

Primary Education in Latin America:

The Unfinished Agenda

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Foreword

This paper asks a deceptively simple question. After over a decade of concern about and investment in primary education, what have been the results and how much further does the region need to go before it has achieved a primary education of quality for all children? The paper is timely because of renewed international interest in the subject. It creatively reviews available data for four countries (Brazil, Chile, Honduras, and Costa Rica) as well as for the region as a whole. It reports that the region has made progress in increasing completion rates and in decreasing repetition. In some countries, targeted investments have made a difference in increasing retention and learning among at-risk children. Nonetheless, too many children do not complete primary education, too many repeat one or more grades, and academic achievement continues to be inadequate, compared to the region's direct competitors. In spite of legitimate demands for investments at higher educational levels, leaders and opinion makers need to continue to focus on this all important foundation for future learning. The critical policies and investments identified over ten years ago have only been partially implemented. Their full implementation is still needed. They include building up teacher knowledge, pedagogy, and commitment; increasing enrollment in pre-schooling, especially of at-risk children; providing adequate and appropriate teaching materials; targeting resources to disadvantaged children; articulating clear national learning goals; and improving the technical quality and utilization of testing programs.

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Introduction

Over a decade ago, policymakers and educational leaders became aware of the fact that Latin America was far behind the rest of the world in the quality, efficiency and effectiveness of its primary education system. Completion rates in Latin American schools, as well as labor force literacy, were far lower than expected given Latin America's income levels. One of the causes of low completion rates was an extraordinarily high rate of repetition in primary education. In 1988, Latin America led the world in repetition, which was estimated at 29 percent in grades 1 to 6 (Schiefelbein and Wolff, 1993). The impact of repetition was such that, after many years students would drop out of school because, once they were old enough to enter the labor market, they had no reason to continue to attend a school where they were learning very little. High repetition led to increased dropout rates, higher costs per graduate, and lack of space in primary schools.

High repetition rates in the region were symptoms of a much more diverse set of problems related to inadequate learning and achievement. In 1990 only a few studies were available that compared learning in Latin America and the rest of the world, but they all showed that the region's performance was poor relative to its competitors.

After over ten years of awareness, and substantial resources allocated to education, the question remains, what kind of progress has been made? While several recent reports have documented the region's deficiencies in education (e.g., PREAL, 2001; UNESCO, 2000), this paper seeks to assess more systematically than those papers the extent of progress over the ten year period of 1990 to 2000. This paper is also timely because there is renewed world-wide interest in primary education. In particular, the second "Education for All" meeting in Dakar in

the year 2000, as well as recent meetings of the G-8 focussing on "Millennium Goals," have set as goals a full primary education for all children in the world by the year 2015.¹ While sub-Saharan Africa and some Asian countries are usually thought of as the countries with the greatest primary education deficits, Latin America still has some distance to travel. For example, it is estimated that 18 percent of all children in the region currently do not complete primary education. Equally as important as primary school completion is the need for the region to improve the performance of its students in terms of levels of learning achievement.

Besides looking at completion rates, this paper also examines four additional but critical indicators—the extent to which repetition rates have declined over the past decade, the extent of timely access and on-time ages of primary school students, the level of primary school students' learning achievement, and finally changes in expenditures and other inputs into primary education. The paper covers in detail four countries in the region—Brazil, Chile, Costa Rica, and Honduras—for which data were available to the authors, as well as progress in countries in the region as a whole where data were available. The data underlying the paper were collected from a wide variety of sources, with the main criterion being reliable observations around 1990 and 2000.

The four countries mentioned above were selected in part because they represent a wide spectrum of education conditions in the region. In 1990, Chile and Costa Rica were considered among the most advanced in the region in education. In contrast, Brazil, which accounts for 40

¹ See statements by the G-8 at www.g8education.gc.ca, and by Unesco and the World Bank at www.unesco.org/education/efa.

percent of the region's primary school enrollment, had among the region's lowest educational attainment and highest repetition rates. Honduras, a very poor country, also had low enrollment and completion rates. Through most of the 1990s, Brazil, Chile and Costa Rica undertook major programs to improve the quality of primary education.

Latin American countries define "primary" and "basic" education differently. Primary education is usually understood to mean grades 1 through 6 (in the case of Brazil, until recently, grades 1 through 5). "Basic" education usually goes up to grade 8 or 9, which most countries in the region consider the target for minimum attainment levels of all students. Chile and Costa Rica define basic education as grades 1 through 9, while Brazil defines it as grades 1 through 8. Honduras is discussing a new law that would designate grades 1 through 9 as basic education. This paper focuses on grades 1 to 6.²

This paper covers elements of primary education for which data are readily available, such as school completion and learning achievement. Availability of data should not bias one's understanding of what is important. For example, there is little systematic information about the extent to which increased education in the region could lead to behaviors and attitudes such as increased community involvement, civic responsibility, nonviolence, family stability, cooperative problem solving, a more positive work ethic, etc. There are few measurements of "process" variables (i.e., what actually happens in the classroom) which intermediate between physical and financial inputs and the learning process and include the time actually spent teaching, the teaching strategies used, and the utilization of educational materials. Data are lacking to match the skills demanded in the workplace with the products of the school system. Research underway in all these areas can help to deepen our understanding of the role of primary education in the development process.

