Part II

Case Studies in Latin America

Chapter 4

Universalization of Primary Education in Latin America:

The Poor Results and Their causes

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Summary

The present tasks to be performed for primary education in this area are analyzed focusing on the quality of education with the help of plentiful data. The author also explores causes which generate the problematic conditions. The net enrolment ratio in this area was 96.6% in 2000; the mean completion ratio of 18 countries was 88.1% around the same year, and its projection for 2015 was 93.7%. The targets of the EFA movement are going to be attained in many countries in this area. However, the quantitative expansion brought about deterioration in the quality of education: about 40% of all pupils in primary schools were "overage" in 1995, suggesting existence of a massive number of repeaters. The low ratios of the correct answers to the reading achievement examination, which was conducted in 7 countries around 2000, revealed that almost half of the children in those countries can not grasp the meaning of the text. When this is combined with the completion data, the conclusion is that about 90% of children complete primary schools but half of them have unsatisfactory academic achievement. This is caused by the tendency towards giving priority to macro level targets; setting strategies and implementing them with insufficient consideration about their feasibility at the teachers' experience level; speculative policy decisions not based on objective scientific research results or systematic evaluation of past experiences; adoption of policies differing from the advice of world experts; attachment of importance to the operative and administrative aspects of program evaluations rather than their actual contribution to improvement of educational quality. The author emphasizes the needs for more conscious pursuit of education quality in the target decision processes; pedagogical considerations which take teachers' experience and reality into account in policy making; adoption of objectively and scientifically confirmed models and practices; and more serious consideration to expert opinion.

Key words

Latin America, primary education, quality

[Yonemura, Akio ed. *Universalization of Primary Education in the Historical and Developmental perspective,* Research Report (Chousakenkyu-Houkokusho), Institute of Development Economies, 2007]

Policy makers are happy because they have been able to achieve nearly universal access to primary education in Latin America. But they are not even aware that students' learning is rather low. This is the result of dodging or not detecting major Pedagogical issues or problems with teaching and management. Problems not detected in former education sector studies have not been targeted in developmental policies and projects. It is urgent to identify those "unsolved problems" that are constraining better-quality learning and to find effective strategies for eventually overcoming those major stumbling blocks.

It is timely and significant to review undetected problems constraining quality and to present them to policy makers and managers integrated with economic and management issues in terms of efficiency levels. Most Latin American countries are now providing universal access, and over 88% of newcomers last until grade five in primary education (Unesco-OREALC, 2004,13; Wolff et al, 2002,3), but nearly half of those making it to that level are not able to communicate in writing despite their five or more years of primary education. Decision makers should pay attention to this difference between schooling and learning, because direct measures of human capital based on literacy scores perform better than years-of-schooling indicators when explaining growth in output per capita and per worker (Coulombe, Tremblay and Marchand, 2004; David Green and W. Craig Riddell, 2001). For this reason, the regional office of Unesco has critically evaluated educational achievement; several agencies are revising their past assistance policies to primary education in terms of the impact on the level of learning achievement, and the Center for Global Development is promoting impact evaluation (Savedoff, Levine and Birdsall, 2005). The Operations Evaluation Department (OED) of the World Bank is evaluating the impact of primary education projects (Nielsen, 2004; OED 2005a) and the Inter American Development Bank and USAID have prepared new education strategies for the region.

Basic elements of the educational technology are integrated with economic and management education issues in the following sections. Special attention is paid to linkages between macro issues and students' learning at the classroom level in order to eventually analyze alternative strategies for teaching children from different types of family backgrounds. Furthermore, educational jargon is kept to a minimum to make it easier for decision makers to read this chapter.

The expansion of enrolments and the evolution of regional net enrolment ratios is analyzed first. Next, repetition problems and their impact on overage enrolments by socioeconomic groups are commented upon. Learning achievement is then illustrated with examples that can provide practical insights. The difference between schooling and learning is commented on in detail. Four sets of possible explanations --including teaching training—for problems observed in previous sections will be summarized in the end. In each section, relevant comparisons with respect to the process of supplying universal primary education performed in Japan and other developed countries will be presented, taking into account the differences in development processes.

1. Education For All (EFA) contributed to achieving universal schooling in Latin America

More than *one million new spots for primary students* were created each year in Latin America during the last four decades (Table 1). This expansion increased access from half of each age cohort to almost all children reaching the school entrance age. This impressive effort was based on the development --in the late 1800s and early 1900s-- of a relatively efficient six-grade primary system for the wealthier half of the society. Until the 1950s primary education had barely spread to rural areas and lower classes in urban areas, while first-grade intakes now approximate 100% of the starting age population group.

Enrolments expanded since the 1960s as the result of a combination of driving forces: parents' willingness to improve the quality of their children's lives; job opportunities linked to years of schooling; interest of democratic political parties for getting popular support; or, later on, the need to compete in a global market with a highly productive work force, and the international recognition of education as a human right (Bray, 1986,150). This process was further advanced by the Jomtien "World Declaration on Education For All (EFA)" and the eventual increase in financing of universal schooling by development banks.

High enrollment ratios and small gender differences generated the well-documented negative impact of women's schooling on rates of fertility (Schultz, 1997). Therefore, the impact on enrollment ratios was enhanced by the decline of births observed in the 1970s and 1980s. The first Latin American demographic transition occurred in the 1960s, in urban areas, among educated women who were over 20 years old at the time of marriage. The second transition

started in the 1970s among impoverished rural and marginal urban women that were enrolled in primary education and took advantage of contraception alternatives to prevent deterioration of their living conditions (Zavala, 1992).

Enrolling the last decile group of the school age population in the 1990s –-a difficult stage in any expansion process-- involved reaching out to isolated rural areas and coping with child labor in urban marginal areas (ECLAC,2005,6). Universal access was made possible by the reduction in demographic pressures and the increments in loans from Development Banks triggered by the Jomtien Declaration (Nielsen, 2004,45). Even though the task was difficult, most Latin American countries were able to eventually offer universal primary education (Table1), and several countries also extended primary education into a basic education of 8 or 9 grades.

Table 1: Participation in pre-school and primary education from 1960-2000

Levels	1960	1970	1980	1990	2000
Pre-school education					
Students (000)	983	1,728	4,739	10,663	12,000
Enrolment ratio (age 0-5)	2.4%	3.3%	7.8%	16.7%	19.0%
Primary education					
Students (000)	26,653	46,576	65,327	75,689	70,310
Enrolment ratio (age 6-11)	57.7%	71.0%	82.9%	87.1%	96.6%
Gross enrolment ratio	72.7	90.7	104.5	106.7	120.0

Sources: Unesco-OREALC, *The State of Education in Latin America and the Caribbean*. 1980-1994, UNESCO-OREALC, Santiago, 1996, p. 22.
UNESCO, Gender and Education for All. The leap to equality, Paris, 2003, pp. 314-335.
World Bank, 2002, World Development indicators, The World Bank, Washington DC., pp. 405

The massive increase in enrollments from 1960 to 2000 was carried out in two-shift or even three-shift systems (with shorter daily schedules of 3 to 4.5 chronological hours per day). However, the expanded system implemented the same education and financial models utilized in the first half of the 1900s (when students were mainly part of families included in the upper half of the socioeconomic distribution in each country). The use of whole class frontal teaching processes (that assumed family support and access to books and newspapers) generated problems because these new families were illiterate, and written materials were unavailable in impoverished rural and marginal urban areas. Even though the teaching of deprived students demanded more resources per student (to attain similar learning levels as in the past), most countries maintained the same unit costs as in the past, when the system was

mainly attended by students from families in the upper SES distribution (Randall and Anderson, 1999,312). A longer daily schedule and better infrastructure are required (Unesco-OREALC, 1996).

However, the main problem was the bureaucratic demand on each teacher to create everything from scratch. Teachers have had no clear indication of norms regarding the use of available learning time, and provision of textbooks only started in the late 1960s. Lack of basic elements (taken for granted in Japan and other developed countries) also reduced learning. Well tested scripts and workbooks have not been available, and lesson plan models are not yet accessible. Some further comments on teaching are presented in section 5(ii).

The education model used in this expansion stage generated inadequate learning and achievement that produced high repetition rates. 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 results of this ineffective process can be illustrated with the age heterogeneity in enrolments by grade presented in the next section.

2. Age heterogeneity results from the expansion of Latin American primary education

Poor learning, higher repetition, and age heterogeneity were the result of implementing "more of the same old type of education" in schools created for attendance by students from families in the lower half of the income distribution. The wide age distribution in each grade, shown in Table 2, mainly corresponds to the effects of a vicious cycle observed in schools attending impoverished rural and marginal urban population: (i) ineffective teaching resulting in little learning; (ii) poor learning increasing repetition; (ii) repetition generating age heterogeneity; and (iii) age heterogeneity making it more difficult for a teacher to help students to learn. Indeed, these schools more often than not combine low expectations for achievement with the old "frontal teaching" method which both promote boring lecturing sessions, with little opportunities for students to think independently or construct knowledge or effective group work skills. There are a few exceptions, and the best known is the Colombian Escuela Nueva (Colbert, 1999; Schiefelbein, 1992).

Timely entrance (96% of 7 year olds were enrolled in 1995/1996) did not generate a positive enough impact to counteract the vicious cycle described in the previous paragraph. On-time entry to grade one was counterbalanced by early repetition, generating overage students (Wolff et al, 2002,8).

