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REPETITION AND INADEQUATE ACHIEVEMENT IN LATIN AMERICA'S PRIMARY SCHOOLS: A REVIEW OF MAGNITUDES, CAUSES, RELATIONSHIPS AND STRATEGIES

by

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Contents*

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TEXT TABLES

ANNEX TABLES

SUMMARY

Every school year nine million six or seven year-olds enter first grade in Latin America. They are confident that they are going to do well in school. Just nine months later, some four million of these wonderful children have learned a hard lesson: they have failed first grade. Forty two percent of all first graders are repeating. Overall 29% of all primary school students are repeating their grade each year. Latin American countries spend US$4.2 billion each year to teach these 20 million repeaters, thus leading the developing world in the percentage of repeaters in primary education.

There has been a slow reduction during the last decade in first grade repetition from almost 50% in 1980 to 42% in 1990. At the current rate repetition will cease to be a problem fifty years from now. Governments apparently have not been aware of the magnitude of the problem, in part, because of systematic under-reporting of repetition. To make a break with the past requires a new focus and new policies.

Repetition affects students from all socio-economic groups, but by far the most deprived students--those whose parents have the lowest levels of income and education--are the most affected. The worst situation occurs among children living in rural isolated areas or mono-linguals speaking a native (non-Spanish, English, or Portuguese) language. It is interesting to note that no significant differences by sex have been detected in those few countries that have the relevant data.

Little or no repetition is not enough evidence of the efficient operation of the educational system, but high repetition is clearly a signal that something is wrong--mainly that achievement of students is inadequate. Repetition is mainly a proxy for inadequate achievement as defined by the standards set by individual teachers in accordance with the national curriculum. However the relationship between repetition and inadequate achievement is not consistent. Standards may vary from one school or region to another and tend to rise as average achievement improves. Students may have adequate achievement levels but repeat one year because of perceived inadequate physical, social, or emotional maturity.

Many children repeat because they have a variety of learning and other disabilities as well as inadequate readiness for learning brought about by a deprived learning environment. However, inadequate quality of schooling, especially inappropriate teaching methodology and lack of educational materials, is the main cause of repetition in Latin America.

In theory, repetition may help a child to learn at his own (slower) pace; in practice, many repeaters do worse than those at the same achievement level who are passed, and repetition reduces the potential for completing the full primary school cycle since increased foregone income starting at age 14 leads many children to drop-out at those ages.

In order to reduce repetition and increase learning, the following strategies and interventions are possible: increasing the availability and use of teaching/learning materials; increasing the actual number of teaching contact hours; changing teaching strategies to emphasize cooperative learning, more personalized instruction, and, where necessary, multi-grade teaching; expanding pre-school education; providing bilingual education (at least in first grade) where needed; selected health and nutrition interventions; and improving management of the system through a variety of means, including developing a management information system to detect problems and alternatives, and secondly, using this information to target resources (e.g., the best teachers, increased school inputs, more teaching time) to the most at-risk groups. These strategies and interventions vary greatly in terms of their costs, political

feasibility, potential effectiveness, and overall cost-effectiveness. Most of them should be targeted to the at-risk populations–the children in the poorest strata of society, especially in the urban slums and in isolated rural areas. A portion of the costs of implementation can be paid for by modest increases in the student teacher ratio. It is possible to make a start at ranking these strategies in terms of their cost-effectiveness; however, a more definitive ranking will require further work to measure costs, determine feasibility and estimate impact.

I. THE MAGNITUDE OF THE PROBLEM

The Purpose of This Report

Every school year nine million, six or seven year-olds enter first grade in Latin America. They are confident that are going to do well in school. Just nine months later, some four million of these wonderful children have learned a hard lesson: they have failed first grade. Overall, 29% of all primary students are repeating their grade each year; in first grade, 42% are repeating. Latin American countries spend US$4.2 billion each year to teach these 20 million repeaters. Latin America leads the developing world in the percentage of repeaters in primary education.

In an earlier report[1] repetition was identified as the key issue in Latin American primary education. This report goes beyond the earlier study by presenting new and more complete data on the magnitude of the problem in Latin America, by examining the relationships between repetition and inadequate achievement, and by reviewing the issues related to the most commonly proposed interventions and strategies for reducing repetition and increasing achievement.

Specifically, the report summarizes the present magnitude of the repetition problem in Latin America; identifies the groups at risk and the probable causes of repetition; reviews the relationships between repetition and achievement; and reviews the alternatives and strategies for reducing repetition and increasing learning. The report looks at Latin America as a whole; a companion report under preparation will examine country-by-country trends and issues. However, Annex Tables 1-4 provide the country-by-country data upon which this report is based. The data in this report is based on a special survey undertaken by UNESCO/OREALC in all Latin American countries.

At the outset it should be noted that high repetition as it occurs in Latin America is mainly a proxy for inadequate learning, as defined by teachers, brought about by low quality of the inputs into the system. At the same time, little or no repetition is not adequate enough evidence of efficient operation of the educational system, since it does not guarantee that learning is taking place. Furthermore the relationship between repetition and low achievement is not simple and it may vary from place to place and over time.

Current Trends in Repetition Rates

Overall, as can be seen in Table 1, based on the UNESCO special survey, neither the absolute number of repeaters nor the costs of repetition have decreased in the last decade. There continue to be over 20 million repeaters in the first six grades of primary education in Latin American countries, and close to US$4.2 billion in educational resources are used each year by those repeaters.[2]

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1 E. Schiefelbein, "Repetition: The Key Issue in Latin America," Technical Department Report, Latin American Regional Office, World Bank, 1989.

2 These figures are computed with the SMMG model. The model is described in detail in E. Schiefelbein, "Repetition: The Key Issue in Latin American Primary Education," The World Bank, LATHR Division, June 1989. The foundations are presented in E. Schiefelbein and M.C. Grossi, "Statistical Report on Repetition in Latin America," Division of Statistics on Education, UNESCO, Paris, 1981.

Table 1. Numbers and Cost of Repeaters

	1975	1980	1985	1988
Grade 1 repeaters (million)	6.8	6.8	8.3	7.9
Grade 6 repeaters (million)	1.2	1.4	1.5	1.4
Grades 1-6 repeaters (million)	17.7	20.3	21.1	20.8
Unit cost per student in primary (US$)[a]	184.0	271.0	152.0	202.0
Total spent Grades 1-6 repeaters (US$bil.)[a]	3.3	5.5	3.2	4.2

a. In constant 1990 dollars.

Source: UNESCO/OREALC and UNESCO Statistical Yearbook, Paris, 1990.

There is evidence that repeating a grade reduces the total educational level achieved in a country, since as the age of students increases they become more likely to drop out. Students in Latin America, on average, remain 6.7 years in primary education and pass 5.0 grades. Therefore, repetition means that students will achieve 1.7 education grades less than the number of years of schooling. Higher quality of education generating higher promotion rates will probably help students to graduate from primary education before dropping out, and would substantially increase total educational achievement in Latin American countries.

There are important differences among sub-regions in Latin America and the Caribbean, as can be seen in Table 2.

Table 2. Access, First Grade Repetition, Schooling and Grades Approved

	School Access		Repeat	Years in	Grades
	On time	Ever	Grade 1	Primary	approved
South America	68.7%	93%	45.3%	7.1	4.2
Central America	65.2%	81%	47.3%	6.7	4.1
Gulf of Mexico	91.6%	96%	33.0%	5.8	4.1
English Caribbean	81.7%	100%	6.9%	5.6	4.9

Source: UNESCO-OREALC, SIRI Regional data base, 1991. See Annex 1 for details and for definition of sub-regions.

In all four subregions most children enter primary education. However, there are wide differences on timely access to primary education between South and Central America, on the one hand, and the Gulf of Mexico and English Caribbean, on the other hand. There are also wide differences in repetition rates, with the highest found in South and Central America, a middle range in the Gulf of Mexico, and low repetition in the English Caribbean.[3] The average number of years completed is similar

3 It should be noted that the English Caribbean practices a policy of modified automatic promotion by age.

in much of Latin American countries, except that in the English Caribbean students complete nearly an additional year of education.

Table 3 shows that the number of first grade repeaters is twice as large as the number of second grade repeaters (7.4 vs 3.5 million) and that the first grade repetition rate is almost twice as high as the average repetition rate for grades 2-6 (43.2% vs 24.4%).

Table 3. Estimated Number of Repeaters - CIRCA 1988
(thousands)

	First Grade	Second Grade	All Grades
South America	5,567	2,593	14,666
Central America	559	256	1,257
Gulf of Mexico	1,256	616	3,499
English Caribbean	9	5	45
REGION: Total	7,390	3,470	19,467
Repetition rate	42.4%	27.0%	28.9%

Source: UNESCO-OREALC, SIRI Regional data base, 1991. See Annex 4.

First grade repetition rates for Latin American countries have slowly decreased in the last decade, as can be seen below.[4]

Table 4. First Grade Repetition Levels in the 1980-1989 Period.

	1980	1985	1989
South America	53.3%	51.4%	45.5%
Central America	48.9%	49.2%	50.3%
Gulf of Mexico	41.4%	37.3%	34.4%
English Caribbean	16.9%	8.8%	4.7%

Source: UNESCO-OREALC, SIRI Regional data base, 1991. See Annex Table 2.

Overall, the decrease is on the order of about 8% in the last decade. At this rate Latin American countries will reduce repetition to 10% in about 45 years, which appears to be an unacceptably long period of time. The English Caribbean had the greatest improvements, while the situation in Central America actually deteriorated.

4 Computed using the SSG model. This model estimates the annual intake (by single age groups), and repeaters are estimated by subtracting the intake to first grade enrollment. The model is described in E. Schiefelbein, "First Grade Repetition Levels in China: 1987-1988," OREALC, Santiago, August, 1990.