² It should be noted that recent UNESCO and World Bank reports have defined full primary education as completion through grade 5.

Completion and Repetition

COMPLETION

The simplest measure of progress in primary education is that of the percentage of youths who complete primary education. Table 1 provides estimates of the percentage of 17-20 year olds completing primary education (grades 1 to 6) around 1990 and 2000, based on household surveys where parents were asked to report the highest level of schooling of their children.³ For the region as a whole, where data were available (for 14 countries), completion rates in 2000 av-

and lack the minimum needed to become productive citizens.

Among the four countries studied, Brazil has made the greatest progress over the decade. Two thirds of its youth aged 17 to 20 now complete grade 6, compared to less than half a decade ago. Chile and Costa Rica now have completion rates of 96 percent and 88 percent, respectively. Completion rates in Honduras have improved only marginally to 70 percent.

Table 1. Primary Completion Rates (Grade 6) of 17-20 Year Olds

Country	Circa 1990		Circa 2000	
	Year	Percentage Completing	Year	Percentage Completing
Brazil	1988	49	1999	68
Chile	1990	93	1998	96
Costa Rica	1989	85	2000	88
Honduras	1992	69	1999	70
Region as a whole (14 countries)	1988-1992	*	1999 and 2000	82

Source: IDB Social Information Service, based on household surveys.

Note: Primary completion is defined as completing at least 6 years of schooling. Data for the region is based on 17 to 20-year olds and is the simple mean of 14 reporting countries.

(*) Comparable regional data for 1988-1992 were available for only 9 countries. On average these countries improved their completion rates by 4 percent over the decade. Annex Table 1 provides the data available by country.

erage 82 percent.⁴ Where data are comparable, the average improvement per country since 1990 is about four percent. The 18 percent of the region's youth who do not complete primary education translate into over 2.4 million children each year who drop out of primary education

As has been demonstrated many times, the lower the socioeconomic status of students' families, the more likely they are to drop out of primary school. Data for fifteen countries in 1994 showed that 95 percent of children in the highest deciles complete primary education compared to 58 percent in the lowest deciles (IDB, 1998). In countries such as Bolivia and Guatemala, less than half of children from indigenous families complete primary education (Duryea and Pages, 2002)

³ Estimates using Ministry of Education data based on reconstituting cohorts are less reliable than household surveys because of underreporting of repetition.

⁴ Only Argentina, Peru, Chile and Uruguay have completion rates of 95 percent or higher.

Box 1
Underreporting Repetition

The underreporting of repetition was a result of lack of clear definition of the term. Repetition means that a student who begins school year Y in grade X, begins year Y + 1 in grade X. But those reporting the information assumed that a student had to spend the entire school year in class, take the final exam, fail the exam, and then return to the same grade to be reported as a repeater. They failed to take into account students who dropped out during part of the year or transferred to other schools, before eventually returning to the same grade.

The Klein approach has been used mainly for Brazil, and recently adapted by Marcelo Cabrol and used in some Central American countries. It uses the number of students "passed" at the end of one school year as a means of confirming the numbers of "new" students in the following year. The number of new students in the next years cannot be greater than the number of "passed" students at the end of the previous year. If the reported statistics show a higher number of "new students," then a variety of statistical corrections are made.

The Schiefelbein method mainly depends on the availability of a full age by grade matrix in two consecutive years. For example, Schiefelbein begins with an assumption that all of the five-year olds in grade 1 in year 1 become six-year olds in the following year (year 2) in grade 2 if they are promoted. If they are not promoted, they will be six-year olds in grade 1 during year 2. Also, all of the six-year olds in grade 1 in year 1 become seven-year olds in the following year (Y2) in grade 2, if they are promoted, or seven-year olds in grade 1 if they repeat. By estimating dropouts based on differences in enrollment ratios among separate single age groups, Schiefelbein is able to estimate the number of repeaters by age in grade 1. By taking the difference with respect to total enrollment in grade 1 in each age, the number of new enrollees can be estimated in grade 1 and then subsequent years.

The results of the two methods are roughly similar. This paper uses the Klein method for Brazil and the Schiefelbein method for Honduras, Chile, and Costa Rica. It should be pointed out that all of the methodologies do not adequately reflect "intermittence" of participation (students dropping out and then re-entering), as well as students transferring from one school to another.

In spite of the awareness by researchers of underestimation of repetition, official statistics in a number of countries continue to underreport repetition. For example one recent UNESCO publication (UNESCO, 2000) reported repetition in Chile and Costa Rica that was lower than the estimates using the Schiefelbein method. A still more recent UNESCO publication (UNESCO, 2001) appears to use more accurate methodology. Brazil's official statistics are now based on the Klein methodology.