Some 40% of students in each grade are overage students (aged two or more years over the standard age for each grade) as summarized in the last line of Table 2. Therefore, there are 17.9 million students in grade 1 even though there are only 10.8 million people in the age 7 population group (the difference is inferred to be mainly repeaters given that 96% of the 7 year old population is already enrolled).

Table 2. Latin America: Enrolment by grades and ages (in thousands) 1995/1996

Age	Pre-	Primary Education						Secondary	Higher	Total	Population	Enrolment
	school	G1	G2	G3	G4	G5	G6	Education	Education	Enrolment	by age	rate by age
0-1	31	0	0	0	0	0	0	0	0	31	10.500	0,3%
2	45	0	0	0	0	0	0	0	0	45	10.500	0,4%
3	884	0	0	0	0	0	0	0	0	884	10.500	8,4%
4	2411	5	0	0	0	0	0	0	0	2.416	10.514	23,0%
5	4162	397	8	0	0	0	0	0	0	4.567	10.571	43,2%
6	2119	5566	499	8	0	0	0	0	0	8.192	10.690	76,6%
7	884	4836	3926	558	10	1	0	0	0	10.214	10.752	95,0%
8	522	2615	3362	3326	550	12	1	0	0	10.387	10.786	96,3%
9	52	1558	1994	2801	2956	547	12	1	0	9.922	10.485	94,6%
10	0	1055	1305	1728	2438	2612	537	18	0	9.692	10.273	94,3%
11	0	668	864	1146	1508	2155	2328	491	0	9.161	9.998	91,6%
12	0	486	603	805	1039	1432	1872	2391	0	8.630	10.030	86,0%
13	0	285	410	523	687	995	1155	3611	0	7.667	9.726	78,8%
14	0	171	222	324	410	633	772	4081	0	6.613	9.639	68,6%
15	0	142	112	139	201	400	473	3891	0	5.359	9.443	56,7%
16	0	75	81	78	109	257	272	3520	0	4.393	9.254	47,5%
17	0	2	43	55	61	161	185	3152	220	3.879	9.169	42,3%
18	0	3	2	29	44	94	117	2018	1127	3.434	9.119	37,7%
19	0	0	1	2	25	73	71	1180	1471	2.823	8.569	32,9%
20	0	0	1	1	2	40	56	825	1518	2.443	8.128	30,1%
21	0	0	0	1	1	2	27	490	1449	1.970	7.753	25,4%
22	0	0	0	0	1	1	2	354	1212	1.569	6.460	24,3%
23	0	0	0	0	0	1	1	182	488	672	6.392	10,5%
24	0	0	0	0	0	0	0	26	161	187	5.709	3,3%
25	0	0	0	0	0	0	0	10	41	52	5.664	0,9%
26 y +	0	0	0	0	0	0	0	10	12	21	5.349	0,4%
Total	11.109	17.864	13.433	11.526	10.044	9.416	7.883	26.251	7.700	115.225	235.975	
Standard age		6	7	8	9	10	11					
Overage		6.981	5.592	4.799	4.060	4.046	3.102					
		39%	42%	42%	40%	43%	39%					

Sources: Unesco-OREALC, 1996, *The State of Education in Latin America and the Caribbean.*1980-1994, UNESCO-OREALC, Santiago, Table 6 p. 30 and data from OREALC-SIRI system.

Most of the repetition and poor learning corresponds to students from families in the lower half of the income distribution. Nearly 80% of students in schools attended by members of

those families are overage students, because few students from families over the 50th percentile of the income distribution are repeating due to learning problems. These data are not available for “illiteracy rates” (reported in Census data) or “enrollment rates by level” that are the main sources used to carry out the analysis of coverage in most sector studies (Grindle, 2001,19). Therefore, most decision makers are not aware of the *repetition-overage-little learning* circle affecting students from families in the lower half of the income distribution.

The process of providing universal primary education in Latin America (illustrated in Table 2) is different from the expansion of education in Japan. While the Japanese government was especially careful that the standard primary schools become truly “standards for all” by maintaining its quality amidst the universalization process (Chapter 2 and Chapter 3), in Latin America there are sharp differences in the learning achievement of students in the poorer and wealthier halves of society. Given that this task was not successfully performed, leaders in urban and rural communities have been sending their children to higher quality private schools rather than fighting for improvements in learning at public schools.

In fact, the learning problem is even larger than the magnitude illustrated by the repetition and overage figures. There is a large variance among learning levels of students according to types of schools. Lower learning levels are required of deprived groups for promotion to the next grade. Poor understanding of meaning from very simple texts suggests that repetition levels (illustrated by overage students in Table 2) could still be higher if a reasonable level of reading comprehension was demanded for promotion to an upper grade (UNESCO, 2001.39).

In summary, **Schooling is different from Education in Latin America**. This difference is examined in a careful analysis of learning levels presented in Section 3. Most grade one repetition is the result of little learning in reading (in fact decoding) simple words. Therefore, reading achievement will be analyzed to better understand the magnitude of learning problems in Latin America and to explore possible causes of this problem. Fortunately, Unesco-OREALC has operated a Regional Laboratory for Measuring achievement in Primary Education, and there is relevant data for a dozen countries representing over 80% of the Latin American primary education enrolment.

3. Reading achievement in 7 countries shows poor learning and a wide variance between socioeconomic levels

The quality of education is difficult to adequately ascertain, but a relevant proxy is a level of literacy that allows children to express meaning and to make inferences. “Literacy is a prerequisite to the acquisition of new information and the formulation of new ideas” (Catherine Snow, 2005). “Nothing is more important in education than knowing how to read. If students can't read, they will not be able to understand science, history or even mathematics. In education, reading is the foundation for all future learning” (Ravitch, 2003). However, it is “one of the most neglected of the six goals adopted in 2004 at the World Education Forum in Dakar (Unesco, 2005b,18). Using misleading data provided by population censuses may explain part of this lack of interest in literacy (Unesco, 2005b,63)

Unesco reports that L.A. students are learning to decode, but not to grasp the meaning of the text or to make inferences” (UNESCO-LLECE, 2001,34). The analysis of selected Reading Comprehension items administered by national testing systems in seven countries (Bolivia, Brazil, Chile, Guatemala, El Salvador, Nicaragua and Paraguay) shows that most students could identify the bare facts of what they read. E.g. “Juan went to the store”. Question: Did Juan go to: (a) the store; (b) the movies? But they can't draw any inferences or conclusions beyond the simple facts.

The analysis of test data requires understanding of the difference between “gross” and “net” scores. For example, in a group of 100 students that are answering one item with four alternatives, there may be 36 students that "really know the correct answer" (net score = 36), but there will also be (in addition) 16 students that "answer correctly by chance" (about one out of four “guesses” or one fourth of the remaining 64 cases). Thus, the “gross” score will be 52 (resulting from 36 plus 16 or net score plus guesses). Gross and net scores (for seven countries) are presented in Table 3 for assessing two main reading competencies: reading comprehension and linkages among texts.

Table 3. Answers to reading comprehension items in seven countries: Grades 3 to 6, Circa 2000

Net scores in parenthesis.

Answers to items that imply an inference. Level of difficulty: **medium**	Country year and grade	Number of words in text (characters)	Percentage of faultless answers in reading test		
			Total sample	Estimated distributions	
				High half	Low half
Alternatives: a) b) c) d)	Nicaragua 2002 Grade3	99 (526)	24% **51%(35%)** 17% 7%	16% 73% **(64%)** 8% 3%	32% 30% **(7%)** 25% 12%
Alternatives: a) b) c) d)	Nicaragua 2002 Grade 3	5 (24)	28% 13% **44% (25%)** 7%	22% 5% 65% **(53%)** 7%	32% 21% 23% **(0%)** 20%
Alternatives: a) b) c)	El Salvador 2001 Grade 3	62 (382)	26% **57% (35%)** 16%	13% 81% **(71%)** 6%	39% 32% **(0%)** 25%
Alternatives: a) b) c)	Ecuador 1999 Grade 3	80 (430)	13% **61% (42%)** 19%	7% 86% **(79%)** 7%	33% 34% **(1%)** 33%
Alternatives: a) b) c) d)	Honduras 1997 Grade 3	27 (156)	23% 20& 17% **38% (17%)**	16% 16% 16% 51% **(35%)**	25% 25% 25% 25% **(0%)**
Alternatives: a) b) c) d)	Brazil 2002 Grade 4	47 (291)	24% 10% 11% **49% (35%)**	9% 9% 9% 73% **(64%)**	25% 25% 25% 25% **(0%)**
Alternatives: a) b) c) d)	Chile 2002 Grade 4	105 (665)	10% 11% **66% (55%)** 18%	6% 6% 82% **(76%)** 6%	17% 17% 50% **(33%)** 17%
National average of 7 items (four alternatives)	Paraguay 2001, G3	n. a.	**59% (46%)**	81% **(75%)**	38% **(17%)**
National average of 6 items (four alternatives)	Paraguay 2001, G6	n. a.	**53% (42%)**	80% **(74%)**	25% **(0%)**

Note 1: Students are asked to select the alternative that best describes the main idea of the written text.

Note 2: The estimated percentage of students that "**knew the correct answer"** is presented in parenthesis.

Note 3: Data for El Salvador was processed by SINAE . High half includes families over the median income.

Note 4: If in Chile the "low half" has 40% faultless answers (20% net), the "High Half" would be 92% (89% net). If the "low half" has 35% faultless answers (13% net), and the "High Half" would be 97% (96% net).

Note 5: If in Paraguay the "low half" has 30% faultless answers (7% net), the "High Half" would be 89% (85% net). If the "low half" has 25% faultless answers (0% net), the "High Half" would be 94% (92% net).