Continued Under-Reporting of Repetition

There continues to be serious under-reporting of repetition in official statistics. Government policies may not have targeted repetition as a key educational problem due to such misleading information. Table 5 shows that repetition as identified through the UNESCO special survey is almost twice as high as the level reported in official statistics.

Table 5. Comparison of Actual and Official Repetition Levels - 1988
(percentage)

	First Grade		Sixth Grade		All Grades	
	Actual	Official	Actual	Official	Actual	Official
South America	45.3	22.0	24.8	11.0	32.5	16.0
Central America	47.3	23.0	12.9	2.0	31.7	13.0
Gulf of Mexico	33.0	17.0	4.3	4.0	20.0	10.0
English Caribbean	6.9	10.0	8.0	9.0	6.0	6.0
REGION	42.4	22.0	17.7	10.0	28.9	15.0

Source: UNESCO-OREALC, SIRI Regional data base, 1991. See Annex Table 3.

Both the reanalysis of information on enrollment[5] and field research results provide strong evidence that official figures (averages of statistical forms filled by school principals) grossly underreport the real level of repetition. Field studies in El Salvador,[6] Dominican Republic[7], Colombia[8] and Honduras[9] are especially revealing of how differences between reported repetition figures and reality are generated. In addition, a recent comparison of census information and school reporting in Brazil shows that new enrollments in first grade in 1987 in Brazil were approximately 3.2 million, compared to official

5 E. Schiefelbein, J.C. Tedesco, R. Ruiz and S. Peruzzi, "Primary Schooling and Illiteracy in Latin American Countries: 1980-1987," Bulletin N°20, UNESCO-OREALC, December 1989.

6 M.L. Fernández, A.L. Palma, V.R. Méndez and A.J. Osorio, "Informe de investigación sobre el problema de deserción escolar realizado en el núcleo escolar de Jutiapa, Danli, Departamento El Paraíso," Institute for International Research Inc., McLean, Virginia, August 1985.

7 M. Díaz Santana and Z. de Jesús Contreras, "La repetición escolar en los núcleos escolares," No.13, Matanzas, y No.36, "Los Botados, de Bani y Yamasa," Departamento de Investigación Educativa, PIDE, Secretaría de Estado de Educación (SEEBAC), Santo Domingo, Septiembre, 1985.

8 R. Drysdale. "A Study of Primary Education School Efficiency in Colombia." Doctoral dissertation. Harvard University, 1970.

9 E. Cuadra and G. Ewert, "Comparison of School Records with Parent's Information on Enrollment, Repetition, and Dropout: A Field Study in Honduras," Project Bridges, Harvard University, July 1987. A new research report being prepared by Noel McGinn and Fernando Reimers confirms previous findings and sheds light on new causes of repetition.

school reporting of 4.7 million, with corresponding increases in actual repetition over officially reported repetition.[10] These estimates closely corroborate the results of the UNESCO special survey.

There appear to be four main causes of under-reporting. However, based on available information, it is not possible to dimension systematically the relative importance of each of these four reasons.

The first and apparently most prevalent reason is that students leave school to work in the harvest, or because of illness, or students transfer to other schools, but are reported as dropouts even though they return the following year to the same grade (most of these temporary dropouts will be repeating the grade, but are not counted as repeaters). In fact, in several countries, figures on repeaters plus dropouts are quite close to the estimated total number of repeaters.

The second reason is that teachers have little time for extra work, and filling forms is not a priority from a pedagogical point of view. Therefore, many teachers fill in the data on repetition by heart, and in case of doubt or poor memory, many repeaters are not reported. Alternatively, the teacher may ask students "to raise their hands if they are repeating grade". Therefore, students not attending classes, or those that drop out and did not write their exams, may consider themselves as absentees and not as repeaters. The definitions printed by statisticians in the forms are read only by the most able and reliable teachers. Even those teachers willing to correctly report on data will face difficulties given that many schools lack facilities or equipment for keeping administrative records. And supervisors have no way to check whether the forms have mistakes beyond checking the total number of students in each grade (the key figure in all bureaucratic reporting).

The third reason is that students may receive a passing score, but teachers believe that the student may benefit from repeating. Teachers will then ask his/her parents to enroll the student in the same grade in order to allow the child to "mature". That student will not be considered as a repeater, but as "re-enrolled" in the same grade. This situation has especially been documented in Honduras.[11]

The fourth reason is that parents may present their children as newcomers when they are forced out of a previous school for repeating more than once or twice, for bad behavior, or when parents move. This cause may be particularly important in urban areas and for students enrolled in grade one. First grade under-reported repeaters are over one third of the total amount of under-reporting (about 3.4 million first grade repeaters are not reported in a total of 8 million unreported repeaters).

Given the magnitude of the under-reporting of repetition, assistance and training is needed to help countries to estimate the true magnitude of the problem through computerized optimizing and simulation models. Operational definitions of the different types of repetition and related causes would need to be agreed upon by regional specialists.

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10 R. Klein and S. Costa Ribeiro, "O Censo Educacional e o Modelo de Fluxo: O Problema da Repetencia", Laboratorio Nacional de Computacao Cientifica, No. 24/91, Rio de Janeiro, Brazil.

11 N. McGinn, F. Reimers, A. Loera, M. del Carmen Soto, S. Lopez, "Why do Children Repeat Grades? A Study of Rural Primary Schools in Honduras," Harvard University, USAID, Project Bridges, No. 13, 1991.

II. WHO REPEATS?

First Graders

As noted above, repetition is highest at the first grade level; 42.4% of children in first grade are repeating, compared to 27% in second grade. Based on the authors' and others observations throughout Latin America, the criteria for promotion to second grade generally appear to be straightforward. Teachers pass only those students able to relate "sounds and signs"--the first stage of the ability to read.[12] Based on this criterion, teachers believe that they are separating out the slow learners from the learners deemed as adequate.

Poor Children

Repetition affects students from all socio-economic groups, but affects the most deprived students to the greatest extent. Simply put, the lower the education and income of parents the more likely that the child will repeat the grade. Table 6 shows the figures in Uruguay that illustrate the situation in the region. As in the Bible: "Whoever has will be given more" (Matthew, XII, 12).

Table 6. Uruguay - Repetition by Socio-economic Status - 1990
(Percentage of fourth grade students repeating two or more times in their academic life).

Parents Education	Parents Income	
	Below 50th Percentile of sample	Above 50th Percentile of sample
Incomplete Primary	25.5%	18.6%
Complete Primary (grade 6)	20.7%	8.7%
Low Secondary (grades 7-10)	11.5%	4.5%
Upper Secondary or more	4.8%	1.1%

Source: CEPAL, "Qué aprenden y quiénes aprenden en las escuelas uruguayas," Montevideo, 1991, p. 80.

Note: Sample population was representative of families nationwide with children in the fourth grade in both public and private schools.

12 E. Schiefelbein, "Seven Strategies for Improving the Quality and Efficiency of the Educational System," N°192, UNESCO-UNICEF-WFP Cooperative Program, Paris, July 1990.

Rural and non-Spanish Speaking Children

Among students from low socio-economic families, students living in isolated rural areas are more likely to repeat. Among this sub-group children of indigenous groups speaking only their indigenous language are far more likely to repeat. The repetition problem is compounded by the poor communication between monolingual students and Spanish-speaking teachers. For example, in the case of Chile, the highest rate of repetition corresponds to the province (Malleco) with a larger percentage of native population. The repetition rate in that province is twice as high as the national average.[13] In the case of Guatemala, being non-white is one of the significative variables in the regression, with "grades approved" as the dependent variable.[14]

Gender Differences

In the few countries with available data, there appears to be little difference in repetition levels by gender. Girls tend to do slightly better, but differences among gender appear to be decreasing over time. Table 7 shows the results for seven countries.

Table 7. First Grade Repetition Level by Gender
CIRCA 1970-1985
(percent)

	Females		Males		Difference	
	1970	1985	1970	1985	1970	1985
Bolivia	33.3	31.6	40.8	35.4	-7.5	-3.8
Colombia	51.5	35.8	52.3	35.6	-0.8	0.2
Chile	34.0	11.4	27.0	16.6	7.0	-5.2
Ecuador	35.2	37.7	38.2	34.7	-3.0	3.0
Venezuela	13.3	22.6	17.9	28.6	-4.6	-6.0
Panama		23.8		28.2		-4.4
Paraguay		25.8		30.4		-4.6

Source: E. Schiefelbein, "Repetition: The Key Issue in Latin American Primary Education," The World Bank, LATHR Division, 1989; and UNESCO-OREALC, SIRI Regional Data Base, 1991.

13 Ministry of Education, unpublished figures, Santiago, 1990.

14 E. Rojas, "Factores que explican los niveles de escolaridad media de los hijos en Guatemala," UNESCO-OREALC, Santiago, 1991.

III. THE RELATIONSHIP BETWEEN REPETITION AND ACHIEVEMENT

At the outset it should be noted that high repetition as it occurs in Latin America most definitely means that something is wrong with an educational system. High repetition is mainly a proxy for inadequate learning, as defined by teachers, brought about by low quality of the inputs into the system. At the same time, little or no repetition is not adequate enough evidence of efficient operation of the educational system, since it does not guarantee that learning is taking place. Furthermore the relationship between repetition and low achievement is not simple and it may vary from place to place and over time. Only a few studies have sought to clarify this relationship, and much additional work remains to be undertaken. This section discusses the potential and possible relationships and cites the few studies which have looked at these relationships.