REPETITION

For over two decades analysts have observed that one of the reasons for low primary school completion rates in Latin America has been the region's extraordinarily high repetition rates. At the same time, official data consistently underestimated the extent of repetition. For example, in 1988, official estimates of repetition for the region as a whole were 15 percent, compared to

corrected estimates of 29 percent (UNESCO, 1992). Two methods separately developed by Ernesto Schiefelbein and by Ruben Klein correct for underreporting of repetition. Box 1 explains the standard as well as alternative methodologies developed by Schiefelbein and Klein. Tables 2 and 3 summarize changes in levels of repetition in basic education in the region as a whole as well as in the four countries studied based on Schiefelbein and Klein.

Overall repetition in the region has declined from 29 percent to around 16 percent. Among the four countries studied, Brazil, which began the decade at an average of 34 percent for grades 1 to 6—one of the highest repetition rates in the world—ended the decade at 23 percent, a reduction of one third.

Honduras, which like Brazil also began with very high repetition rates, averaging 23 percent in 1988, experienced a decline through 1996 to an average of 11.5 percent, with a particularly rapid decline in first grade. Evidence is not available on the undoubtedly negative impact of the 1999 hurricane on these figures.

Chile began the decade with among the lowest repetition rates in the region and has lowered these rates even further to 3 percent, which is among the lowest. Chile has a policy of automatic promotion at the end of first grade, and the first exam is administered at the end of the sec-

ond grade. Costa Rica has made the slowest progress in reducing repetition, which went down from 14 percent to 10 percent.

While the region has made major progress in reducing repetition, 16.4 percent is still too high. The financial cost of repetition around 1988, in terms of increased years of schooling that need to be provided, was estimated at \$5.5 billion in the region as a whole. While repetition has gone down, unit costs and enrollments have increased.

In 1997, the cost of repetition in the region as a whole was estimated at \$4.6 billion per year, a decrease of 16 percent, but still significant in terms of national education budgets (Table 3). Repetition continues to increase the chances of further repetition and subsequent dropout, to a great extent because, as students grow older, the opportunity cost of not entering the labor market increases.

Table 2
Changes in Percentages of Repetition in Basic Education in the 1990s

Grades	Brazil			Chile			Costa Rica			Honduras		
	1990	1999	Difference	1989	1999	Difference	1989	2000	Difference	1988	1996	Difference
1	47.8	40.8	-7	11.1	1.2	-9.9	21.6	17.7	-3.9	46.0	21.7	-24.3
2	35.1	21.6	-13.5	9.5	5.3	-4.2	16.2	12.5	-3.7	33.2	12.7	-10.5
3	25.7	16.0	-9.7	9.2	0.7	-8.5	17.1	10.3	-6.8	25.3	10.2	-15.1
4	22.3	12.9	-9.2	10.1	3.3	-6.8	15.7	8.8	-6.9	18.4	6.5	-11.9
5	39.3	23.7	-15.6	13.9	2.9	-11	13.7	6.9	-6.8	14.8	4.4	-10.4
6	33.2	16.4	-16.8	13.9	2.1	-11.8	1.6	1.6	0	1.3	0.1	-1.2
7	28.9	17.0	-11.9	11.7	4.4	-7.3		11.3			11.3	
8	22.5	13.6	-8.9	3.0	2.1	-0.9		8.4			8.4	
Simple Average of Repetition Rates (not considering absolute enrollment for each grade)												
1 to 6	33.9	23.4	-10.5	11.3	3	-9.3	14.3	10	-4.3	23.2	11.5	-11.7

Sources: For Brazil, estimates by Klein. For other countries, 1990 UNESCO, 1992, pages 134, 161, 191 y 299. For 2000, authors' estimates.

Table 3
Estimated Cost of Repetition
Number and Percentage of Repeaters for the Year 2000 (in thousands)

Countries	First to Sixth Grade		
	Students Enrolled	Repeaters	%
Brazil	29,649	6,935	23.4
Chile	1,805	47	3.0
Costa Rica	539	54	10.0
Honduras	1,017	116	11.5
Total of the sample	33,010	7,152	21.7
Total for LAC*	85,200	13,973	16.4

*This estimate takes into account the fact that Brazil's repetition rates are still among the highest in the region and assumes that Brazil has a weight of 40 percent in enrollment in the region.

Cost per primary student (in US\$)

1990	\$266	Represents 9.5% of GNP per capita
1997	\$331	Represents 9.8% of GNP per capita

Source: UNESCO, *World Education Indicators*, 2000, p. 119.