Note 6: Wrong answers are distributed evenly.

Sources: APRENDO, 1999, Análisis de las Pruebas APRENDO 1996 y de sus resultados, Ministerio de Educación y Cultura, EB/PRODEC, Quito, Ecuador, pp. 28 and 33.

UMCE. Análisis de Reactivos y Estrategias Sugeridas. Español. Tercero y Sexto Grados Primer levantamiento de Datos, 1997.

Universidad Pedagógica Nacional Francisco Morazán. Secretaría de Educación. Diciembre, 1998a. pp. 8, 10,38 and 46

CESGRANRIO, 2002, Resultados. Avaliacao dos alunos da 4a. serie E.F. 2002, Prefeitura da Cidade do Rio de Janeiro, pp. 44-45.

SIMCE, Informe de Resultados 4° Básico 2002. Ministerio de Educación. Unidad de Currículo y Evaluación (UCE), Sistema de Medición de la Educación (SIMCE), Santiago, Chile, p. 29

SNEPE, 2002, ¿Cuanto aprenden nuestros niños y niñas? 3° Grado- 6° Grado, Ministerio de Educación y Cultura, Sistema Nacional de Evaluación del Proceso Educativo, Asunción, Paraguay, pp. 12, 42, 53 and 94.

MECD, 2004, Informe de Resultados 2002, Evaluación del Rendimiento Académico de los estudiantes de 3º y 6º grado de primaria, Dirección de Evaluación de Políticas, Programas y proyectos, Managua, pp. 76..

Dirección Nacional de Monitoreo y Evaluación. San Salvador, 2004

"Net scores" for the total sample (Table 3, column 4, parenthesis) suggest that less than half of Grade 3 or Grade 4 students can understand a brief text of medium difficulty (net scores ranging from 17% to 55% of the students). In each case rural children (from families who are in the lower half of the income distribution) are showing achievement that is below the national average. Therefore, strategies implemented for improving education should be reviewed.

Findings from Table 3 are also consistent with the performance of five countries participating in the Programme for International Student Assessment (PISA) 2000. Some 44 to 80% of 15 year old students in secondary education in from Argentina, Mexico, Chile, Brazil and Peru showed a low achievement level (Level 1 or below) in literacy skills (Unesco-OREALC, 2004,37).

Most students that do not master the amount of knowledge expected by the teacher for promotion to the next grade of the primary school system are members of low-income families. Even though these children of low-income families remain 6 or 7 years in primary school, they cannot read and understand the meaning of simple texts.

In summary, the Latin American governments (and their projects funded by development banks) were not able to establish a Standard Primary School or to make sure that new schools be able to conform to a given “Standard for All schools” in order to maintain certain minimum levels of quality in all schools. The wide gaps in quality have an obvious impact by family socio-economic levels that are shown in Household Survey data presented in the next section.

The analysis of household survey data presented in Section 4 suggests that most students (including students from the lower half of the socio-economic distribution) eventually complete primary education. On the other hand, Table 3 has shown that half of them are not able to correctly answer simple reading comprehension questions, as analysed above (in several countries the rate of faultless answers of the lower half group is similar to the probability of "answering correctly by chance"). The comparison of both sets of data suggests that teachers eventually promote their students to the next grade, even though only half of them reach the minimum level of knowledge that is usually required to complete the primary school system.

4. Near 90% of each age group complete primary education, but only half are able to read

Six million young Latin American people between 15 and 19 years of age had not concluded primary schooling circa 2000 according to Household Survey data in each country (Table 4, last line).. By 2015 some 93.6 percent of those of similar age at that time would be completing primary education in the region (Unesco-OREALC, 2004,14). By the year 2015 there would be over 3.4 million people short of the Millennium Development Goal, and most of them would be from families in the lower income quintiles (Unesco-OREALC, 2004,26).

The analysis of primary completion is carried out with people who were 15 years of age or more (at the time of the Household survey) because nearly all of them went through primary school in the past (at some point in their lives). Therefore, their educational performance provides a low estimate of primary education completion (the error is less than one percent as it is illustrated by the difference between the circa 2000 figures and the 2015 estimates) presented in Table 4 (columns 4 and 6).

Table 4. Latin America: Population 15-19 years of age without a complete primary education, Circa 2002 (in thousands)

Country	Year of survey	Total 15-19 population Circa 2000	15-19 population without complete primary education		
			Circa 2000		Year 2015
			Percentage	Not completed primary	Percentage
Argentina	2002	3,312	3.4	111	2.2
Bolivia	2002	909	18.4	160	11.2
Brazil	2001	18,067	12.4	2,244	6.9
Chile	2000	1,385	3.0	41	1.8
Colombia	2002	4.206	10.3	432	4.6
Costa Rica	2002	421	11.3	47	5.7
Dominican Rerp.	2002	921	18.1	166	10.8
Ecuador	2001	1,317	9.2	121	4.7
El Salvador	2001	660	25.7	169	17.9
Guatemala	2002	1,305	39.2	511	23.1
Honduras	2002	758	31.6	239	21.7
México	2002	10,177	7.4	754	4.0
Nicaragua	2001	616	35.5	219	30.5
Panama	2002	288	8.5	24	3.9
Paraguay	2000	632	19.2	121	12.0
Peru	2001	2,706	10.6	286	5.0
Uruguay	2002	257	3.7	10	2.5
Venezuela	2002	2,578	9.8	252	5.3
Total (18 countries)	**Circa 2000**	**50,513**	**11.9**	**6,003**	**6.4**

Note: Countries defined Primary Education as the first 6 years/grades of their primary or basic education systems (except for Brazil and Colombia where only the first 4 or 5 years are considered, respectively). Complete primary education (in this table) is not necessarily the same as formal certification at the country level.-

Source: Unesco-OREALC, 2004 (pages 11,13, 14, 17, 46, 51), with data from Household Survey data available in ECLAC, Santiago de Chile.

If near 90% of a single age group completes primary education (Table 4, last line), but only half of the “Grade 3 to 6” students are able to comprehend what they read (Table 3), there is little value for 4 out of 9 students to keep attending school for completing their primary education. Reaching the EFA or the Millennium Development Goals is not enough for Latin America, if half of the students completing such goals will not be able to understand the meaning of a simple article in the first page of their national newspaper. Moreover, there is an important equity problem because students unable to draw inferences are mainly from families

with an income below the midpoint. In fact, 70 to 90% of students from the lower part of the income distribution get practically nothing from the time they attend school.

Inability to read meaningfully mainly results from the lack of "opportunity to learn". Students have the talent (the talent is “normally” distributed), but poor teaching and lack of materials (especially in marginal and rural areas) prevent them from learning, therefore they eventually leave the system. Recent evidence suggests that teachers have not been trained to teach how to read (Latorre, 2002) and they simply don't teach children to draw inferences from what they read.

In summary, development agencies helped Latin American countries to supply universal access and completion of five or six grades of primary schooling. With their help, 11 out of 18 Latin American countries are on track to reach universal completion in 2015 (Table 4, last column). However, their impact in learning has been rather slight. For example, the World Bank has been lending over 600 million dollars per year to Latin America (Nielsen, 2004,45) and the Inter American Development Bank has been lending some 300 million dollars per year. After 15 years, still half of the students are not able to understand the meaning of a short and simple article in a newspaper. There is no noticeable change in achievement (despite such a huge amount of money invested in quality improvements), with the exception of the Colombian Escuela Nueva project that raised achievement in rural areas over the level of urban areas by using well tested “scripted” textbooks, and training teachers on how to use the scripts (including group work). What we observe in Latin America seems to be part of a more general problem: “after five decades, in which development agencies have disbursed billions of dollars, it is still not clear how this development assistance should be spent” (Savedoff, Levine and Birdsall, 2005,iii). Something went wrong in education development projects implemented in Latin America (OECD, 2004,124), and a review of possible errors is presented in the next session.

4. Exploring possible causes for low achievement among students from poor families

To overcome difficulties observed in the development of primary education in Latin America it is essential to analyze, understand and provide answers to four questions: (i) are the main educational goals (defined in past policies o programs) well defined so that the country has been correctly attacking the right education problem (and not the wrong one)? (ii) were the

feasibility and relevance of the selected (and implemented) strategies for solving the right problem carefully assessed (in order to detect if the country implemented the right answer to the wrong problem)? (iii) are the most cost effective elements strategies selected for implementation (taking into account impact, feasibility and cost)? and (iv) how effective is the implementation (including the willingness to improve education)? A checklist of factors that could be affecting problems and solutions may be used to review each aspect of the analysis, such as education diffusion in remote areas, bilingual education for indigenous peoples, education for migrants' children, initial and in-service teachers' training, incentives for teachers in remote areas, scholarships for poor children, or managerial, political and financial problems as well. Failure in one or multiple factors will most likely prevent the solution of the key educational problems.

There have been many attempts to explore possible causes of poor learning, but most reports pay attention to specific areas of the problems rather than the web of interactions or key elements suggested by a good theory of learning (Carroll, 1963). Unfortunately research tends to be limited by specific approaches like: statistical associations (Randall and Anderson, 1999; Murillo, 2003,70); descriptions of ethnographic cases (Muler et al, 2003; Franco, 2003); or normative regulations (Unesco, 2002). Moreover, there are few attempts to look at the "black box" of classroom processes (Reimers, 2000,443; Zorrilla, 2003,359; Wolff et al, 2002,15). A selection of the main possible causes of low students' achievement is presented below organized in terms of the four processes described in the beginning of this section.