Repetition as a Proxy for Inadequate Achievement

Repetition mainly reflects teachers' judgements on the academic achievement of students that are communicated in terms of performance indicators such as pass/fail marks or grades. First grade teachers generally follow a simple criterion of failing children who do not learn the basic rudiments of reading. The criteria for promotion do not appear to be particularly high. In many cases students may be promoted from first grade when they are able to relate "sign" with "sound", that is, when students can pronounce sounds corresponding to the written letters even if no meaning is attached to those sounds or written letters. However except for the few studies cited below, there is little empirical evidence on the relationships between repetition and achievement.

Inconsistencies in the Relationship between Repetition and Achievement

Varying Standards. The relationship between repetition and achievement is not unvarying. Standards in very poor rural areas are more than likely lower than in middle-class urban areas. Fletcher and de Moura Castro found that, as reported by parents, lower-class children in Northeast Brazil achieved literacy after one year of schooling but remained in first grade for as much as three years. In comparison, higher income students in the South and Southwest became literate after six months of schooling but remained in first grade for an average of one and a half years. Fletcher and de Moura Castro conclude that as socio-economic status goes up, the chances of becoming literate more rapidly increase significantly; at the same time promotion standards go up at about half the rate that learning increases. [15]

In the case of Colombian schools that have implemented the Escuela Nueva methods, repetition was reduced by 7 percent but scores in Mathematics and Spanish (of students advancing much faster than in traditional schools) improved by one third.[16] This is also indirect evidence that increased quality of instruction resulted in higher standards as well as increased learning.

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15 P. Fletcher and C. de Moura Castro, "Students and Schools in Brazil Today." Workshop on Income Returns to Education, University of Wisconsin, Madison, May 20-22, 1986.

16 E. Schiefelbein, "In Search of the XXI Century School. Is Escuela Nueva the Right Pathfinder?" UNESCO-UNICEF, Santiago, 1991.

In the rural Northeast of Brazil, Harbison and Hanushek[17] show that there seems to be little relationship between learning and grade passing. However, as noted by Ribeiro and Klein, this may in part be a result of the practice in the Northeast of having a first grade "a" and "b". Children who complete the "a" class go on to the "b". This statistical problem is becoming less serious in the Northeast since many of these children are now being reported as being in "pre-school." Unfortunately many of these pre-schoolers are eight or older! It may also be a by-product of the extremely low quality of instruction in the rural Northeast and of the fact that most of the schools are one room ungraded classrooms in which children have little idea of which grade they are in, and in which the teaching is extremely poor. Improvement in that educational context is probably a function of overall intellectual and social development rather than a function of specific instruction.

Repetition may also be generated by higher standards set up in elite schools wishing to maintain their national or regional prestige. Repeaters in those elite schools would usually have higher achievement levels than students promoted in the rest of the system. In Colombia, repetition in some cases may be higher for students in the upper half of the income distribution.[18] However this is not common throughout Latin America, and tends to occur mostly at the secondary level. It is quite common in Africa, where last year repetition of primary school is quite high.[19]

Repetition Because of Inadequate Social or Physical Maturity. All children with an adequate level of achievement are not necessarily promoted. As shown below, in Honduras about 80% of students with passing grades in their subject were promoted to the next grade the following year, 20% of children with passing grades did not get promoted. The explanation for this result must be that the teacher, as well as possibly the parent, believes that these children are not socially or physically mature enough to proceed to the next grade. This study should be replicated to determine whether the Honduras situation occurs in other contexts.

Table 8. Honduras - Students That Were Promoted or Repeated Grade by the Average Grades in Four Academic Subjects - 1991

Grades in the Four Subjects	Final Result of School Year	
	Passed	Retained
Low (below 60%)	8	97
High (over 60%)	1145	253

Source: N. McGinn, F. Reimers, A. Loera, M. del Carmen Soto, S. Lopez, "Why Do Children Repeat Grades? A Study of Rural Primary Schools in Honduras," Harvard University- USAID, Project BRIDGES, No. 13, 1991.

17 R. W. Harbison and E. A. Hanushek, "Educational Performance of the Poor: Lessons from Rural Northeast Brazil." Oxford University Press, New York, 1992.

18 G. Psacharopoulos and E. Velez, "Educational Quality and Labor Market Outcomes: Evidence from Colombia," forthcoming, Sociology of Education.

19 Sixth grade repeaters in Burundi are well-motivated and scholastically capable children who take extra time to prepare for the very selective secondary school entrance examination. See J. Schwille et al, "Is grade repetition always wasteful? New data and unanswered questions, "Bridges Research Report Series, No. 7, Harvard University, Jan. 1991," op. cit.

Incomplete Schools. Latin America has generally been successful in providing an adequate gross physical infrastructure (e.g., a reasonable physical facility, chairs, and desks). However, in some rural areas, the distances from incomplete to complete primary schools may be so great that graduates of these incomplete schools are unable to continue their education. Teachers may keep those good students in the last grade of the incomplete school and even work with them on additional curricular topics (covering the content of one or even more additional grades) on a personal basis. These students are reported as enrolled (usually as repeaters) in the last grade of the school. No empirical data are available to estimate the magnitude of this type of arrangement in Latin American countries, but it might be related to the number of incomplete schools and to possibilities for moving into neighboring villages.

The "Culture" of Repetition. It has been alleged that teachers simply fail a given (or agreed) percentage of students and, therefore, even if learning were increased teachers would keep on failing the same percentage. The Colombia and Brazil cases cited above give at least some credence to this assertion. In addition it has been reported that repetition rates in Brazil have changed only marginally since the 1930's.[20]

Pre-service teaching training in Latin America may well encourage an attitude of failing students. Its basis is the German and French Normal Schools of the turn of the century, which emphasized that a professional teacher should only promote students able to perform at the expected level. This non-stated (but deeply accepted) norm may explain that "automatic promotion" norms applied in the 1960s and 1970s in Costa Rica, Chile, Venezuela could not eliminate repetition, until other policies were implemented.[21] Even though many school principals of those countries reported zero repetition at that time, they encouraged temporary dropout before the final exam period; forced students not to return after the harvest period; or convinced parents to keep "non-matured" children in the same grade.

In contrast, most English speaking countries in the Caribbean, such as Jamaica, have a policy of "promotion by age", with a result that repetition and dropout are quite low. However, tests of achievement in Jamaica have indicated that somewhere between 31% and 48% of primary school graduates are functionally illiterate (defined as reading comprehension at the fourth grade level).[22] In theory, research could measure the total increments in learning provided to a school age population in the Caribbean compared to a similar population in a Latin American country. Such a piece of research could well show that the Caribbean has been more successful in educating its population than its Latin neighbors; however its success could be due to a variety of factors affecting quality, rather than solely or mainly its promotion policy.

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20 S. Costa Ribeiro, "A Pedagogia da Repetencia", Estudos Avancados, 5 (12), July 1991, pg. 7-21.

21 "Automatic promotion" laws enacted in Venezuela, Chile, and Colombia cut the true repetition level by half. Principals reported zero repetition after the law was enacted but a careful analysis of enrollment by age showed that the laws did not eliminate repetition at all.

22 CIDA/CODE (1989) "Rehabilitation of Jamaican Primary and All-Age Schools", Kingston, and T. Hamilton and Associates (1990), "Performance Measurement", Study IV, Education Policy Studies, Ministry of Education/USAID, Kingston.

The Impact of Repetition on Achievement

Is it worthwhile for students to repeat because they have not learned the minimum in order to pass? From one point of view, repetition is an indicator of the flexibility with which the school system (the teachers) responds to students' different learning abilities and previous experiential baggage. In this view of repetition the emphasis is placed in the gains obtained by repeaters. Thanks to this flexible attention, there would be a 50% increase in the resources devoted to the average Latin American student, so that students with little learning ability are finally able to achieve objectives too ambitious to be achieved in only one school year.

This argument may be at least partly valid for the last year of basic education in the Caribbean countries and in Colombia, where students are seeking to improve their scores in the admission exams to a very selective secondary education. In these cases the best teachers are usually allocated to the upper grades of basic education, the repeating students are near the top performers and their families are probably willing to provide the key materials required to perform well in the system.

The more likely case for Latin America is that repetition has little or no benefit, in terms of increased learning, for large numbers of primary school students in Latin America. Furthermore, the usual situation in Latin America is a poorly trained teacher covering the whole content of the grade, without any special attention to the repeater, with the likely result of a highly inefficient use of the repeater's school time. Repetition is thus a highly inadequate substitute for poor quality of education. From this point of view, the emphasis is placed on the wastage of resources and the need to improve quality of teaching and to reduce the demoralizing effects on repeaters.

It should be noted that high repetition in Latin America does not seem to have resulted in high achievement. For example, in an international comparison of mathematics and science achievement among thirteen year olds, the Brazilian cities of Sao Paulo and Fortaleza (the only participating Latin American country) came in nineteenth out of the twenty countries where the tests were given.[23] Furthermore, tests in several Latin American countries (e.g., Chile, Costa Rica, Venezuela) reveal that many fourth or seventh grade students are not able to explain the meaning of simple phrases or to estimate the square meters of the classroom when length and width are given in integer numbers.

Disagreements over the value of repeating a grade are not restricted to the developing world. In the United States, overall, 18% of all children in the United States are held back at least one year through eighth grade. California holds back 1 in 10 children up to grade two. Although these ratios are far lower than those in Latin America, they are still the subject of impassioned debate as to their value. In the 1980's, repetition was encouraged as a way of "raising standards". There is now a movement back towards reducing repetition. This approach goes hand in hand with an increased emphasis on "developmental" learning. Those who oppose repetition report that, of 63 studies, 54 identified the long-

23 IAEP. The countries with less than US$5000 GNP per capita participating in this study included Slovenia, Jordan, China, Portugal, Hungary, Brazil, and Mozambique. Archie E. Lapointe, Janice M. Askew and Nancy A. Mead, "Learning Science," and "Learning Mathematics," The International Assessment of Educational Progress, ETS. Princeton, New Jersey, 1992.

term deleterious effects of holding children back. One study, for example, showed that held-back children were 18% worse in reading than equally low achievers who were not held back.[24]

24 "The Wall Street Journal," June 16, 1992, p.B1.