Cost of repetition

1990	1997	Difference
\$5.5 billion	\$4.6 billion	-16%

Source: UNESCO, *La situación de la educación en 1980-1989*, Santiago, 1992, See also *Boletín 30, UNESCO/OREALC*. Assumes 20.8 million repeaters in 1990 and 13.97 million in 1997

Timely Entry and Age Heterogeneity

Among the four countries studied only Brazil still reports that 5 percent of its children did not begin primary education in 2002 (Table 4). But progress on reducing “late entry” into primary education is mixed. Late entry into grade one and subsequent repetition leads to increased age lagging and spread over the primary school years. Age spread or heterogeneity makes teaching more difficult in principle because different levels of maturity require different teaching styles (and few teachers are trained to personalize teaching). This can be resolved in part by grouping students within schools by age and using different learning materials, but is difficult to do, since most schools in the region are relatively small and multi-level learning materials

the importance of early childhood learning experiences. Nonetheless, in 1990 around 50 percent of all new entrants in the four countries studied were aged seven. By 2000, 88 percent of Chilean children entered primary school at age six. In Costa Rica and Honduras, over 55 percent of new entrants were aged six. In these three countries only 5 to 10 percent of new entrants were aged eight or nine.

The trend in Brazil has been in the opposite direction. The percentage of new enrollees aged six went down from 19 percent to 11 percent. The number of children aged 8 or 9 who began primary education increased from 21 percent in 1990 to 29 percent in 1999. One explanation for

Table 4. Access and Age of Entry, 1990-2000 (%)

Countries	On time and Late Entry circa 1990				On Time and Late Entry circa 2000*			
	Age 6	Age 7	Ages 8 and older	Never Entered	Age 6	Age 7	Ages 8 and older	Never Entered
Brazil	19.0	50.0	21.3	9.7	11.2	55.2	28.7	4.9
Chile	39.5	48.4	10.8	1.3	88.2	6.7	5.0	0.1
Costa Rica	43.0	53.0	3.9	0.1	57.4	32.2	10.3	0.1
Honduras	30.0	52.7	13.9	3.4	60.4	33.1	5.6	1.0

Source: UNESCO, 1992, and authors’ estimates. (*) The last year figures are from 1999 for Brazil, 2000 for Chile, 1998 for Costa Rica, and 1996 for Honduras.

are still not well evaluated in terms of their efficacy.

It should be noted that the “official” age of entry is six in Chile and Costa Rica and seven in Brazil and Honduras. Brazil and Honduras are among the very few countries in the world in which age seven continues to be the official age of entry to primary school. This policy seems out of place considering consistent research on

this change could be that there has been a real increase in pre-schooling for six-year olds. Another possible explanation may be that children who in 1990 were considered to have entered primary education are now considered to be in some form of pre-schooling (or what used to be called Grade “A”). If this is the case, then some portion of the decline in first grade repetition could be based on a change in definitions of what constitutes pre-schooling.

The average age of sixth graders (Table 5) has not declined in the four countries. In Brazil the average age is 14, compared to an expected age of 12 if there were timely entrance and no repetition. In Honduras it is 12.4 (likely a result of higher dropout). The average age of sixth graders in Costa Rica and Chile is 12, still one year above the expected age if there were no repetition and timely entrance.

It is known that children's success in school is highly correlated with parent's income and education. Age "lagging" is no different. Among the four countries, especially in Brazil and Honduras, children with mothers who have no more than a primary education are far more likely than children whose mothers have secondary or higher education to be two or more years behind normal age (Table 6).

Table 5. Average Age for Each Grade

Grade	Grade 1 starts at age 7						Grade 1 starts at age 6					
	Brazil			Honduras			Chile			Costa Rica		
	c.1990	c.2000	Change	c.1990	c.2000	Change	c.1990	c.2000	change	c.1990	c.2000	change
1	8.6	8.7	0.1	7.8	7.3	-0.5	6.7	6.7	0.0	7.0	6.7	-0.3
2	9.8	9.8	0.0	9.0	8.5	-0.5	7.8	7.8	0.0	8.1	7.8	-0.3
3	10.8	11.2	0.3	10.0	9.5	-0.5	8.9	8.8	-0.1	9.1	8.9	-0.2
4	11.7	12.0	0.3	11.0	10.5	-0.5	9.9	9.9	0.0	10.1	9.9	-0.2
5	13.1	13.6	0.5	11.9	11.4	-0.5	10.9	11.0	0.1	11.0	10.9	-0.1
6	14.1	14.2	0.2	12.8	12.4	-0.4	12.0	12.0	0.0	11.9	11.9	0.0

Source: UNESCO, 1992, pages 527 and 528, and authors' tabulations of age-grade tables provided for the year 2000.

Table 6. Percentage of Students Who Are Two Years or More Behind Normal Age in Grade Seven, by Mothers' Level of Education

Country	Level of Education Completed by Mothers		
	Primary	Secondary	Higher
Brazil	83.8	69.3	46.8
Chile	23.9	23.0	13.2
Costa Rica	56.6	23.0	13.2
Honduras	54.7	57.6	37.5

Source: Verdisco and Rama, 2001.

Academic Achievement

REGIONAL AND INTERNATIONAL TESTING

Around 1990 the academic achievement of Latin American students, as measured in the few available comparative tests, was far lower than that of students in the OECD countries as well as most East Asian countries. There is now a richer body of learning indicators comparing Latin America with the rest of the world. These indicators confirm the poor performance of the region's students, including the countries on which this study focuses.