(i) Goals were not well-defined because education sector reports have been professionally flawed

Policy makers, journalists, and the public are not aware of the low reading ability of Latin American students, and this fact suggests that education sector studies prepared in each country (including those studies prepared by development bank staff members) have not raised the priority of this issue. This is a serious problem because the quality of analytic sector work is essential for good project designs (OED, 2004,43). Sector reports are usually focused on macro issues, mainly coverage, managerial and financial problems. Classroom-related pedagogical issues are seldom analyzed in detail and usually poorly understood. Results of learning achievement tests are sometimes quoted in the reports, but the concepts that children do not master are not identified, and the teaching processes related to poor results are normally not detailed or properly understood. Six relevant examples of key elements, which are directly related to classroom level practices (and, therefore, to training of future teachers) but were not

well analyzed in education sector reports are presented in this segment. If these examples are valid, it would mean that their policy implications would not have been included as relevant goals in development projects and, more than likely, that most programs have been attacking the wrong education problem:

Sector studies do not comment on gaps among newcomers' previous knowledge. The EFA Report 2005 acknowledged that learners do not come to the classroom on equal footing (Unesco, 2005a,), however, sector reports have not commented on the huge differences in Grade 1 students' vocabulary by socio-economic levels (ranging in Latin America from 600 to 3000 words according to parents' education). "Because vocabulary is such a big domain, the accumulation of deficit is a big problem" (Snow, 2005). Even though teachers should be prepared to allow different amounts of time for learning a given learning task (Carroll, 1960), this skill is seldom mastered by Latin American teachers and has not been reported as a serious problem in education sector studies (even in studies prepared by development banks)

There is seldom detailed information on reading comprehension levels (as in Table 3 of this article), even when poor reading comprehension levels could be mentioned as problems. Reports on teachers' training in teaching to read (and differences in teaching ability in each school) are also lacking. The fact that nearly 90% of teachers and Teaching Professors do not know their speed for reading articles in the first page of a national newspaper (Schiefelbein and Schiefelbein, 1999), suggests that they are not aware of the role of "reading fluency" in the level of comprehension.

Teachers' expectations are not discussed as an issue even though they are so powerfully (Rosenthal and Jacobson, 1968) biased according to socio-economic level, race, age, gender, hair, dressing, way of speaking, walking, grooming or seating position (Tenti, 2005). Expectations are especially troublesome in rural areas (Colbert, 1999). Despite awareness of the power of self-fulfilling prophecies, "biased low expectations" is a topic not integrated in development projects, teacher training or educational policies.

There is no tradition of evaluating trainees practice classes (microteaching), so it is difficult to learn from such practices, however this problem has not been reported in sector studies. Students do not have the chance to see themselves teaching (in videotaped sessions), to receive feedback from their peers or to exchange comments about teaching processes. Future teachers can learn from comments directed at themselves as well as from comments directed at other people. Even the more experienced Teaching Fellows would benefit occasionally from something like this, though they usually may not admit it.

Sector reports do not get into the issue of how teachers teach. The socially expected role of teachers is built from past experience in all educational levels. In Latin America such vision

is linked to a teacher talking to the whole class (trying to “transmit” knowledge), while students sit quietly in their seats, many of them bored or staring out the windows. However, there is no data on whether future teachers are being taught in a similar way and, therefore, highly likely to teach in a similar way (and the socially expected role would prevail).

Sector studies do not analyze how teachers are trained for teaching reading. Internationally the methods for teaching reading are well understood, and it should be reported how teachers help their students to: (i) learn the language by talking or telling stories; (ii) break apart and manipulate the tiny segments of sound (phonemes) in words (phonological awareness); (iii) link sounds and letters of the alphabet (the symbols that stand for them) which can then be blended together to form words (phonics); (iv) master fluency by practicing what they've learned by reading aloud (to either a parent, teacher or another student) with guidance, correction of mistakes, feedback and learning to recognize new words (guided oral reading); (v) read silently to oneself even if the impact in reading ability is not well researched; and (vi) try reading comprehension strategies to improve understanding and meaning such as vocabulary development, text comprehension instruction, and use of questions to check the meaning of a given text. Repetition and multiple exposures to vocabulary words will also assist vocabulary development, as will the use of computer technology. Teacher practice should be compared with available research on the use of time for teaching to read (NRP- NICHD, 2000; Snow et al, 1998).

(ii) The feasibility and relevance of the selected strategies are seldom assessed: the case of teachers

The high probability that the wrong problem was targeted in most Latin American education development projects (see previous segment) reduces the interest in the analysis of specific strategies. However, it is important to investigate whether programs have been too optimistic about potential in-service teachers’ training and local participation (OED, 2005b,47; OED 2004).

Are teachers (with their present academic training and professional judgement) able to implement the selected strategies for improving quality? Since the early 1990s, strategies implemented for increasing learning achievement have assumed that teachers are able to magically mutate their training and behavior to provide effective solutions for long-established educational problems (Schiefelbein, 2003). However, the evidence suggest that pre-service training would be a serious barrier for solving priority education problems in Latin America (Latorre, 2002). In the rest of this segment classroom practices will be commented on as it has been recommended as a condition for effective reform (Stewart and Brendefur, 2005,682).

For example, the flagship World Bank strategy has been empowering local schools and teachers' communities by encouraging their participation in project design and implementation (OED, 2005b,43). World Bank projects implemented in several countries seek to "free teachers' creativity" by asking a group of teachers from each school to prepare an "educational improvement project" aimed at raising the achievement level in basic learning skills and offering grants (usually awarded by a national board) to implement the projects. The analysis of 895 "improvement projects" prepared in Chile (Mined, 1996,357) shows that in 68% of their projects teachers rightly detected the need to "improve their ability to teach reading" as their main problem, but they could not find advisors, references or materials that help them to implement an effective program to solve reading problems at their school. Moreover, the OECD report on Chile--a country that has been presented by the World Bank as a successful case of project implementation (Nielsen,2004,31)--concludes: "the whole [set of teaching activities] lacks a focus on achieving learning objectives" (OECD, 2004,37), and a trainee declares, "I have not learned how to teach Spanish" (OECD, 2004,132). Furthermore, given that 50 percent of Latin American children are not successful readers it is possible to infer that their teachers do not utilize an organized sequence of learning tasks with suitable amounts of daily time assigned to phonemic awareness, phonics (decoding words), silent and vocal reading, vocabulary, writing, reading comprehension, and eventually spelling.

Teachers' work loads are seldom reported in sector studies, in spite off their importance. Some 70% of teachers work over 30 hours per week in teaching and 20% of them have non-teaching additional work (Unesco-Orealc, 2005,22-25). If a couple of hours for transportation and 30 hours per week of domestic work are added to the daily schedule there would be little extra time for professional development or for preparing lesson plans.

School violence is also never mentioned in sector reports. However, some 70% of teachers believe that violence is a serious school problem, and one fourth have been faced with physical threats (Unesco-Orealc, 2005,33). One third has sore throat problems (probably due to frontal teaching), and one half has lower back pains (Unesco-Orealc, 2005,34-35). All in all, one fourth of teachers asked for sick leave during the previous school year (Unesco-Orealc, 2005,37)..

A comparison of present teaching skills and those required for overcoming current problems (especially in schools operating in deprived areas) is presented in Table 5 to illustrate issues

that are not usually discussed in sector studies. This is not the place for a full discussion of teaching strategies, but the comparison suggests that present trainers of future teachers would have to change their “teaching strategies” rather than the content of the courses they are teaching.

Table 5: Teaching practices modelled by Trainers teaching future teachers in Latin American countries

Present problems of Pre-service Teacher Instruction	Actions for improving Pre-service Teacher Training	Priorities[2]		
		I[3]	U[4]	F[5]
Activities described in this column may have been functional in the past but today must be revised and upgraded	Possible relevant improvements and complements for usual problems in deprived areas are suggested in this column (to be verified in each country)			
Trainer uses Frontal Teaching (always or most of the time)	Trainer uses over one dozen Teaching Models (see 20 Models[6]), as needed			
Trainer strives to "transfer" her/his knowledge to trainee (banking model)	Trainer designs "learning activity" that helps trainee to learn/understand			
Trainer optimises lecturing abilities (or performing/acting) to motivate trainees	Trainer tries to optimize trainee's time on task (and preparation before the class)			
Trainer uses once-a-month summative evaluation of learning	Trainer uses formative evaluation (also grades) after each learning series (several in each class)			
Trainer does not evaluate her/his classes with trainees	Trainers videotape their classes & trainees check them against theory (microteaching)			
Trainer expects that trainees learn what s/he says (but not does)	Trainer teaches (says & does) as recommended for good teaching (guarantee consistency)			
Trainer does not show desire to share with colleagues	Trainer asks colleagues to visit her/his class for critical analysis (sharing being a normal practice)			
Trainer is not aware of the need to improve reading fluency	Trainer improves fluency by reading aloud with guided oral reading, and learning new words			
Best trainer seeks to teach in upper grades (to have less demanding work)	Best trainer (for teaching to read) works in grade 1 or 2 to optimise learning from the outset.			
Trainer expects trainee "believes" data delivered in class	Trainer strives for the trainee to learn by experience & reasoning (and be critical)			
Learning presented in a class is unfamiliar to trainee	Trainee reads (and works) ahead to be prepared at the beginning of session (described in syllabus)			
Trainee should read references after content is "presented"	Trainee prepares for discussing doubts & questions about new content			
Trainer uses "PowerPoint" to transmit/present concepts	Trainer records dialogue/findings of class interactions for further analysis.			
Trainee has no need for critical thinking (only memorization is requested)	Trainee reads critically by answering "questions" and writing (stimulating inferences)			
Practice is not part of Learning Theory & Content courses	Trainee's practice is a means to learn how to apply good theory to what must be "presented"			
Contents have not been (thoughtfully) assigned priorities	Clear sequence of priorities (high level for comprehensive reading)			
Research is carried out in an isolated course (trainee seldom "does" research)	Trainer uses action research (as a handy tool) in class sessions (to show benefits/uses of research)			

[2] Priorities must be estimated with respect to a given country (think of one country when assigning your priorities)

[3] Importance (to accomplish the main goals of teachers' work) for the eventual development of the education system

[4] Urgency of the task to be improved

[5] Feasibility (probability) of the strategy to be implemented (with respect to the resources that can be obtained to implement it).