IV. THE CAUSES OF REPETITION ASSOCIATED WITH LOW ACHIEVEMENT

The causes of repetition associated with inadequate achievement can best be divided into those problems which are brought into the schooling system by children themselves and those problems brought about because of inadequate quality of schooling.

Characteristics of School Children

In any population of children, some percentage (10-20 %) will have a variety of problems which will make it difficult for them to learn. These problems can roughly be divided into (a) learning disabilities, such as dyslexia, other recently identified disabilities such as attention disorder deficit (ADD) and sensory motor dysfunction; (b) psychological problems and difficulties, and (c) low native ability (IQ) leading to difficulty in learning. It is interesting that highly intelligent children may have "learning disabilities" and many of these problems or disabilities become less pervasive in older years. These problems may be more prevalent in Latin America than in developed countries because they are often caused or exacerbated by inadequate nutrition, especially *in utero* and in the early years of life, by poor health and disease, and by difficult birth (e.g., oxygen deprivation). In a well developed education system, many of these students would receive special attention, or be put in a "special education" class, and allowed to proceed through the education system even though their learning did not keep up with the required norms. Because of lack of resources, this approach is rarely taken in Latin American schools.

A second type of problem brought by children is lack of readiness for learning or support for learning, and is most often associated with children from lower socio-economic groups, especially the urban slums and isolated rural areas. Usually these children have almost no reading material at home. Their parents will have no more than a primary education and could well be illiterate. Their parents could well be speaking only an indigenous language rather than Spanish, Portuguese, English, or French. Both parents could be working ten or twelve hours a day, with older children caring for younger children; so there is very little time for parents to assist their children in their work even if the parents had the skills and motivation. Also, by age ten, children can become economic assets and may well be working part-time. Furthermore, in spite of the recent growth in pre-schooling in Latin America, the vast majority of these children will have had no previous schooling or other formal socialization experience before they enter grade one. It is no wonder that their teachers find themselves obliged to ask them to repeat! It should be noted that this problem is not restricted to Latin America. It has been reported that some 20% of children in poor urban areas of the USA are repeating first grade.[25]

Poor Quality of Schooling

In short, the schools do a poor job of transforming the raw material into a literate child. Lockheed and Verspoor[26] have summarized the research on the relationships between school inputs and processes and learning. Textbooks and teaching learning materials appear to be the most important physical input affecting learning. Other types of physical inputs considered important include time on task (length of time devoted to learning), pre-schooling, and some health and nutrition inputs.

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25 See N. Madden, R. Slavin, N. Karweit, L. Dolan and B. Wasik, "Success for All," Kappan, Vol. 72, N. 8, 1991, pp. 593-599.

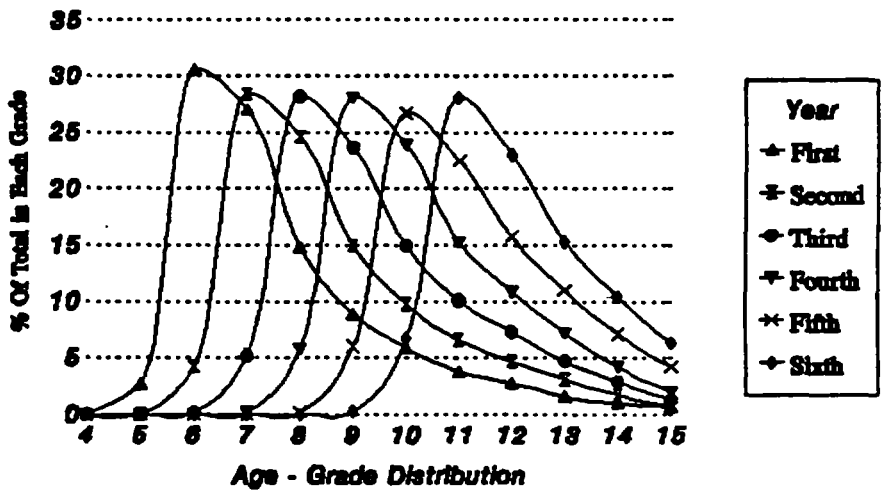
26 M. E. Lockheed and A. M. Verspoor, "Improving Primary Education in Developing Countries", Oxford University Press: Published for The World Bank, 1991, p. 429.

With regard to the teaching/learning process, teachers are unaware of a variety of modern pedagogical methods related to teaching reading, children's varying readiness for learning, and also classroom management in areas such as multi-grade teaching and encouraging children to teach children. Teachers may also have a variety of attitudes which result in inadequate learning. Chapter IV focusses more specifically on the issues of poor quality of schooling and strategies for change.

Age Heterogeneity

Theoretically, "age heterogeneity," which is particularly high in rural areas, may also decrease the efficiency of teaching methods, especially of those teachers using traditional "frontal" methods of teaching.[27] As can be seen in Table 9, teachers of first grade must usually teach students from ages five to eight at the same time. Similar age ranges are observed in upper grades, making it difficult for the teacher to generate learning experiences of interest for the whole range of ages.

Table 9. LAC Distribution by Age and Grade -1988 (percent)



Source: UNESCO-OREALC, SIRI Regional data base, 1991.

For the most part, age heterogeneity corresponds to overage resulting from repetition. Therefore, present repetition levels also contribute to a cycle of increased repetition (Table 10). Once students start repeating, they generate age heterogeneity in classes and make it more difficult for the teacher to teach the "average student". The result is that the average age of the first grade student, as well as the variance of the age distribution, increases (the average increment is close to one year of age).

27 For explanation of "Frontal" methods of teaching please see: K. H. Flechsig and E. Schiefelbein, "Catalogo de modelos didacticos: version 1985-1986, "Documentos de Trabajo del CIDE, Santiago, Chile. 1984.

Table 10. LAC Comparison of the Distribution by Age and the Estimated Repeaters - 1988
(percent)

Age (years repeated)	Grade 1 in 1988	Estimated flow Grade 1	Difference
6 (newcomers)	33.3		
7 (newcomers)	27.0	54.3	6.0
8 (repeat once)	14.8	24.8	-10.0
9 (repeat twice)	8.9	11.3	-2.4
10 (repeat 3 times)	5.9	5.2	-0.7
11 (repeat 4 times)	3.8	2.4	1.4
12 (repeat 5 times)	2.8	1.1	1.7
12 (repeat 6 or more)	3.6	0.9	2.7

Source: UNESCO-OREALC, SIRI Regional data base, 1991.

The greater the age variance the greater the number of students (in the "tails" of the talent distribution) that will find it difficult to follow teachers who are focussing on the "average" student. Poor students (left hand side of the distribution) will not be able to keep up with the pace and end up repeating the grade--and some very bright students may also repeat if they could get bored or become discipline problems.

Relative Importance of Each Cause

With our current knowledge it is difficult to estimate the relative effects of the various hypothesized causes of repetition associated with low achievement. As noted above, even in developed countries there is repetition in first grade, a result of the perception that some children will benefit both intellectually and socially from an additional year of maturing. From observations, it is clear that highly motivated teachers with adequate resources in Latin America can ensure that the vast majority of children pass. However, such highly motivated individuals are rare and the burdens of poverty and inadequate early childhood experiences in Latin America are great indeed, thus making the task more difficult.

At the same time, with good quality schooling, children do appear able to meet the demands of the national curriculum. In the case of public rural schools in Chile, which generally have the lowest scores on standardized tests, it is possible to identify schools that are performing near the required standards as defined in the national curriculum.[28] Furthermore, some 80 to 90% of Chilean students with good socio-economic background, attending private fee-paid schools, are able to perform near the 100% level of the national curriculum.[29] In fact, students in good private fee-paid schools are able to

28 E. Schiefelbein, "The Use of National Assessments to Improve Primary Education in Chile," IIEP, Paris, 1991.

29 See CPEIP, "Serie Estudios No.81," 1983 and SIMCE data 1988.

perform near the 100% level in all six Latin American countries where scores on independent testing are available.

It should be also be noted that two countries have undertaken long-term and successful efforts to reduce repetition. Uruguay reported over 40% first grade repeaters in 1965 and after the "Plan Varela" implemented teachers' upgrading, textbooks, food, adjustments in the daily schedule in rural areas, and other remedial actions, repetition rates dropped to about 20%.[30] A study in Chile also showed first grade repetition rates over 40% in 1967. After training teachers, distributing textbooks, setting up remedial time, providing breakfast and lunch, and other complementary policies, the rates decreased to 20%-30% in the 1970s and to 10%-20% in the 1980s.

Based on examples such as the *escuela nueva* in Colombia, as well the historical experience of countries such as Chile and Uruguay, as much as three quarters of the current 40% first grade failure rate can be attributed to a variety of failures in the quality of schooling. Put another way, a feasible and concentrated effort in improving school quality could reduce repetition in first grade from 40 to 10% and in primary education as a whole from 30% to 5%.

30 H. Apezechea, B. Pérez, H. Coronel, and A. Ancheta, "Repetición escolar: investigación participativa en el interior," Punto 21 Revista de Educación, N°42, CIEP, Montevideo, September 1987 (see also N° 42, February 1988). See also No. 43, February 1988.