It is possible to combine the various international and regional studies into a single table to get a better idea of the region's performance (Table 7). The studies for which data are available include the 1992 IEA study of literacy; its Educational Testing Service's study of eighth grade reading and mathematics achievement in 1992 (IAEP); the Third International Math and Science Survey (TIMSS) of 1997 and 1999; UNESCO/OREALC's studies of third and fourth grade achievement in math and language in 1992 and 1997; and the OECD's PISA (Progress in Student Achievement) study undertaken in the year 2000. Since Chile, Venezuela, Mexico, Brazil, and Colombia participated in some of the international studies as well as the UNESCO/OREALC regional study, one can estimate all the potential performance of all Latin American countries in international tests, compared to a typical developed country (e.g., the United States).

Colombia and Chile were among the lowest scoring countries in the TIMSS international math and science tests. Colombia was average and Chile slightly above average in the UNESCO/OREALC Latin American test. On this basis, Latin American countries would be likely to score similar to or lower than Chile and Colombia on the international tests, equivalent

to at least a half deviation below the United States, which itself generally scores a half to a full standard deviation below countries such as Japan and Singapore.⁵ The only Latin American country which would score at a level similar to that of the United States would be Cuba.⁶

Children whose parents have low educational levels score poorly on all of these tests. For example, the scores of children who took the UNESCO/OREALC test increase by 1.1 points for every additional year of a parent's education (UNESCO/OREALC, 2000). But even children in higher socioeconomic groups in the region do not perform very well. In the UNESCO/OREALC study children in private schools scored higher than children in public schools, but their scores were still 20 points below the average for all Cuban children. No Colombian eighth graders scored in the top 10 percent of the world in the TIMSS sample (TIMSS, 2000). A review of Brazil's performance in the PISA study showed that even children from the highest socioeconomic groups scored below the OECD mean (Castro, 2001).

Comparing the countries that are the focus of this study, Chile scores relatively high in the UNESCO test (but far below Cuba), followed by

⁵ In the TIMSS study the United States scored slightly above the mean in fourth grade math, but its performance was below the mean in eighth grade and among the lower scores in twelfth grade. Its performance was at the mean in the PISA test.

⁶ Cuba's success has been attributed to the high quality of its teachers (who are paid relatively well in comparison with other professions), rigorous teacher evaluation, universal pre-schooling, adequate and equitable school inputs, and strong community involvement.

Table 7
Comparison of the Results of International Academic Studies as a Percentage of U.S. Scores (%)

Countries	Tests 1992				Tests 1995-2000						
	IAEP 92 - G8		IEA 92 - G8	UNESCO 92	TIMSS 95&98 - G8		UNESCO 97 - G4		PISA 00 - Age 15		
	Math	Science	Reading	Reading	Math	Science	Reading	Math	Reading	Math	Science
Argentina				66			83	79			
Bolivia				52			69	72			
Brazil	67	79					82	79	77	68	75
Colombia					77	72	78	76			
Costa Rica				70							
Chile				67	78	82	84	78			
Dominican Rep.				56			68	69			
Ecuador				55							
Honduras							70	68			
Mexico							74	75	83	80	84
Paraguay							74	73			
Venezuela			70	70			73	67			
Cuba							103	104			

Note 1: The scores for the 1992 UNESCO study are expressed in relation to the U.S. score in the IEA 92 study, taking into account the fact that Venezuela participated on both studies.

Note 2: The scores for the 1997 UNESCO study are expressed in relation to the U.S. score in the TIMSS 99 study, since Colombia and Chile participated in both studies.

Note 3: The results for Grade 7 in the TIMSS 95 study are similar to those of Grade 8 as shown on the table.

Note 4: Brazil's participation in the UNESCO study was restricted to the states of Rio Grande do Sul, Minas Gerais, and Ceará. Its participation in the IAEP study was restricted to the cities of Fortaleza and São Paulo.

Sources: for IAEP 92, ETS; for IEA 92, Elley; for UNESCO 1992, Arancibia and Rosas; for TIMSS, TIMSS 1999; for UNESCO 97, Casassus; for PISA, PISA 2001.

Brazil.⁷ Honduras is the worst performing country on the UNESCO/OREALC test. Brazil scores very poorly (below Mexico) on the PISA study.⁸ Costa Rica has not participated in international studies and, because of technical problems, did not report results in the UNESCO/OREALC study.

While average scores are valuable for comparative purposes, it is important to understand that Latin American students are able to answer questions measuring the use of simple, routine procedures, but unable to answer questions which require deciding on procedures or approaches in a novel context. At the fourth grade level, students usually cannot answer “word” problems, such as the following, which is an adaptation of an item in the UNESCO/OREALC study:

<i>Question:</i> Carlos learned to play 5 songs on the guitar. Marcos learned 3 more songs than Carlos. Lucía learned 2 less than Marcos. How many songs did Lucía learn?	
a.	10
b.	8
c.	6
d.	1
(answer: c)	

This kind of question was answered correctly by less than 50 percent of children in the region. In contrast, most of the TIMSS fourth grade questions measure far more sophisticated problem solving skills, such as estimation, logic, reading graphs, and predicting number series.