[6] K. H. Flechsig and E. Schiefelbein (2003). The report on 20 education models can be downloaded from http://www.educoea.org/portal/bdigital/es/interamer_educativa.aspx?culture =es&tabindex=2&childindex=4

Source: Action Research carried out with participants in course A 808 delivered in the Spring Term 2005 at the Graduate School of Education, Harvard University, Cambridge, April 13, 2005

Teachers in Latin America are trained to recall principles and concepts, and they seldom carry out research on the practical impact of their practice. They are trained as other regions, to operate largely "on the basis of ideology and professional consensus" (Kaestle, 1993, 48) and "do not have time to read much research, make sense of it, and employ their understanding productively in the classroom" (Burkhardt and Schoenfeld, 2003,3). In fact, most of the practical training is obtained from colleagues in the first professional job (Latorre, 2002) similar to the one year "induction" in Japanese schools (Sato, 2004). The main difference with teachers in developed countries is the lack of joint study and planning with colleagues and scant observation of each other's teaching, thus missing opportunities for further advancing their professional knowledge (Wang and Lin, 2005,3),.

Future projects should make a special effort to improve the first three practices reported in Table 5: (i) frontal teaching; (ii) attempts to "transfer" knowledge; and (iii) students' preparation before each class. However, additional shortcomings may be added to the list reported in Table 5. When teachers are exposed to work with well-developed materials they can teach age heterogeneous groups (or multi-grade classes), solve vocabulary gaps and constraints in reasoning by socio-economic family levels (Chesterfield et al, 2005).

Most teachers do not analyze their own practice and do not learn from the evaluations of their practice (microteaching) or their students. The persistence of detected problems (Table 5) suggests that testing has not been able to improve teachers' training given the strong social definition of their role (frontal teaching) and scant training on research. The present paradigm is that teachers should develop their classes from scratch on their own. The implicit assumption is that no accumulation of good practice is possible, in spite of the examples of Junior Achievement and Sesame Street (Fish and Truglio, 2001).

Poor teaching practices (leading to low reading achievement) are compounded by school management traditions. The less trained teacher in each school is usually assigned to grade 1 and 2, because it is more tiresome to teach those grades. Therefore many students waste their first two years of schooling (and probably never learn to read later on).

In fact, the evidence in Latin America suggests that teachers develop their professional abilities in the school they start to work for after graduation from the teacher training institution (Schiefelbein, 2003;. Latorre, 2002; Schiefelbein and Schiefelbein, 1998). Something similar happens in Japan, but the problem has been solved by creating a one year induction for new teachers (after graduation from the teachers training institution) to be sure that teachers acquire their professional tools. American teachers may also not be well trained according to the AERA Panel report on Teacher Education (AERA, 2005).

It is, therefore, no wonder that many teachers would like to have more opportunities for professional development. However, attending in-service training does not guarantee improvement. Some 90% of Chilean teachers attended training seminars, but were looking for better training (Bellei, 2001,239). This suggests that training seminars were of low quality.

Salaries are often blamed for poor teaching, but the reality is different. All these problems are linked to salary schedules and expectations about future salaries (relative to other careers that require similar post-secondary training). Better salaries have little impact in the short run, but may attract better candidates for teacher training institutions. However, salaries in Latin America are quite close to “two times the per capita income”, that is the average level for developed countries (a relation of 2.3 times would be near the maximum offered in developed countries). This indicator (of salary relative to average income) suggests that salary levels are near the top of the scale and, therefore, increments of 10 to 15% may have a relatively limited impact on increasing teachers’ qualifications or attracting more candidates to the teaching profession.

In summary, the trainers of future Latin American teachers lack adequate academic qualifications. It is no surprise that Unesco has reported: “a large proportion of primary school teachers lack adequate academic qualifications, training and mastery of content, especially in developing countries” (Unesco 2005, Chapter 3). However, upgrading the “trainers” is a problem far more difficult to be solved than training classroom teachers. There is no easy answer for the question: How can we improve the professional training of the “trainers of teachers”? This issue is complemented in the next segment with an analysis of matching elements used in class processes.

(iii) Latin American countries are not using reliable and cost-effective elements or strategies for implementing relevant programs

Latin American speculative decision making processes turn out strategies or elements that differ from decisions recommended by world experts. Decisions on costly education investment projects are usually made on implicit guessing about what might happen if the projects are correctly implemented, due to a lack of systematic assessment of past experiences or a lack of ability (or interest) to use available and reliable research findings. This is in line with a global tradition of not evaluating school models or textbooks and scripts with a diverse student population (with the exception of the Colombian Escuela Nueva, Junior Achievement, Robert Slavin's Success for All school materials, and Sesame Street on "pre-reading"). Therefore, objective (or scientific) data for generating a systematic professional development of Latin American education is scarce.

On the other hand, good evidence does not guarantee good decisions. Many decision makers still believe in the impact of literacy campaigns. However, there is solid research (that took a long time and large amounts of money) showing that most literacy campaigns carried out in Latin America were ineffective. The analysis of time series census data showed that there were no changes in the percentages of literacy in each age cohort in spite of the implementation of apparently successful literacy campaigns.

Solid objective evidence on the successful impact of a program does not guarantee that the program can be replicated in other countries that have similar problems, as illustrated with the case of Escuela Nueva in Colombia. There are higher learning scores in the rural area (where Escuela Nueva operates) than the scores in the urban area (UNESCO-LLECE, 2001). In spite of several positive independent assessments the program's methods are frequently challenged in terms of clashing with the ideology that "every teacher must prepare their own lesson plans" (as opposed to using well-proven scripted material). This critique is made by Colombian trainers of future teachers (that have not visited Escuela Nueva or any other kind of school for a long time) at Escuela Nueva and has impeded its implementation in urban areas. This is one example of the lack of usage of systematic data or research findings on "effectiveness" for selecting relevant strategies or material for better learning.

In summary, speculative decision making processes result from the lack of well-designed and well-implemented experiments (showing associations between observed investments in education and observed outcomes) that would reveal the underlying causality. There are no

scientifically based answers to many policy issues that decision makers are dealing with. For example, what is the impact of financing with participation sharing, both in secondary and higher education? It may simply move the burden of financing onto the backs of the poor (Bray 2003,41-5).

Given that decisions must be made every day (with or without relevant evidence) another alternative source can be used for making decisions. Experts that know the context and are aware of local and international research can estimate "impact on learning" and "feasibility of implementation" according to their best judgment. They can take advantage of an increasing accumulation of evidence about "what works" that could eventually raise the quality of schooling in the region. Their estimates can be used as a benchmark and could be more reliable if the variance among the experts is relatively low.

A well-chosen panel of ten world experts[7] analyzed a set of 40 strategies frequently used in Latin America. They estimated the "impact on learning" of each strategy as well as the "feasibility of implementation". These two estimations combined with the estimated increment in unit costs were expressed into a "Cost-Effectiveness index". This index takes into account both the selection of the *right problem* (constraining better learning) and the most *effective strategy* for its solution. The ten strategies with the highest effectiveness according to the panel of experts are presented in Table 6 for comparison with past education projects and also for identification of possible "Missing Tasks".

"Assign to first grade the best reading teacher" was selected by the group of experts, by far, as the most cost-effective strategy. It seems to be a good choice to ask the best teacher to work with newcomers in a region with such a poor performance in reading comprehension. This strategy is comparable to asking the best diamond cutter to provide the rough shape (good diamond cutters must consider several factors, such as the shape, imperfections and size of the crystal) by making the first cut and then to ask less expert cutters to do the polishing. This strategy has not been included in projects financed by development banks.

[7] The ten experts participating in the Latin American study included: Martin Carnoy and Henry Levin (Stanford University); Noel McGinn and Fernando Reimers (Harvard University); Steve Heyneman, Himelda Martinez and Eduardo Velez (World Bank); Claudio de Moura Castro (IADB); Jeffrey Puryear (Inter-American Dialogue) and Juan Carlos Tedesco (BIE-Unesco).