IV. TOWARDS IDENTIFYING EFFECTIVE STRATEGIES FOR REDUCING REPETITION AND INCREASING ACHIEVEMENT

Lockheed and Verspoor[31] discuss and recommend a great variety of strategies for reducing repetition associated with inadequate achievement. The objective here is to operationalize these and other strategies in a Latin American context, and to focus especially on their possible cost-effectiveness and feasibility in Latin America. Because of the paucity of hard research findings, much of the discussion is based on interviews and the authors' own observations coming from over twenty years of working on primary education in Latin America.

There are three types of strategies. One type changes the processes of teaching and learning. This especially includes changing teaching strategies to emphasize cooperative learning, more personalized instruction, and, where necessary, multi-grade teaching; "flexible" promotion strategies; and introducing bilingual education where needed. A second type of strategy, increasing the physical inputs into the education system, includes increasing the availability and use of teaching/learning materials as well as the time allotted to learning. This could also include providing complete primary schools to eliminate the repetition associated with children held back in incomplete rural primary schools; as well as targeting resources to vulnerable populations. A third type of strategy directly changes the student by improving his readiness or capacity for learning. This especially includes expansion of pre-school education and a variety of increased health and nutrition interventions. Improved management of the system and developing and using a management information system impacts on all the above strategies. These various alternatives are discussed in terms of their justification, possible cost-effectiveness, and feasibility in Latin America. A final section speculates on how such strategies could be ordered in terms of their relative costs and effectiveness, and proposes a method for estimating potential feasibility and impact.

Changing Teaching Strategies, Including "Flexible" Promotion

Justification. In the typical school in Latin America the teacher talks or writes at the chalkboard and adjusts the amount of facts, definitions and statements to be memorized to the ability level of the "average student".[32] Given that ability is usually normally distributed, it is expected that those students with low ability levels (those to the left of the average student in the ability distribution curve) will not be able to keep up with the pace of the teacher's "coverage" of the course content. This approach cannot deliver the quality of education required to reduce repetition. There is a need to cut down the time allocated to "broadcast information" and to increase the time for monitoring the advance of students, allowing the students to make choices and to evaluate students' performance in key moments. Furthermore, modern theory emphasizes that literacy is not the formal understanding of certain fixed conventions and codes. Rather, literacy requires that children understand the social role of literacy–reading as learning and as problem-solving. This requires that the classroom is transformed into a "literate environment," where children, surrounded by written materials, find it natural to want to learn

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31 M. Lockheed and A. Verspoor, Improving Primary Education in Developing Countries. Oxford University Press, New York, 1991.

32 A good description of a traditional teacher is presented in M. Montero-Sieburth, "Classroom Management: Instructional Strategies and the Allocation of Learning Resources," BRIDGES Research Report Series N°4, Harvard University, April 1990, p. 7.

to read; and that teachers develop knowledge and understanding of children's specific learning styles and problems and act to deal with specific issues and problems of individual children.

Personalized instruction is also necessary for students that leave the school during part of the year. Students' absences related with harvest time, loading-unloading from trucks or ships, or the agricultural or commercial fair usually happen in the same period of the year. When those students return the next year to the same grade, listen to teachers that "cover" the same curriculum content (that they may already know) and then they must leave the school just at the time when new topics are being covered. These temporary dropouts are doomed to permanent failure unless they can continue the next year with the module they were working on at the time they left the school. Teachers using personalized instruction may spend more time with the slow learners, to allow the repeaters to continue from the last module satisfactorily eompleted (instead of repeating the whole content of the grade).

Multi-grade teaching is poorly performed in most of the classrooms where more of one grade is taught by one common teacher (some 10 to 30% of the total number of classrooms in most countries). Multi-grade teaching requires suitable self-learning modules or textbooks, one chalkboard on each wall for each of the groups working together, and not more than 30 students per classroom. Training in multi-grade teaching must be carried out together with the distribution of self-learning textbooks.

A variety of strategies in teaching reading need to be introduced. Reading for understanding may be greatly improved if students are asked to read simple instructions and then to carry out group learning experiences. Reading such instructions is an activity much closer to the real world than many of the reading materials and, therefore, is a powerful incentive for the students to understand the meaning of those instructions. Another approach is to encourage cooperative learning, where the best students in each group help classmates in understanding what is in the message. In addition, child-to-child approaches can be used for remedial learning, and students can be asked to do home-work that involves asking parents and friends about day-to-day activities that students must report back in writing and can be commented on by classmates. Upgrading reading techniques can be carried out in workshops with actual students or other methods (including micro-teaching with video taping).

Another way of looking at the problem of inadequacy in the teaching/learning process is to look at attitude rather than specific "modern" techniques. There is much anecdotal evidence that middle-class teachers do not react sympathetically to the poorer children they need to deal with. Furthermore, in many public systems teacher morale can be very low because of a combination of low salaries, excessive bureaucracy, and political appointments to administrative jobs. Poor morale or attitudes in a classroom can be striking; within the classroom the observer will sense inertia and boredom, with both the teacher and the student "just going through the motions".

In fact, some of the more successful schooling experiments focus as much on morale and attitude as on modern pedagogy. The "Fe y Alegría" program, a private Catholic school system for slum children located mainly in Venezuela, Colombia, Peru and Bolivia, focusses on instilling a sense of love and caring for children as much as on specific teaching techniques.

Potential Cost-Effectiveness. The cost of a one week, yearly hands-on training session for teachers can be roughly calculated. If a teacher's weekly salary is US$80 (assuming a US$ 4000 annual salary) or 2% of annual student cost (calculated by dividing US$80/US$4000), then the cost of a one week course is roughly US$80, plus additional amounts for travel and per-diem. A one week teacher

training program would be highly cost effective if in fact it changed teacher behavior yet highly wasteful if it did not.

An example of a very wasteful program has been Venezuela's decision to encourage all primary school teachers to get a higher education degree and to give them salary increments of 50% upon receiving this degree. The result has been a vast expansion of in-service and distance education programs (costing $500 per year per in-service student, each of whom is probably taking five years to get degree equivalency) but no discernible reduction in repetition rates.

The *escuela nueva* model is an example of a successful in-service teacher training program. It increased recurrent unit costs in Colombia by less than 10% to cover training and textbooks.[33] Based on this model, in-service training leading to personalized instruction is a very appealing alternative to be implemented for reducing repetition with a low cost (5% if textbooks are already provided) or no cost (if a small increment in class size is allowed). However, it may be that classes of less than 30 students are needed in multi-grade and personalized teaching, even though research findings suggest that class size has no impact in students' achievement when taught with traditional "frontal" methods.

Feasibility. Changing teachers' strategies requires changing teacher training, both pre-service and in-service, and provision of self-learning modules. The research on in-service training shows very mixed results. To the extent that these programs are designed to provide teachers with another degree (and higher pay) they do not seem to result in changing classroom strategies. Clearly focussed and targeted in-service hands-on training programs appear to be the only ones which work well. In-service training should, therefore, be designed to change specific classroom behaviors. This could include, for example, teaching teachers how to use new textbooks and learning materials, teaching them specifically how to manage multi-grade classes, and observation of successful individualized instruction that encourage them to replace the "frontal," expository method of teaching with one which allows for more individualized instruction.

In the long run, improved pre-service training may be the strongest impetus for changing teaching strategies. The main focus in pre-service training should be two fold--increasing teachers' general knowledge, and increasing the amount of supervised practice teaching. Specific teacher training courses should generally be no longer than two years in length with at least sixth months of full-time practice teaching. This is contrary to the practice in most Latin American countries of long pre-service training courses. Teacher training programs should focus on selecting students with a vocation for teaching rather than seeking a (second class) degree.

The very best teacher trainers need to manage and think through these programs. A strong program of formative research will also help to ensure success.

"Flexible" Promotion. "Automatic promotion" laws were enacted in the 1970's in Venezuela, Costa Rica, and Chile. Following old colonial traditions educational norms and laws are "accepted, but not implemented" by the teaching staff. There were near 20% first grade repetition rates in Costa Rica and Venezuela during their experiment with automatic promotion. Principals reported zero repetition after the law was enacted, but no more than half the repetition rates were eliminated because teachers

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33 E. Schiefelbein, "In Search of the XXI Century School. Is Escuela Nueva the Right Pathfinder?" UNESCO-UNICEF, Santiago, 1991.

developed strategies not to promote students while at the same time reporting that they were not officially repeating. For example, teachers asked parents to enroll the child in the same grade the next year in order to help the child "to mature," or asked students to drop out (or parents to take the student out) before the final exam period or not to return after the harvest period.

Recently, the state of Sao Paulo in Brazil instituted a modified system of automatic promotion from grade one to grade two called the ciclo basico. It is also supposed to include in-service training to encourage teachers to adapt more modern pedagogy, continual student evaluation during the first two grades in order to target special assistance to slow learners, and an enriched environment of learning materials. The basis for the reform is modern pedagogical theory, which, in broad terms, holds that children's readiness to learn to read and write occurs at different chronological ages; and children in impoverished environments are likely to take a longer time to become literate, especially when they have not been exposed to pre-schooling. In principle, the *ciclo basico* avoids the potential problems of lowering of passing standards by permitting teachers to fail children at the end of second grade.

The state of Sao Paulo introduced the *ciclo basico* by decree in 1984, and offered all teachers intensive short courses in its philosophy. All state primary schools have implemented its formal aspect -- automatic promotion between grades one and two. However, it is doubtful whether teacher practices changed, and by and large classrooms still lack teaching/learning materials beyond a few basic textbooks for all children. In spite of this only partial implementation, cumulative reported failure through third grade in 1988 fell from about 31 percent to 19 percent. Failure between grades one and two was eliminated; failure between grades two and three increased but not enough to cancel the major gain achieved by promoting all first grade children. Unfortunately, there is recent anecdotal evidence that failures are beginning to pile up again at the end of second grade. This is more than likely a result of inadequate support and follow-up by education authorities on the reform, who have not acted strongly and consistently to change teacher behavior.

