruguay.

Brazil: PISA rankings by domain, 2000, 2003 & 2006

Area	Br	Brazil's PISA rankings		
	2000	2003	2006	
Reading	39th out of 43	39th out of 42	48th out of 56	
Mathematics	42nd out of 43	41st out of 41	54th out of 57	
Science	42nd out of 43	39th out of 40	52nd out of 57	

Source: OCDE. PISA 2000, 2003 & 2006.

- Over the three PISA cycles completed to date, Brazilian students improved moderately in mathematics and science but stagnated in reading, with an average score in the range of 400.
- Many Brazilian students are unable to answer PISA questions because the content is not included in their current grade or school

year. This is a reflection of the severe age-grade distortion in Brazil. A breakdown by grade shows a significant improvement in PISA scores in later grades or years for all three domains.

Brazil: PISA scores by school year (grade) and domain, 2000, 2003 ₹ 2006

PISA cycle	Primary 8th year	Secondary 1st year	Secondary 2nd year	Average	
		Reading			
2000	368	425	463	396	
2003	353	430	470	403	
2006	337	415	458	393	
		Mathematics			
2000	306	365	413	334	
2003	304	383	424	356	
2006	322	387	428	370	
Science					
2000	350	398	375	375	
2003	345	413	449	390	
2006	343	407	450	390	

Source: OCDE. PISA 2000, 2003 & 2006.

- In the 2006 assessment Brazil was somewhat better positioned considering only students in the school year recommended for their age (first year of ensino médio in the case of PISA). On this criterion it ranked closer to the rest of Latin America, albeit well below the OECD countries.
- Brazil stands out among the countries that participate in PISA for displaying the largest gap between scores for students in private schools, who are mostly from high-income families, and students in public schools. The former score about 30% higher in all three domains. Similar gaps are found in other South American countries. In Europe and Asia the difference is much smaller (less than 10%).
- A comparison between the scores of Brazilian students in private schools which are reputedly of higher quality than public (state) schools and the average PISA scores for all students in both public and private schools shows Brazil ranking 23rd in reading, 36th in mathematics and 33rd in science out of the 57 countries that participated in the 2006 assessment. Thus Brazil would be in the middle of the overall rank order on this criterion. Brazil's actual PISA rankings for these domains were 49th, 54th and 52nd respectively.
- The gap between PISA scores for Brazilian students in private versus public schools reflects a significant quality discrepancy. Moreover, given that these students are from relatively homogeneous income strata in each case, it also points to the important role played by the quality of education in student achievement.