Table 6: Ten strategies with the highest effectiveness according to a panel of ten world experts

Intervention in Order of Descending Cost-effectiveness (For more complete descriptions, see report on World Bank web site)	A. Estimated Increase in Achievement (%)	B. Probability of Adequate Implementation (%)	C. Impact (Probable) (%) [A*B]	D. Increase in Cost (estimated) (%)	E. Cost-effectiv e-ness [C/D]
Assign best teachers to first grade	19,8	58,0	11,5	0,01	1531,2
Enforce regulations on official length of school year	10,6	49,5	5,2	0,01	699,6
Policy not to switch classroom teachers during school year	5,0	72,0	3,6	0,01	480,0
Test 10% of 4th graders and distribute results to teachers	4,1	73,5	3,0	0,1	60,3
Decentralization	9,3	47,5	4,4	0,1	59,2
Media campaigns for parents to read to children	8,1	71,9	5,8	0,1	46,6
MIS for identifying low performing schools	10,2	68,0	6,9	0,3	27,7
Vision test by school and referral	3,2	66,0	2,1	0,1	21,1
Grants ($50/student) to improve pre-service teacher training	11,8	56,0	6,6	0,4	18,9
Test 10% of 4th graders & provide remedial strategies (one week)	12,3	60,0	7,4	0,4	17,4
AVERAGE FOR 40 STRATEGIES	**10.3**	**62.8**	**6.5**	**5.1**	**76.9**

(A) Estimated average percentage increment in student achievement on a standardized test in mathematics and reading, given to sixth graders, with an initial score of 50 out of 100, compared to a control population that did not receive the intervention.

(B) Probability (in percentage) of adequate implementation of the intervention, based on both technical and political considerations.

(C) Probable increment in annual operational unit cost from the intervention including the annualized capital cost.

Source: E. Schiefelbein, L. Wolff & P. Schiefelbein, "Cost Effectiveness of Education Policies in Latin America: A Survey of Expert Opinion", Technical Study EDU-109, BID, pg.1-29, December 1998, Washington D. C. www1.worldbank.org/education/globaleducationreform/15.LinksFromHome/Best%20Resources.htm

Implementing this strategy may have a large impact in Latin America, because the best teachers (with nearly 10 years of experience according to research findings by Richard Murnane and his team at Harvard) usually work in the upper grades. This strategy may cut the reading problem in half, but most decision makers are not aware of this strategy or of its potential impact. The problems have not been analyzed in sector studies, and the strategy has not been included in past projects. Similar comments can be made with respect to the next two strategies with high levels of cost-effectiveness.

Decision makers must balance complex policy trade-offs between the "impact on learning" of each strategy, its "feasibility of implementation", and the estimated increment in unit costs. The resultant of the three dimensions is expressed in the "Cost-Effectiveness index". Governments should not simply do the "cheap" but effective interventions; they may need to

do the costly but highly effective interventions. However, relatively inexpensive actions with a positive impact in quality usually have rather high cost-effectiveness values(Table 6).

In summary, Latin American countries are not using research findings and successful experiences associated with cost-effective elements or strategies identified by a group of world experts. The differences are large enough to suggest the need for a careful revision of past sector studies and selection of relevant strategies. In the next section the use of reliable elements and procedures for a correct implementation of selected strategies is examined.

(iv) Latin American countries are implementing poorly designed projects well, thus quality is stagnant

Even projects that are rated as successful fail to improve students' learning. Available evidence suggests that good implementation of projects cannot guarantee improved learning when projects are poorly designed. Overall, 88 percent of Latin American primary education World Bank projects were rated satisfactory on outcomes (Nielsen, 2004,28). However, section 3 showed that the impact on learning achievement is almost deceptive. The case of Chile may illustrate this apparent paradox. Project implementation in Chile was rated as excellent (OECD, 2004,99; World Bank, 2005,15), but still 40% of Chilean students (75% of students in the lower half of the income distribution) are not able to read after 5 to 7 years of schooling. Therefore, a comparison of implementation and design must be performed.

Most project appraisals are focused on project management and speed of disbursements. But project evaluation seldom looks into whether or not students learn and achieve as expected. Poor data, contradictory research findings, poor sector analysis, lack of knowledge about other systems, and unreliable supervision or even corruption reinforce one another creating a vicious cycle within project design and implementation. "Poor project design for monitoring and evaluation has been a persistent weakness identified by the Bank's Quality Assurance group in recent years…" (Nielsen, 2004,24). The vicious cycle will keep affecting design and implementation because countries are not learning from their experiences (Savedoff, Levine and Birdsall, 2005). Even if the group identifying the project performed a good analysis which adequately defines the right problem, its recommendation may be turned down by the decision maker. A different project may be identified due to divergences with conventional wisdom or some conflict with vested interests.

For numerous reasons--including management and technical skills, or costs and ethical concerns--, experimental data are rarely available, and few projects are evaluated (World Bank, 2004,26). Therefore, most assessments and analyses are based on behavioral data such as testing, enrollments, or surveys. "'Such behavioral data can 'speak for themselves' regarding **associations** between investments in education and various outcomes. But they generally **cannot** 'speak for themselves' with regard to what observed determinants--policies or otherwise--**cause** differences in investments in education or to what extent observed investments in education **cause** different outcomes" (Behrman, 2003,2). Therefore, "[T]here are, … , serious debates on the relative efficacy of pre-service teacher training ..., textbooks ..., and instructional supervision in raising student achievement" (Chapman and Mahlck, 1993,7).

A compounding element is that project implementation is usually based on supervision rather than through a change in context (as recommended to generate changes in behaviour). Committees are organized, forms must be filled, organizational blueprints are restructured with numerous levels of review and signatures of approval. However, in several countries, "many teachers and officials have been appointed through political linkages, rather than merit" (Duarte, 2001,119). Some catalytic mechanisms (Collins,1999) should be used in the region, such as: (a) salary incentives (or contests) for the best teacher to be in grade one; (b) broadcasting Sesame St. or Blue Clues in English and the local language to provide effective early childhood education; (c) using well-tested scripted textbooks that guarantee students' learning as in the Colombian Escuela Nueva; (d) asking students to read before the class and grading one student at random at the beginning of each class, as in the Law and Business Schools in Harvard; (e) one minute daily TV broadcasts suggesting effective use of TV programs for the next day; (f) video tape classes for analysis with colleagues; or (g) have parents report teachers' assistance for estimating the monthly pay check.

Finally, there is always pressure for governments and institutions to show successful implementation even at the cost of mishandling data. Reducing the difficulty in testing is a simple way to show spurious improvement. A project for subsidized schools showed similar increments in private-paid non-participating schools (87 vs. 74) than in municipal schools (68 vs. 49) suggesting that the second test was much easier than the first one (Nielsen, 2004,47). However, the whole increment (rather than controlling it for the spurious effect on private-paid schools) was used to estimate the improvement in learning outcomes on public schools (Nielsen, 2004,31).

In summary, education projects designed in the last decade did not target the right problem (the so-called third type of statistical error). If the wrong problem was targeted, then project strategies and implementation were probably irrelevant. However, even a precise definition of the problem (i.e. poor reading comprehension) would be compounded by poor initial teacher training, lack of well-tested textbooks or scripts and/or no tradition to follow up implementation. Therefore, poor improvement in achievement should be no surprise. Education seems to be in a structural **crisis,** and there is no automatic mechanism that can solve such a crisis.

6. Conclusions

Latin America offers nearly universal access to primary education, and 88% of newcomers survive to grade five in primary education. However, nearly half of those that make it to grade five are not able to communicate in writing despite their five or more years of primary education schooling. This low student learning is the result of fundamental teaching and management problems that were not detected in former education sector studies or were not targeted in development policies and projects.

To expand access from half of each age cohort to all children reaching the school entrance age, over *one million new places for primary students* were created each year in Latin America during the last four decades. This huge task was carried out by taking advantage of reduced birth rates generated by increased women's schooling, international loans triggered by the EFA World Declaration and low unit costs.

The massive increment of enrollments in 1960-2000 was implemented with the same education and financial models utilized in the first half of the 1900s (when students were mainly part of families included in the upper half of the socioeconomic distribution in each country). Teachers were trained as in the mid 1900s. Schools operate in two-shift or even three-shift systems (with shorter daily schedules of 3 to 4.5 chronological hours per day). Indeed, these schools more often than not combine low expectations for achievement with old "frontal teaching" which promotes both boring lecturing sessions and little opportunities for students to think independently and construct knowledge or effective group work skills. The use of whole class frontal teaching processes (that assumed family support and access to books and newspapers) constrained learning because the families (of the new waves of students)

were illiterate, and written materials were unavailable in impoverished rural and marginal urban areas.

Poor learning, higher repetition, and age heterogeneity were the result of implementing "more of the same old type of education" in schools created to teach students from families in the lower half of the income distribution. Age heterogeneity made even more difficult for teachers to help their students to learn. Some 40% of students in each grade are overage students (two or more years over the standard age for each grade). This national average involves nearly 80% of students in schools attended by those families are overage students, given that few students from families over the 50^{th} percentile of the income distribution have learning problems.

Most grade one repetition is the result of poor learning in reading (in fact decoding) simple words. Less than half of Grade 3 or Grade 4 students can understand a brief text of medium difficulty. In each case rural children or children from families who are in the lower half of the income distribution are achieving below the national average. These differences in learning among students attending the same grade, but from different socioeconomic levels imply that **schooling is different from Education in Latin America**.

In summary, Latin American governments were not able to establish a Standard Primary School or to make sure that new schools be able to conform to a given "Standard for All schools" in order to maintain certain minimum levels of quality in all schools.

Half a dozen possible causes for low achievement among students from poor families were commented on in this article: (i) students' previous training; (ii) teachers' lack of adequate academic qualifications; (iii) school management traditions; (iv) attempts to empower local schools; (v) project implementation is usually based on supervision of managerial but not pedagogical practices; and (vi) the high probability that the wrong problem was targeted in most Latin American education development projects, thus reducing the impact of specific strategies being implemented.