A variation on the theme of automatic promotion might be to simply reduce standards. This could certainly be the case if the curriculum were too demanding and only gifted students could achieve those standards. It could also be of use if teachers have gotten into the habit of flunking at least one third of all children no matter what their level of achievement. As noted previously, there is some evidence that this is happening. However explicitly lowered standards for promoting from one grade to the next may create serious problems for traditional teachers by increasing the ability range (heterogeneity) within the classroom. Lower standards may also reduce the overall stock of learning (human capital) accumulated as a result of attending school. Some teachers say that automatic promotion eliminates the use of promotion as a tool for controlling discipline.

A more promising and fundamental alternative is to introduce flexible promotion practices based on encouraging teachers to take a developmental approach to learning. In Colombia, the *escuela nueva* schools feature multi-grade teaching and promotion to the next grade once a student has achieved minimum educational objectives. Teachers are trained to teach children at different levels of academic achievement in the same class, and a variety of books and materials are available for children with different abilities. The Sao Paulo approach, in theory, based on the same concept, would also work well if accompanied by adequate training and provision of materials.

Bilingual Education

Justification. When children do not speak the national language, rates of repetition are much higher. This problem is especially prevalent in countries with large Indian populations such as Peru, Bolivia, Ecuador, and Guatemala, but also occurs on a lesser scale in many other Latin American countries with smaller indigenous populations. Overall, 10% of the school age population in Latin America is bilingual. When most of the first grade students speak Spanish the non-Spanish speakers may learn from their classmates very quickly and there is no need to use the bilingual approach. But when the native language is spoken for informal communication among students, then the bilingual approach is required for learning to match the new signs with the well known sounds and meaning.

Potential Cost-Effectiveness. Bilingual education increases unit costs in four ways: the design and testing of textbooks; higher costs per copy given the smaller number of copies; complementary research; and the training or allocation of bilingual teachers to the schools where bilingual education should be offered. Estimation of costs depends in the number of students using the materials. Assuming some 10,000 to 20,000 students annual intake (in each language) the cost per copy may be double the cost of large scale editions (an increment of some US$1 per copy), and similar costs can be estimated for design and testing, and for research. In principle, the cost of training would not be high; more important would be the selection of appropriately motivated teachers with the necessary language skills. One week of in-service training could be estimated at about US$80 or 2% of the annual teachers salary. Therefore, the cost may increase by some US$7 to US$9 per student (assuming 3 or 4 textbooks per student in each grade), which would be an increment of some 5% to 6% of the unit cost for those included in the bilingual program. The estimated costs represent only one fifth or one sixth of the annual amount of resources allocated to repetition. If the reduction of repetition is only one fifth of the present national levels the investment in bilingual education would be cost effective. Given that repetition in rural isolated areas is probably 50% higher than the national average a reduction of only one tenth of the repetition level of these groups would be enough to justify the investment in bilingual education.

Feasibility. Bilingual education requires management abilities for: identifying the schools where the bilingual approach should be used; allocating native-speaking teachers in bilingual schools; designing and testing textbook prototypes; and carrying out survey research on the areas in which a given variant of a native language can be used. The design and production of suitable textbooks may be a constraint when there are many dialects. Bilingual education also requires a very strong public relations campaign to convince parents as well as teachers of the value of their children becoming literate in the native language. There are examples of the failure of such programs because of a perception by parents that literacy in a native tongue is somehow second class.

Increasing the Provision of Teaching/Learning Materials

Justification. Throughout Latin America, the availability of teaching/learning materials is inadequate. In a typical public urban slum school, children at the most have one textbook. Most learning takes place through the teacher writing on the blackboard and the child copying it in his notebook. In a cabinet in the back of the room there will be a few scattered, old, and torn supplementary workbooks or teachers guides. There would, of course, be no library. Typically, Government provision of such materials is no more than 1% of the budget. This lack of materials is surprising given the strong research world wide on the effects of the availability of textbooks on learning.

Potential Cost-Effectiveness. The cost of providing a reasonable amount of material is probably around US$5 per student per year, or about 2.5% of the current unit costs of primary education in Latin America. Recent research in Northeast Brazil has shown that an increase in teaching materials more than pays for itself in reduced repetition. However, it is important to ensure that textbooks are actually used in the classroom or the investment will be wasted.

Feasibility. A number of countries in Latin America regularly provided free textbooks in the past. There appears to be a lack of awareness by Governments of the importance of providing such materials; furthermore, in a period of financial constraints these Governments regularly reduce financing for non-salary items. Governments with an understanding of the importance of these materials should be able to finance their provision, along with some modest co-financing by the families of school children, since the costs compared to salaries are not high. To ensure the best use of funds, it would be important to develop mechanisms for public evaluation of the materials as well as to encourage adapting materials from one country to another. Finally, it would be essential to ensure that materials are actually used in the classroom rather than stored centrally or in closed bookcases. This means that in-service teacher training programs specifically directed at textbook utilization must be part of any textbook provision program.

One way of partly paying for increased teaching/learning materials is to ask parents to pay for "renting" such materials as implemented in many private schools. Charging a modest amount to all parents has the added advantage of getting parents more interested and encouraging responsible care of materials. However, it should not be considered as the sole or even the major source of funding for such materials since the result could well be that of discouraging poorer children from attending school.

It is important to keep in mind that teaching/learning materials do not simply mean textbooks. In fact, in the developed world, specific textbooks for the lower grades of primary school are no longer used, and teachers use a vast combination of self-learning modules and materials to teach reading, writing, and arithmetic. Teaching/learning materials in Latin America, therefore, should mean a combination of textbooks, workbooks, library materials, and the means (photo-copiers, word processors, etc.) whereby teachers can create their own materials.

Increasing Time on Task

Justification. While most Latin American countries have an official calendar of 180 days, the actual number of school days in many cases approaches 120, a result of a combination of holidays, teacher absences, and strikes which may last a month or longer. Furthermore, in some crowded urban slum areas, the length of the school day may be inadequate because of triple shifting; in other cases the teacher may arrive an hour or two late and leave earlier than usual. Even when the teacher is present for the full four and half or five hours of the typical double shift primary school, the actual time of active teaching may be as little as two hours per day, with the rest of the time spent in various administrative, routine, or repetitive activities. A final element in the process is the possibly inadequate requirement for children to do homework, which is effectively an extension of teaching time beyond the regular school day. The result of all of these problems is that children in Latin America are fundamentally short-changed. Considering the inadequate amount of time available it is remarkable that many do learn something in the course of the school year.

It is possible to introduce some additional elements to the traditional input mix that may increase time on task. For example, commercial TV can be used for educational purposes through encouraging

teachers to use programs for educational purposes as well as through providing samples of questions to be answered (or instructions to be followed) by students.

Potential Cost Effectiveness. Depending on the strategies, increased time on task may be very expensive or nearly cost-less. The cheapest alternative would be simply to enforce adequately the current regulations on the length of the school year and the school day and on teacher absenteeism. Another alternative would be to change teaching strategies within the classroom to increase effective learning. This would require self-learning modules for students or a program of pre-and in-service training, with costs which might be significant, and is described in further detail below. The most expensive alternative, to pay teachers for the additional required official school day or school year, would only be a cost-effective approach if it were accompanied by more stringent administrative control procedures. Additional homework would have a minimal cost.

Feasibility. Increasing time on task requires efforts from the highest level of Government down to the classroom and the teacher. In some cases it may well be politically difficult. However, a number of Latin American countries have been seriously considering or actually implementing increases in the official length of the school year as well as the length of the school day. Currently, in many countries strikes have resulted in the greatest loss of teaching time and had little impact on salary levels. A firm stance by government discouraging strikes is fundamental. This could also include full makeup of all lost days as well as salary penalties to teachers participating in the strikes. Furthermore, better monitoring of teacher attendance, including some form of punishment, could reduce widespread absenteeism and late arrival or early departure.

Research on the impact of time on task could be undertaken to inform the public on key issues. For example, a time series on teachers' salaries would probably show that strikes have little or no impact on salary increments. Public opinion must also be informed about the long-term effects of salaries. Even though there is no evidence that short-term salary increases result in better teaching[355], long-term effects in attracting better candidates may be very important. This certainly appears to be the experience of Japan, Korea, and Malaysia. Moreover, a national consensus on teachers salaries must be worked out from a non-partisan political point of view.

Expansion of Pre-Schooling

Justification. In education, as in other sectors, there is a shift from an emphasis in remediation to an emphasis on prevention and early intervention. The objective is to ensure that children are successful in reading the first time they are taught and never become remedial readers.[35] Research in the USA and elsewhere is beginning to show that "Head Start" type of programs may have long-term effects not only in improved learning but also in socialization of children, including reduced delinquency

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355 R. W. Harbison and E. A. Hanushek, "Educational Performance of the Poor: Lessons from Rural Northeast Brazil," Oxford University Press, New York, 1992, p. 362.

35 Robert Slavin, "Chapter One: A Vision for the Next Quarter Century," Kappan Vol. 72, N. 8, April 1991, pp. 586-592.

and later dropout. This research is summarized in a book by Robert Myers as well as in a paper on particular Latin American problems in pre-schooling.[36]

Latin America has experienced explosive growth in all types of pre-schooling. Latin America is utilizing many alternative models and approaches to pre-schooling, which are more fully described by Myers. The traditional pre-school serving children aged 4 to 6 usually requires a fully trained teacher and sometimes an aide as well, with student teacher ratios equal to or lower than those in primary education, as well as a strong nutrition component. Non-formal alternatives, often directed at children aged 0-4, with positive effects on children, include the training of parents for delivering early stimulation to their children [37] or the hiring and training of a mother to take care of six to 10 neighborhood children with supervision of five of these groups by trained staff.[38]

For those children with access to TV, research has shown that Sesame Street type series have strong positive effects on the readiness of children aged 3-6 for learning, including awareness of letters and numbers. The benefits of watching these types of series can be improved by providing guidance to parents or caretakers on reinforcing the skills stimulated by those programs. Currently, a new Latin American version of Sesame Street is being prepared in Mexico.