Self-reported literacy (in census forms) has increased in all four of the countries studied, increasing by an average of about 4 percent over the last ten years. Over 96 percent of all 15 to 19-year olds now consider themselves literate. It should be pointed out, however, that “functional literacy,” as measured by the ability to read and understand a daily newspaper, could be far

⁷ But Brazil’s sample included only three states (Rio Grande do Sul, Minas Gerais, and Ceará), the first of which generally scores above the state average in tests given within Brazil.

⁸ Since the PISA study focussed on an age group (15) rather than a grade, only half of the Brazilian students tested were in 7th or 8th grade, compared to over 90 percent in grade 9 or above in the OECD countries.

lower. For example, the OECD Adult Literacy Survey reported that over 50 percent of the Chilean population aged 15 to 65 could not identify basic information in an average text (Bravo and Contreras, 2001, p. 217), compared with 20 percent in the United States and lower percentages in European developed countries.

Has there been progress in the 1990s? Using international tests this question cannot be answered, except to emphasize that scores on international tests remain alarmingly low. In the only test—the UNESCO/OREALC reading test—which has been repeated, the main relative change seems to be a lowered ranking for Venezuela and higher rankings for Bolivia and Argentina.

In contrast, there has been a major change in attitudes toward testing among educational policy makers. Seventeen Latin American countries now have country assessment systems, compared to only four in 1990 (PREAL, 2001, p. 34). Country interest in participating in the latest international studies, such as PISA and the Adult Literacy and Learning Study (ALLS), has increased dramatically.

PROGRESS WITHIN COUNTRIES

What can be said about improvements in learning achievements within countries? Among the four countries studied in detail in this paper, Costa Rica and Honduras do not have reliable time series data on academic achievement. Chile has the best, albeit very imperfect, data on in-country achievement progress in the 1990s. Between 1990 and 1996 scores on Chile’s SIMCE tests improved significantly, but no “anchor” items were available to ensure comparability over time. Only in the last three or four years has Chile devised tests permitting the statistical comparison of scores from one year to the next. Even without anchor items it seems clear that improvements in learning did occur during the period 1990-96 (see Schiefelbein and Schiefelbein, 2000).

In addition to some general improvement, the gap between the worst performing Chilean schools of 1988 (the “900 schools”) and all other schools decreased significantly through 1996, a

possible result of the government's targeted program to strengthen these schools through training, educational materials, and increased financial support. While the "900 schools" program appears, therefore, to have been successful, there are a number of unresolved questions and uncertainties. In the first place, one third of these schools did not improve their scores. Secondly, there appears to be an upper limit on improved scores, since schools with students answering 60 percent of questions correctly showed no improvement. Finally, there have been little or no learning improvements in these schools since 1996. The recent disappointing scores may be a result of the fact that the impetus behind this reform is slowing down as the government identifies a new set of priorities.

Brazil has also been implementing its own testing program since the mid-1990s. There were no discernible learning improvements over the period 1995-1999, and unexplained declines in the scores of some states (INEP, 2000). On the other hand, some individual programs, such as "accelerated schools," appear to be cost effective in improving learning (Schiefelbein, Swope and Schiefelbein, 1999).

Uruguay is another country in the region with technically valid comparative learning results. During the period 1996-1999, Uruguay implemented a comprehensive primary school improvement program, especially targeted to "at-risk" students, which included increased resources, intensive teacher training and upgrading, and feedback of testing results to teachers. The program showed significant learning improvements of third graders, especially among the targeted groups (ANEP, 1998).

In short, the experiences of Chile, Brazil, and Uruguay do suggest that targeted programs focused on learning achievement can have an impact. This has important policy implications for the region. At the same time, there have been no national improvements in learning since 1996 in Chile and stagnating or declining scores in Brazil.

There are several explanations for slow progress in learning achievement in the region. The first one could be that real learning improvements

simply take a long time. For example, the National Assessment of Educational Progress (NAEP) in the United States has shown a slow improvement in the scores of African-American students over a twenty-year period, during which time major investments were made in compensatory education (NCES, 2000). The reason for slow learning changes could be long established cultural expectations, or the fact that the teaching stock changes slowly over time, as well as that parental levels of education, which are important determinants of learning, also change slowly.

A second possible explanation is related to increased enrollment and completion rates and the reduction in repetition rates. In the case of Latin America, this means that children who normally did not enter school are now enrolled and those that previously repeated and then dropped out are now remaining in school and completing their primary education. But these are the most disadvantaged groups whose parents have low levels of educational attainment. This certainly appears to be the case in Brazil, where many states have implemented "accelerated" programs targeted to multiple repeaters and others have introduced automatic promotion in grades 1 and 2. From this point of view, simply holding learning achievement constant can be considered a major accomplishment. It could be that the more privileged students attending school are improving their scores, and thus compensating for the lower scores of the new groups now attending school.