Sector reports have not paid attention to the differences in Grade 1 students' vocabulary by socio-economic levels (ranging in Latin America from 600 to 3000 words according to parents' education) or the variance in reasoning by socio-economic family levels. Teachers are not prepared to cope with these huge differences in students' knowledge. Given that the

problem has not been detected, projects have not included massive effective solutions like: broadcasting Sesame St. or Blue Clues (in English and the local language to provide effective early childhood education) or mass media campaigns to help parents to provide early stimulation to their children in the initial two years of their lives.

There are no reports pointing out that teachers spend little time helping their students to: (i) learn the language by talking or telling stories; (ii) break apart and manipulate the tiny segments of sound (phonemes) in words (phonological awareness); (iii) link sounds and letters of the alphabet (the symbols that stand for them) which can then be blended together to form words (phonics); (iv) master fluency by practicing what they've learned by reading aloud (to either a parent, teacher or another student) with guidance, correction of mistakes, feedback and learning to recognize new words (guided oral reading); (v) read silently to oneself even if the impact in reading ability ids not well researched; and (vi) try reading comprehension strategies to improve understanding and meaning such as: vocabulary development, text comprehension instruction, and use of questions to check the meaning of a given text. In fact, teachers spend most of their time delivering frontal teaching (that cannot be used with age heterogeneous groups or multi-grade classes); trying to “transfer” knowledge, and not asking students to do any personal preparation before each class. Furthermore, academic qualifications will not improve because teachers do not videotape classes to have the chance to see themselves teaching, to receive feedback from their peers or to exchange comments about teaching processes. It is no wonder that only half of the students learn to read.

Lack of training in teaching to read (and low student achievement) is compounded by school management traditions. The least trained teachers are usually assigned to grade 1 and 2, because is more difficult to teach those grades. In fact, research suggest that teachers develop their professional abilities in the school they start to work for after graduation from the teacher training institution (Latorre, 2002; Schiefelbein and Schiefelbein, 1998). Education experts recommend that the best teacher (for teaching to read) should be assigned to the first grade, just as the best diamond cutter is requested to make the first cut (taking into account the shape, imperfections and size of the rough gem stone) and then less expert cutters are asked to do the polishing. This strategy has not been included in projects financed by development banks. Something similar happens in Japan, but the problem has been solved by creating a one-year induction for new teachers (after graduation from the teachers training institution) to be sure that teachers acquire their professional tools.

It has been assumed in the region--following World Bank's advice--that countries should seek to "free teachers' creativity" by asking a group of teachers from each school to prepare an "educational improvement project" aimed at raising the achievement level in basic learning skills and knowledge(OED, 2005b,43; OECD,2004,52). The analysis of projects prepared by the schools suggests that teachers are able to identify the problem (they do not know how to teach reading), but are not able to find adequate solutions. Local schools and teachers' communities could play an effective role in hiring and firing teachers and reporting their absences (AED, 2005,42), but their present training reduces the impact of their participation in project design.

A compounding element is that project implementation is usually based on supervision rather than through a change in context (as recommended to generate change in behaviour). Committees are organized, forms must be filled, organizational blueprints are restructured with numerous levels of review and signatures of approval. No catalytic mechanisms (Collins,1999) have been used in the region, such as: (a) salary incentives (or contests) for the best teacher to be in grade one;

The analysis of five potential causes for not improving learning education projects for students suggests that projects designed in the last decade did not target the right problem (the so-called third type of statistical error). In fact, the public is not even aware of the low reading ability of Latin American students, and this fact suggests that education sector studies have not raised the priority of this issue. If the wrong problem was targeted then project strategies were probably irrelevant. However, even a precise definition of the problem (i.e. poor reading comprehension) would be compounded by poor initial teacher training, lack of well-tested textbooks or scripts and/or no tradition to follow up on implementation. Therefore, poor improvement in achievement should be no surprise. Education seems to be in a structural **crisis.**

In summary, Latin American countries are not using research findings and successful experiences or the advice of world experts about promising cost-effective strategies. Even though there are no scientifically based answers to many policy issues that decision makers are dealing with, it seems evident that many trainers of future Latin American teachers lack adequate academic qualifications. Therefore, also a large proportion of primary school teachers lack adequate academic qualifications, training and mastery of content. Furthermore, the present regional paradigm is that teachers should develop their classes from scratch on

their own, and the implicit assumption is that no accumulation of good practice is possible, in spite of research evidence. Poor sector analysis, careless scrutiny of data, inability to take advantage of contradictory research findings, lack of knowledge about other systems, and unreliable supervision or even corruption reinforce one another into a vicious cycle within project design and implementation.

References

AED, 2005, Basic Education in El Salvador: Consolidating the Foundations for Quality and Equal Opportunities, USAID-MINED, San Salvador- Washington DC., p. 74.

AERA, 2005, "Studying Teacher Education, Panel report. A summary is available in http://www.aera.net/uploadedFiles/News_Media/News_Releases/2005/MediaAdvisory.pdf

APRENDO, 1999, Análisis de las Pruebas APRENDO 1996 y de sus resultados, Ministerio de Educación y Cultura, EB/PRODEC, Quito, Ecuador, pp. 28 and 33.

Behrman, Jere, 2003, *Educational Sector Study: Pro-Poor Economic Growth Effects of Policies and Activities*, Population Studies Center, University of Pennsylvania, April 1, 2003.

Bellei, Cristian, 2001, El Talon de Aquiles de la reforma. Análisis sociológico de la Política de los 90 hacia los docentes de Chile, in Martinic and Pardo, Economía Política de las Reformas Educativas en América Latina, PREALC-CIDE-ARGE, Santiago de Chile, pp. 227-257.

Bray, Mark, 1986, If UPE is the answer, what is the question? A comment on weaknesses in the rationale for universal Primary Education in Less Developed Countries, *International Journal of Educational Development*, Vol 6(3), pp. 147-157.

Burkhardt, Hugh and Schoenfeld, Alan, 2003, Improving educational research toward a more useful, more influential, and better funded enterprise, in Educational Researcher, Vol. 32 (9), pp. 3-14.

Carroll, John, 1963, A model of school learning, *Teachers College Record*, N° 64, May 1963.

CESGRANRIO, 2002, Resultados. Avaliacao dos alunos da 4a. serie E.F. Prefeitura da Cidade do Rio de Janeiro,

Chapman, David and Lars Mahlck, 1993, From data to action: Information Systems in Educational Planning. Unesco-IIEP, Pergamon Press, Paris-Oxford, pp 259.

Chesterfield, Ray, Keri Culver, Barbara Hunt and Sylvia Linan-Thompson, 2005, *A Reflective Study of Teacher Professional Development in the Latin American and Caribbean Regional Centers of Excellence for Teacher Training (April–November, 2004). Executive Report*, USAID-Aguirre International, Bureau for Latin America and the Caribbean, Washington D.C.

Colbert, Vicky, 1999, Mejorando el acceso y la calidad de la educación para el sector rural pobre. El caso de la Escuela Nueva en Colombia, Revista Iberoamericana de Educación, Número 20, Mayo – Agosto. Available in http://www.campus-oei.org/revista/rie20a04.htm

Collins, James, 1999, Turning Goals into Results: The Power of Catalytic Mechanisms. *Harvard Business Review*, July

Coulombe, Serge, Jean-François Tremblay and Sylvie Marchand, 2004, *Literacy scores, human capital and growth across fourteen OECD countries*.Statistics Canada Catalogue number 89-552-MIE200411. Full report available in http://www.nald.ca/fulltext/oecd/oecd.pdf

Dirección Nacional de Monitoreo y Evaluación. San Salvador, 2004

Duarte, Jesus, 2001, Politica y Educación: Las Tentaciones Particularistas en la Educación Latinoamericana, in Martinic and Pardo, Economía Política de las Reformas Educativas en América Latina, PREALC-CIDE-ARGE, Santiago de Chile, pp. 117-142.

ECLAC, 2005, Education Remains a Challenge, ECLAC Notes Nº 40, pp. 1-6. Also available in http://www.cepal.org/prensa/noticias/notas/2/22012/NOTAS40INGv3.pdf

Fisch, Shalom and Rosemarie Truglio (Eds.), 2001, *"G" is for Growing. Thirty Years of Research on Children and Sesame Street*. Childrens TV Workshop, LEA, New Jersey, p. 271. See also http://www.sesamestreet.com/aboutus/why_research.php

Franco, Creso, 2003, A investigacao sobre Eficacia Escolar no Brasil, in CAB, La Investigación sobre eficacia escolar en Iberoamerica, Convenio Andres Bello, Colombia, pp. 191-207.

Flechsig, Karl-Heinz and E. Schiefelbein, 2003, *20 Modelos Didácticos para América Latina*, OAS, Washington DC.
See
http://www.educoea.org/portal/bdigital/es/interamer_educativa.aspx?culture=es&tabindex=2&childindex=4

Green, David and W. Craig Riddell, 2001. *Literacy, Numeracy and Labour Market Outcomes in Canada*, Statistics Canada Catalogue number 89-552-MIE2001008.

Grindle, Merilee, 2001, La Paradoja de la Reforma Erducacional: Pronosticar el Fracaso y Encontrar el Progreeso, in Martinic and Pardo, Economía Política de las Reformas Educativas en América Latina, PREALC-CIDE-ARGE, Santiago de Chile, pp. 15-52

Kaestle, Carl, 1993, The awful reputation of Educational Research, in Educational Researcher, Vol. 22(1), pp.23-31

Latorre, Marisol, 2002, "*Saber Pedagógico en uso. Caracterización del saber actuante en las prácticas pedagógicas",* Tesis Doctoral, Programa de Doctorado en Ciencias de la Educación, PUC, Santiago, Chile y Ecole Doctorale de la faculte des Sciences Humaines et Sociales de l´Universite Rene Descartes, Paris.