Potential Cost-Effectiveness. Formal pre-schooling needs small groups, concrete educational materials and a feeding component that is at least as expensive as primary education and could be two or three times the cost per student. Since formal pre-schooling is relatively expensive, it is fundamental that public funds be targeted to the poorest and underprivileged students, especially those at risk for dropout or for delinquency. Furthermore, since one of the other goals of pre-schooling is to make it easier for mothers to work and, therefore, increase their income, even programs directed at the poorest segments of society should have some elements of cost-recovery and of cooperative work-sharing. The payoff even for relatively high cost programs of this sort might be very great over the long run, if we consider not only reduced repetition but also reduced dropout, longer stays in school, increased income, and a reduction in crime and other anti-social behavior. In terms of physical space, as first grade enrollment decreases (as a result of reductions in the number of repeaters and lower population growth), some first grade seats can be freed to receiving preschoolers.

Non-formal education based on mass media, the distribution of printed materials and group sessions animated by a local contact may cost one third or one fifth of the unit cost in primary education.[39] Initial education through parents, as is being developed in Mexico, may have higher cost-effectiveness, in terms of reducing repetition. Assuming that first grade students from families in the

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36 R. Myers, "Early Childhood Development Programs in Latin America: Toward an Investment Strategy," World Bank LATHR View, August, 1992; and R. Myers, "The Twelve who Survive," Routledge: New York, 1992.

37 H. Richards. CIDE, Programa Padres e Hijos. See "Evaluation of Cultural Action." McMillan Press, 1985.

38 UNICEF-TACRO, "Los Hogares Coniveitarios de Bienestar del Instituto Colombiano de Bienestor Familiar", Bogota, February 1991.

39 H. Richards, op.cit.

lower half of the distribution have repetition rates near 60%, this alternative would be cost efficient (from the point of view of repetition) if it could help half of the children to pass first grade.

Mass media advertisement campaigns (in terms of radio and TV spot campaigns to "sell" the need to sing songs, tell tales and ask questions to children) also have very low costs (around US$ 0.01 or less per student). Sesame Street type programs, while very costly to produce, can have very low unit costs when developed in countries such as Brazil and Mexico. The current Latin American Sesame Street being planned with Televisa in Mexico is expected to have a very low cost per viewer per year in ten Latin American countries. TV programs of this sort can be partly underwritten by firms which could further reduce the cost to government. Because of the low unit costs, the payoff would be great even if repetition were reduced by a very small percentage.

Feasibility. The explosive growth of pre-schooling in Latin America, especially for children aged 4-6, has been financed both publicly and privately, the vast majority serving the middle-class and of the traditional relatively high cost type. However, the costs are so high that Government funds will be able to cover only a small fraction of the population, and the middle-class may capture many of these benefits. The challenge is to develop lower cost publicly financed programs directed at vulnerable groups. In some countries there may be official and professional resistance to lower cost programs using paraprofessionals. The development of ETV programs may also be hampered by a lack of willingness of Latin American educational television groups to enter into co-productions because of perceived high costs and/or fear of an excessively North American orientation of such programs.

In-School Health and Nutrition Interventions

Justification. A number of key health and nutrition interventions can reduce repetition and improve learning. The most long lasting ones are probably those related to pre-natal care and to nutrition and health care around the birth ages. In primary school these interventions are less critical but also important. Certain micro-nutrients may be very important for learning.[40] While difficult to document, eye examinations and hearing acuity screening, followed by remedial actions, could also help improve learning. There is also evidence that school breakfasts and lunches encourage school attendance. Except for provision of school snacks, many Latin American countries do not provide these services.

Cost-Effectiveness. Some health and nutrition interventions can be extremely expensive. For example, the provision of school lunches (when schools are on double shift) can add as much as 25% to the unit costs of primary education.[41] These school lunches may serve as an effective means of income distribution to the poor if they are well targeted, but they have only minor educational results.[42] On the other hand, some experiments with micro-nutrients suggest that the costs may be very low, with potential

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40 E. Pollit, "Malnutrition and Infection in the Classroom", Paris, UNESCO, 1990; Pollit, Haas and Levitsky, editors, International Conference on Iron Deficiency and Behavioral Development. The American Journal of Clinical Nutrition, No. 3, 1989.

41 P. Musgrove, "Feeding Latin America's Children: An Analytical Survey of Food Programs", Report No. 10, Regional Studies Program, LAT, The World Bank, 1992.

42 M. Grosh, "From Platitudes to Practice: Targeting Social Programs in Latin America", Forthcoming, LAT, The World Bank, 1992.

significant benefits. Many of the current school health interventions in Latin America are costly but ineffective. Typically, there may be a cadre of "school doctors and dentists" paid by the state, rarely showing up in schools and dispensing services, and with little or no equipment. A much more cost-effective approach to school health would include screening by a trained teacher followed by reference to a local health post. Rather than provide school lunches by a large and expensive staff paid as civil servants, it is much more cost-effective to develop contracts with PTA's and other local groups.

Feasibility. Health and nutrition interventions should be targeted to at-risk populations. This is politically difficult because the most vulnerable populations often have little voice. The result is that many such programs, especially in nutrition, which initially may be highly targeted, end up providing general subsidies to the middle- and lower middle-class, with little educational results. A second fundamental problem is that of lack of coordination between the health and education ministries. A third problem is that of keeping costs down in food provision. In Costa Rica, for example, because of legal problems, the Government has been unable to fire school "cooks" and replace them with contracted workers.

Improved Management

Justification. Quality may also increase if resources are more effectively and efficiently allocated through better school and system management. This could include some or all of the actions described below.

In many countries in Latin America, management may be improved by simply firing "ghost" teachers and administrators as well as by replacing large numbers of low level staff with fewer but more highly trained civil servants. Education management may be improved by strengthening top management (e.g., department heads). This might mean doubling or tripling present salaries to attract and keep good managers (selecting and training good prospects from the education sector or attracting managers from other sectors). Central management may also be improved by hiring consultants or contracting services with private firms. For example, Chile hired a university to carry out the national testing of fourth and sixth graders and Colombia hired private firms to handle the payroll. In both cases there were problems with respect to the control and use of the data bases, but these problems can be solved with suitable clauses in the contracts.

As part of the democratization process, most Latin American countries have initiated programs to decentralize education. General management theory supports the importance of flattening out decision making as a means of improving productivity in industry, commerce, and services. Certainly it is advisable to encourage parents, teachers, employers, alumni, universities, and civic groups to participate more directly in the learning process through decentralization. However, if a decentralized school system is captured by local elites or politicians, or there are no mechanisms to ensure equitable educational opportunities for the poorer municipalities or regions, or a new decision making system with clear responsibilities is not put in place, then it might be better to maintain a centralized system. There are documented cases (Mexico, for example) where decentralization has definitely improved processes such as hiring of teachers and has more than likely led to higher morale. On the other hand, in Argentina it

may well have led to increased inequity and lower quality. There is at yet no hard evidence that decentralization directly improves learning.[43]

If major problems are in first grade, then good management means that the best teachers should be assigned to first grade and should receive higher salaries. Similarly, if no trained teachers apply for jobs in rural areas (when there are teachers looking for a job in urban areas), the salary for rural schools could be increased by 10 or 20% or more until a trained teacher is willing to apply for such a job. Good management techniques can also be used to identify the most highly motivated teachers for first grade or for programs in bilingual education.

Potential Cost-Effectiveness. Firing redundant staff is surely one of the most cost-effective education policies. Increasing the salaries of a small number of top officials can be financed with a small increase in the total amount of resources (2% to 3% of total cost). Differential salaries and subsidies to teach in difficult schools would not cost much overall but might have a high payoff in decreased repetition. With regard to decentralization, the number of staff in administrative functions does not appear to be different in a centralized than in a decentralized operation of the system. However, there may be significant transition costs as staff are shifted from central to local bureaucracies.

Feasibility. Most of the management changes described above are politically and administratively difficult to implement. Entrenched pressure groups may resist firing of redundant staff. Changing incentives to pay higher wages to teachers in difficult schools or classes or to encourage top management to work in education may lead to political pressures to raise salaries generally. Decentralization is also a highly political process, linked with the distribution of political power in newly democratizing Latin American countries. It is, therefore, important for educators to ensure that a decentralized system is adequately planned rather than simply imposed for political or other reasons. This means incorporating from the start an adequate system of decision-making relationships among local, regional, and central levels. Strong leadership from the top will be needed to implement any of these reforms.

Setting Up and Using Management Information Systems (MIS)

Justification. With the availability of powerful and cheap Pcs, educational managers can identify those schools that are performing very poorly and which require special attention. For example, high rates of first grade repetition in certain schools would suggest that the school director and/or teachers in the schools should be changed or their skills upgraded. A drop in school attendance during the harvest period would show that vacation time should be reallocated, remedial teaching must be organized if time allows it, or learning modules (personalized instruction) would need to be implemented for working-students to catch up with the rest of the class. Similarly, system managers and supervisors could use information on late entrance, overage students, excessively high student-teacher ratios, untrained teachers, students without textbooks, high percentage of non-Spanish speaking students in non-bilingual schools, excessively short length of school-year, to fashion special programs for these schools.