There would be two benefits to society from increased retention but no significant increase in learning per graduate. In the first place, the overall stock of knowledge increases, since there are more primary school graduates who, at the very least, know more than primary school dropouts. Secondly, "efficiency" of resource use is important for society. If the same learning result is achieved at a lower cost (because of decreased repetition), then funds are freed for additional investments within or outside the education sector. As noted above, there are no learning achievement benefits associated with repetition.

A third explanation is that the interventions and actions being taken to improve learning are inadequate or even counterproductive. For example (Table 8), a number of critical but simple steps to increase learning, such as putting the best teachers in first grade and reducing teacher turnover, which have been identified as important policies (Schiefelbein, Wolff and Schiefelbein, 2000), are not being followed.

In addition, what is being taught in teacher training colleges may not be conducive to increased learning. It is reported that some 80 percent of teachers and teacher trainers do not know how to use interactive learning techniques (Schiefelbein and Schiefelbein, 1999), with the result that teachers may not be using their time effectively in the classroom. As one review states, “teachers are poorly trained, poorly man-

aged, and poorly paid. Superior teaching is seldom recognized, supported or rewarded” (PREAL, 2002). There may be a lack of clear and carefully measured standards that provide useful feedback to the teacher. A number of studies have demonstrated, in some countries and especially in rural areas, the low level of teacher content knowledge as well as high teacher absenteeism.

A final possible explanation is that, while there are some successful targeted programs, such as those described above in Chile and Uruguay, overall Latin American countries continue to shortchange disadvantaged and vulnerable children (see Reimers, 2000). For example, preschooling, critical for increasing the readiness for learning, still reaches only a small percentage of these children.

Table 8
Expert Opinion on the Cost-Effectiveness of Education Interventions in Latin America
Ten Interventions with Highest Expected Cost-Effectiveness

Description of each Intervention (abstract) (in order of descending cost-effectiveness)	Estimated % increase in Achievement	Probability of Adequate Im- plementation of Intervention	Probable Impact of Intervention	Estimated % Increase in Cost of Intervention	Cost- Effectiveness of Intervention (impact/cost)	Increased unit cost to improve academic achievement by one point (US\$)
1. Assign best teachers to first grade	19.8	0.58	0.11	0.01	1531.2	0.003
2. Enforce regulations on official length of school year	10.6	0.50	0.05	0.01	699.6	0.006
3. Policy not to switch classroom teachers during school year	5.0	0.72	0.04	0.01	480.0	0.008
4. Test 10% of 4 th graders and distribute results to teachers	4.1	0.74	0.03	0.05	60.3	0.066
5. Decentralization	9.3	0.48	0.04	0.08	59.2	0.068
6. Media campaigns for parents to read to children	8.1	0.72	0.06	0.13	46.6	0.086
7. MIS for identifying low performing schools	10.2	0.68	0.07	0.25	27.7	0.144
8. Vision test by school and referral	3.2	0.66	0.02	0.10	21.1	0.189
9. Grant program (\$50/student) to improve pre-service teacher training	11.8	0.56	0.07	0.35	18.9	0.212
10. Test 10% of 4th graders and provide remedial strategies (one wk)	12.3	0.60	0.07	0.43	17.4	0.230
Average (of 40 frequent interventions)	10.3	0.63	0.06	5.09	76.9	4.147

Note: The unit Cost-effectiveness value represents an increment in impact that is proportional to the increment in cost.

Source: E. Schiefelbein, L. Wolff and P. Schiefelbein, 2000.

Expenditures and Other Inputs to Primary Education

In the region as a whole (Table 9), expenditures per student and expenditures as a percentage of GDP have gone up. Student/teacher ratios have declined, the percentage of children attending pre-school has increased, and the percentage of trained teachers has gone up. These are significant improvements. In particular, in 13 countries in the region with available data, public expenditure on primary education has increased from 1.3 percent of GDP to 1.7 percent of GDP, which is over a 30 percent increase. Pre-school enrollments have increased from 29 to 40 percent.

Among the four countries studied, Brazil, Chile and Costa Rica show similarly significant improvements (Table 10). While systematic data on nonsalary recurrent expenditures, such as expenditures on textbooks, learning materials, supplies and school maintenance are not available, it is likely that some of the improvements in financing have gone to nonsalary items. These increased inputs may well have had an impact

on school retention and perhaps have prevented declines in achievement.

Because of the demographic transition, in most countries enrollments in primary education will not grow over the next decade. This means that major capital investments in primary education will not be needed. It also means that there may be many newly trained teachers seeking jobs in primary schools. The result could be a reduction in student/teacher ratios. Whether lower class sizes could have an impact on learning is controversial in the United States (see Ehrenberg et al., 2001). In Latin America, the smallest class sizes are often in rural areas with untrained teachers. Based on the U.S. experience, the best approach would be a combination: selectively lower class sizes for disadvantaged children in grades 1 to 3, encourage the best teachers to migrate to these grades, and implement in-service training programs to increase teacher subject matter knowledge and change teacher classroom pedagogy.