MECD, 2004, Informe de Resultados 2002, Evaluación del Rendimiento Académico de los estudiantes de 3º y 6º grado de primaria, Dirección de Evaluación de Políticas, Programas y proyectos, Managua,

MINED, 1996, Directorio de Proyectos de Mejoramiento Educativo. PME, Tomo III-1994

Muler, Elba, Stella Mancuso and Marta Vitale, 2003, Estado de arte de la Investigación sobre eficacia escolar en Argentina, in CAB, La Investigación sobre eficacia escolar en Iberoamerica, Convenio Andres Bello, Colombia, pp. 127-148.

Murillo, Javier, 2003, El movimiento de investigación de la eficacia escolar, in CAB, La Investigación sobre eficacia escolar en Iberoamerica, Convenio Andres Bello, Colombia, pp. 53-92.

Nielsen, Dean, 2004, Primary Education Portfolio review. Background Paper for the Evaluation of the World Bank's Support to Primary Education, The World Bank, Washington D.C.

NRP- NICHD, 2000, Teaching Children to Read, Report of the National Reading Panel (NRP), National Institute of Child Health and Human Development (NICHD), Department of Education, NIH Pub. No. 00-4754, Washington D.C.

OECD, 2004, Reviews of National Policies for Education. Chile, Centre for co-operation with non members (CCNM), Organization for Economic Co-operation and Development, Paris. Pp. 280.

OED, 2005a, OED's Conference on Effectiveness of Assistance for Human and Social Development took place on September 26, 2005. The World Bank, Washington D.C. See details in http://www.worldbank.org/oed/

OED, 2005b, 2004 Annual Review of Development Effectiveness, The World Bank, Washington D.C. See summary in http://www.worldbank.org/oed/

OED, 2004, The Consultative Group to Assist the Poor, Background Paper for Addressing the Challenges of Globalisation: An Independent Evaluation of the World Bank's Approach to Global Programs, Washington D.C.

Randall, Laura and Joan Anderson, 1999, Schooling for Success, M.E. Sharpe, New York, p. 323

Ravitch, Diane, 2003, Chancellor's New Reading Program is Unproven, in *Newsday*, The Brooking Institution, February 10, available in http://www.brookings.edu/views/op-ed/ravitch/20030210.htm

Reimers, Fernando, 2000, Unequal Schools, Unequal Chances, The David Rockefeller Center Series on Latin American Studies, Harvard University, pp 464.

Rosenthal, Robert and Jacobson, Lenore, 1968, *Pigmalion in the Classroom*. New York: Holt Rinehart.

Sato, Nancy, 2004, Inside Japanese classrooms. The heart of Education, RoutledgeFalmer, New York, p. 325.

Savedoff, William, Ruth Levine and Nancy Birdsall, 2005, When Will We Ever Learn? Recommendations to Improve Social Development through Enhanced Impact Evaluation, Consultation Draft September 15, Center for Global Development, Washington, DC available in http://www.cgdev.org/section/initiatives/_active/evalgap

Schiefelbein, Ernesto, 2005, Assessment Systems and the Quality of Schooling in Latin America, Background Paper prepared for UNESCO, *Education for All. The Quality Imperative*, Education for All Global Monitoring Report, Paris,

Schiefelbein, Ernesto, 2004, Assessment Systems and the Quality of Schooling in Latin America, *Background paper for EFA Global Monitoring Report. 2005*, Unesco, Paris.

Schiefelbein, Ernesto, 2003, Issues constraining teachers' progress in Latin America: a glance from the developing world, CICE University of Hiroshima.

Schiefelbein, Ernesto, 1992, Redefining basic education for Latin America: Lessons to be drawn from the Colombian Escuela Nueva, IIEP-UESCO, Fundamentals of Educational Planning, Paris, p. 42.

Schiefelbein, Ernesto and Paulina, 2003, From Screening to Improving Quality: the case of Latin America, *Assessment in Education,* Vol. 10(2), July 2003, p.141-159.

Schiefelbein, Ernesto and Paulina Schiefelbein, 1999, "Expectativas y Cambios Metodológicos: Una Visión desde el Mundo de los Profesores", in P. Cariola y J. Vargas (eds), *"Educación Particular Subvencionada: un aporte a la modernización"*, CONACEP, Santiago, págs.65-102

Schiefelbein, E. and Wolff, L., 1993, Repetition and Inadequate Achievement in Primary Schools in Latin America, *UNESCO Bulletin of the Major Project in Education*, Santiago, Chile.

Schiefelbein, Emesto, Laurence Wolff and Paulina Schiefelbein, 1998, 'Cost Effectiveness of Education Policies in Latin America. A Survey of Expert Opinion', Technical Study EDU 109. BID, pg. l-29. Washington D. C. It is also included in the website of the World Bank: http://www1.worldbank.org/education/globaleducationreform/15.LinksFromHome/Best%20Resources.htm

Schultz, T. Paul, 1997, The demand for children in low income countries, in M. Rosenzweig and O. Stark (eds), *Handbook of Population and Family Economics*, Vol 1A, North-Holland Press, Amsterdam.

SIMCE, 2002, Informe de Resultados 4° Básico. Ministerio de Educación. Unidad de Currículo y Evaluación (UCE), Sistema de Medición de la Educación (SIMCE), Santiago, Chile, p. 29

SNEPE, 2002, ¿Cuanto aprenden nuestros niños y niñas? 3° Grado- 6° Grado, Ministerio de Educación y Cultura, Servicio Nacional de Evaluación del Proceso Educativo, Asunción, Paraguay,

Snow, Catherine, 2005, From Literacy to Learning, in *Harvard Education Letter,* July/August available in http://www.edletter.org/current/snow.shtml).

Snow, Catherine, Susan Burns and Peg Griffin, (Editors), 1998, Preventing Reading Difficulties in Young Children, Committee on the Prevention of Reading Difficulties in Young Children**,** National Academy Press, Washington D.C. pp. 399.

Stewart, Roger and Jonathan Brendefur, 2005, Kappan, Vol 86 (9), pp. 681-687.

Tenti, Emilio, 2005, Los inmigrantes en la escuela: la xenofobia de los profesores en Argentina, Perú y Uruguay, IIEP, Buenos Aires, Argentina. Also available in http://www.foro-latino.org/documentos/FV5-TextoETenti.pdf
and in http://www.foro-latino.org/fv5.htm

UMCE, 1998, Análisis de Reactivos y Estrategias Sugeridas. Español. Tercero y Sexto Grados Primer levantamiento de Datos, Universidad Pedagógica Nacional Francisco Morazán. Secretaría de Educación. Tegucigalpa, Diciembre,

UNESCO-LLECE, 2001, Primer Estudio Internacional Comparativo. Informe Tecnico, Laboratorio Latinoamericano de Evaluacion de la Calidad de la Educacion, Santiago, Agosto 2001, pags.259, www.unesco.cl/llece
http://www.unesco.cl/medios/biblioteca/documentos/informe_laboratorio_informe_tecnico.pdf

Unesco-OREALC, 1996, *The State of Education in Latin America and the Caribbean*. 1980-1994, UNESCO-OREALC, Santiago, pp. 643.

Unesco-OREALC, 2004, *Universal primary completion in Latin America: Are we really so near the goal?*, UNESCO-OREALC, Santiago, pp. 58. Available in http://www.unesco.cl/medios/biblioteca/documentos/universal_primary_completion_latin america.pdf

Unesco-OREALC, 2005, *Condiciones de Trabajo y Salud docente*, UNESCO-OREALC, Santiago, pp. 209. Available in http://www.unesco.cl/esp/biblio/ediciones/111.act?menu

UNESCO, 2005b, *Education for All*. *Literacy for life*, Education for All Global Monitoring Report, Paris, pp. 447.

UNESCO, 2005a, *Education for All. The Quality Imperative,* Education for All Global Monitoring Report, Paris, pp. 416.

UNESCO, 2003, *Gender and Education for All. The leap to equality*, Education for All Global Monitoring Report, 2003/4, Paris, pp. 416.

UNESCO, 2002, *Education for All. Is the World on Track?,* Education for All Global Monitoring Report, Paris, pp. 310.

Zavala, M.E., 1992, The demographic transition in Latin America and Europe, *Notas Población,* Dec; 20(56), p.11-32

Zorrilla, Margarita, 2003, La Investigación sobre eficacia escolar en Mexico, in CAB, *La Investigación sobre eficacia escolar en Iberoamerica*, Convenio Andres Bello, Colombia, pp. 353-390.

Wang, Jian and Emily Lin, 2005, Comparative Studies on U.S. and Chinese Mathematics Learning, in *Educational Researcher*, Vol 34(5), pp. 3-13.

Wolff, L., Schiefelbein, E., and P. Schiefelbein. 2002, Primary Education in Latin America: the Unfinished Agenda. BID. Washington DC, July 17, 2002.

World Bank, 2005, *2004 Annual Review of Development Effectiveness,* The World Bank. Washington DC.. pp. 121. Available in http://www.worldbank.org/oed/arde/2004/main_report.html

World Bank, 2004, World Development Report Making Services Work for Poor People, The World Bank. Washington DC.. pp. 271. Available in www.worldbank.org/wdr/wdr2004

World Bank, 2002, World Development indicators, The World Bank, Washington DC., pp. 405
Available in www.worldbank.org/data