Table 9. Changes in Inputs in Primary Education in Latin America, 1990-1999

	1990-1992	1997-1999
Percentage enrolled in pre-school (15 countries)	29.3%	40.1%
Student/teacher ration (12 countries)	30 to 1	28.3 to 1
Percentage of trained teachers (13 countries)	76.0%	80.0%
Expenditure per student as a percentage of GDP per capita (20 countries)	9.5%	9.8%
Public expenditure on primary education as a percentage of GDP (13 countries)	1.3%	1.7%

Source: UNESCO/EFA report for all items except expenditure per student, which is from UNESCO World Education Indicators.

Table 10. Changes in Inputs in Primary Education in Brazil, Chile, Honduras, and Costa Rica, 1990-1999 (%)

	Brazil	Chile	Honduras	Costa Rica
<i>Percentage enrolled in pre-school</i>	(4-6 years)	(4-5 years)	(4-6 years)	(2.5-6.5 yrs)
1990-92	50.5	20.9	17.1	25.6
1997-99	58.5	32.4	38.9	29.6
<i>Student/teacher ratio</i>				
1990-92	23.0		35.0	32.0
1997-99	24.0	29.0	32.0	28.0
<i>Percentage of trained teachers</i>				
1990-92			76.1	78.6
1998-2000		96.4	82.8	86.0
<i>Expenditure per student as a percentage of GDP per capita</i>				
1990	8.7	9.0	10.0	10.0
1996-1998	10.0	11.8	9.0	13.6
<i>Public expenditure on primary Education as a percentage of GDP</i>				
1990	2.2	1.6		3.1
1998-2000	2.3	2.1		4.2

Sources: UNESCO/EFA report, and UNESCO World Education Indicators.

Conclusions: The Unfinished Agenda

Overall, the region has made progress in primary education. More children complete their primary education. They begin their schooling at more appropriate ages and are less likely to repeat their grade. Targeted, comprehensive programs have been shown to increase achievement. Most countries in the region have increased their investments in education, both overall and on a per-student basis, during the last decade. It could be concluded that this investment has resulted in increased efficiency through lowered repetition, leading to more graduates and lower costs per graduate. Nonetheless, 18 percent of children still do not complete six years of primary education and 16 percent are repeating their grade. Perhaps more importantly, progress in terms of learning has been slow or nonexistent even in the most advanced countries.

Many countries are paying increased attention to secondary education, which does require major capital investments to cover enrollment growth. Yet, as shown in this paper, the task of increasing school completion and improving learning is far from complete. Furthermore, there is strong evidence (see, for example, Herrán and Uythem, 2001) that repetition and low achievement in primary education inevitably result in repetition, dropout and inadequate learning at the secondary level.

In short, a significant effort will be required to provide a full primary education of quality to all children over the next decade. Equally important will be the need to increase levels of learning of all those who complete primary education to approach the region's competitors in East Asia and Eastern Europe. It, therefore, behooves decisionmakers in the region to continue to focus on

the unfinished agenda in primary education. The details of the agenda will vary by country. For example, Southern Cone countries such as Chile have met quantitative needs and are now focusing on learning. Countries such as Brazil and Honduras face a more complex agenda, which includes further reducing repetition, increasing completion rates, and improving or at least maintaining levels of learning achievement. In addition, Honduras faces very real financial constraints.

The investments and policies needed in the next decade to meet targets are similar to those identified a decade ago, since all of them have only been partially implemented. They include improving teacher knowledge, pedagogy and commitment, with a focus on real and measurable changes in the classroom; increasing pre-school enrollment, especially of at-risk children; providing adequate and appropriate teaching materials; targeting resources to disadvantaged, including indigenous, children; articulating clear national learning goals; and improving the technical quality and utilization of testing programs. Repetition, albeit reduced, is still a counterproductive approach to quality improvement; and reducing repetition further will free funds for investment in real quality improvements. Because of the demographic transition, little investment in physical facilities is needed except in the very poorest countries; therefore, with reasonable economic growth, most, but not all countries, should have adequate funds to finance the quality enhancements described above. Nonetheless, their successful implementation will inevitably depend on leadership, consensus, continuity, and effective institutions at both the national and local levels.

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Annex Table 1**Primary Completion Rates for 17-20 year olds**

Country	Year	Percentage Completing 6th grade	Year	Percentage Completing 6th grade
Argentina	---	---	1999*	98
Bolivia	1990*	86	1999	77
Brazil	1988	49	1999	68
Chile	1990	93	1998	96
Colombia	1990*	86	1999	76
Costa Rica	1989	85	2000	88
Honduras	1992	69	1999	70
Mexico	1989	83	2000	88
Nicaragua	---	---	1998	60
Panama	1991	92	1999	94
Peru	1991	96	2000	95
El Salvador	---	---	1999	54
Uruguay	1992*	97	1998*	96
Venezuela	1989	87	1999	90

* Only urban areas

Source: Social Information Service, Research Department, IDB, based on household surveys.

Note: Primary completion is defined as completing at least 6 years of schooling.