The lists of schools (names and addresses of the 5% or 10% with worst performance) sent to each of the regions or states could generate reports from supervisors. Those reports would address a short number of probable causes (identified from past research) as well as all the additional topics the

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43 J. Prawda. "Educational Decentralization in Latin America: Lessons Learned." A View from LATHR No. 27. World Bank, 1992.

supervisor considers relevant. Processing those reports would generate the basis for identifying the key elements of poor performance and for finding both specific solutions for the schools under scrutiny and for the system as a whole. On the other hand, the list of the best schools should be used for organizing stages of principals and teachers that can identify better ways to work in their own schools. In short, an MIS of this sort could be a powerful tool for focusing efforts in the most pressing problems, for upgrading school practices, and for systematically accumulating knowledge of problems and causes.

The effects of this type of targeted supervision may be increased by undertaking research to explain the main problems of the worst schools. The MIS can process the reports prepared by local and central supervisors and to compare those reports with the research findings now available for the region in the REDUC (Regional Exchange of Educational Research) system. This service can be contracted with private or university centers, including recommendations for specific policies resulting from this, continue a search of the worst schools.

Potential Cost-Effectiveness. Most Latin American countries already have a computerized data bank with the usual statistical information gathered from school principals. The programming software required to prepare the printout with the names and addresses of the worst 5% or 10% schools in each region would be of a very low cost. Costs would increase if the amount and type of data gathered were expanded and if efforts were made to improve the quality of the data through motivating and encouraging teachers and school directors to take statistical reports more seriously. The cost of action research could also be significant.

Based on printouts from the MIS,managers could ask local supervisors to visit those schools and prepare a report on possible causes of such low performance (central supervisors may check 10% of the reports of local supervisors to gauge their reliability). Money for travel and per diem is usually already allocated (even though supervisors visit few schools), but some small supplement may be needed in some countries. The total cost of using MISs for reducing repetition should include the travel and per diem for principals and teachers from worst schools to visit the best schools (also identified by the MIS).

If there is no computerized data bank, the total cost of a MIS able to perform these analysis and reporting (including the hardware and software) is estimated in the case of Bolivia and in the case of Mexico at about US$0.1 per student (US$1 million per 10 million students). This means that even a marginal reduction in repetition through an MIS which targeted the worst schools would be cost effective. Testing students is much higher (US$2 or US$3 per student), but information from testing is only required when main quality problems (detected in a first stage by proxies of quality) are already solved and can often be done on a sample basis.

Feasibility. While setting up an MIS is technically feasible it requires a change on the part of political leaders from making decisions on a political or patronage basis to making decisions on a technical basis. It also requires identifying and paying reasonably skilled computer personnel to set up and then manage the system. Finally, it requires a monitoring system or a motivated corps of supervisors, trainers, and school directors. If all the pre-requisites are ensured, then the MIS would be feasible.

Targeting

Better quality of education is specially required for deprived students who generally have repetition rates twice as high as the national averages. Improvements in education quality should be

targeted to these students. Targeting is important because the difference between achievement levels of deprived and wealthy students in Latin American countries is usually much larger than the difference between wealthy students in Latin American countries and in developed countries. Therefore, any strategies for changes in inputs and processes should be designed to deal with socio-economically deprived children[44] who are generally in public schools serving urban-marginal and rural children.[45]

Sources of Financing: Raising the Student Teacher Ratio

Most improvements in quality cost money. For example a textbook could cost about US$1 per copy (when purchased in lots over 100,000 copies); therefore, if three textbooks are allocated per student the total cost would be near 2% of present cost per student. Extending the school-year by one week and paying teachers for this week will also increase by 2% the present cost per student. One week of in-service teacher training would cost a similar amount.

These three improvements represent a cost increase of 2% to 11% (depending on which inputs are already provided in each country). They could be financed with a modest increase in student/teacher ratios from 27 to 30, which would result in a savings of 11% (if only "ghost" teachers are reduced, the ratio will not change). An increase in student teacher ratios from, say 27:1 to 28:1, would result in a savings of 3.7% in the recurrent budget. Most research suggests that such a modest increase will not affect achievement levels.[46] In contrast, many Latin American countries appear to be reducing their student teacher ratios, and hiring more teachers, even though they are in a period of financial stringency and have been cutting non-salary items such as books and maintenance. In some countries many of those hired as teachers are undertaking administrative or even secretarial tasks, sometimes completely outside the education system. Firing these people would not raise the effective student-teacher ratio since they are not in the classroom.

However, even though research findings suggest that class size has no impact on students' achievement when taught traditionally, classes of less than 30 students may well be desirable in multi-grade and in personalized teaching. This means that, as teachers begin to implement effective techniques such as mastery learning or cooperative instruction, student teacher ratios may well need to decline. [47]

Ranking Strategies

In theory, it is possible to rank order strategies and interventions in terms of their cost-effectiveness. It would be relatively easy to estimate the cost per student of alternative strategies, but the

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44 See, for example, a discussion of this issue in the USA by Ch. Finn, "The Biggest Reform of All," Kappan, Vol.71, N.8, April 1990 (pp. 584-592).

45 CPEIP, "Resultados por estructuras en la asignatura de matemática del 4° año de enseñanza básica en 1982", Serie Estudios No.120, julio de 1984.

46 M. Lockheed and A. Verspoor, Improving Primary Education in Developing Countries. Oxford University Press, New York, 1991, p. 429.

47 S. Robert, M. Leavey and N. Madden, "Combining Cooperative Learning and Individualized Instruction: Effects on Student Mathematics Achievement, Attitudes and Behaviors," Elementary School Journal, N.4, 1984, pp. 409-422.

state of current research (mainly based on non-experimental designs) makes it very difficult to objectively measure effectiveness. Few empirical studies have tried to measure costs and effectiveness at the same time.[48]

In spite of all these difficulties it is possible to make a start to develop a matrix of costs and effectiveness of strategies to reduce repetition and increase learning in Latin America, or alternatively to reduce costs without affecting quality and thus free up funds for quality improvement. For the sake of simplicity the matrix could be provided for the region as a whole. However, strategies should be ranked according to the specific situation in each country or region. Such a matrix would begin with a listing of potential strategies or interventions, which might include the following, most of which have been discussed in the text:

1. Fire redundant staff.
2. Reduce length of teacher training programs.
3. Modestly increase student/teacher ratio.
4. Update curriculum.
5. Don't switch classroom teachers during school year.
6. Enforce regulations on length of school year.
7. Reduce teacher strikes.
8. Assign best teachers to first grade.
9. Broadcast high quality pre-school programs such as Sesame Street.
10. Decentralization.
11. Provide teaching materials without training teachers to use them.
12 Various school health interactions.
13. Extended length of school.
14. Theoretical un-focussed in-service training.
15. Sample testing.
16. Self learning materials for individualized instruction.
17. Cooperative learning and use of time.
18. Targeted in-service hands-on training (reading and use of modules).
19. Bilingual education.
20. Acquaint teachers with existing curriculum.
21. "Flexible" promotion.
22. Classroom library.
23. Un-targeted school feeding programs.
24. Increased length of pre-service training.
25. School doctors and dentists.
26. Extended daily schedule.
27. Universe Testing.
28. Pre-schooling for at-risk children.
29. Salary incentives to attract graduate teachers to rural schools.
30. Mass media campaigns for early stimulation.
31. Targeted iron supplements.
32. Targeted school feeding programs.
33. MIS used for targeting school inputs.

48 An exception is the pioneering attempt by Harbison and Hanushek on rural Northeast Brazil, which has suggested that investment in quality enhancing inputs can more than pay for itself in terms of lower repetition and more rapid completion of school.

These strategies can be ranked on the following dimensions:

(a) estimated incremental costs as a percentage of unit cost;

(b) feasibility defined as the percentage possibility of successful implementation;

(c) potential impact on learning as a percentage increase in performance on a standardized test and/or an increase in the possibility of promotion;

(d) an effectiveness score combining (b) and (c); and

(e) a cost effectiveness score combining (d) and (a).

As noted above costs would be relatively easy to estimate. However, much of the estimates of feasibility and impact would have to be based on the opinions of observers and students of primary education in Latin America.

A ranking exercise might reveal the following:

- The most highly cost effective strategies would be those which lower costs but do not affect quality, such as selectively reducing the length of teacher training courses, and, within certain limits, increasing the student teacher ratio, and firing redundant staff, or those with no or low costs but significant effects, such as selecting more highly motivated teachers, assigning them to rural and slum schools, and enforcing regulations on the length of the school day and year.

- Strategies with relatively modest costs but demonstrated significant effects on learning might include provision of teaching/learning materials, targeted in-service training, "flexible" promotion, bilingual education, and "Sesame Street" type broadcasts.

- Some strategies may be high cost but with expected high impact. This would especially include many pre-school interventions.

- The high cost, low effectiveness strategies, which should be avoided, would include un-targeted school feeding programs, reducing student teacher ratios without changing pedagogical approaches, increasing the length of pre-service training programs, and theoretical, un-focussed in-service training.

In most countries only a few key strategies should be implemented at the same time. An excessive number of interventions could be counter-productive (e.g. Christmas Tree projects). In a few countries there is still need to attend factors related with the demand side, and even though these elements are not explicitly considered in this exercise.

A future paper will explore these issues and possibilities in greater detail.

REFERENCES

Ancheta, A., Apezechea, H., Coronel, H. and Peréz, H., (1987) (see also N°42 February 1988), "Repetición escolar: investigación participativa en el interior," Punto 21 Revista de Educación, N°42, Montevideo: CIEP.

Askew, Janice M., Lapointe, Archie E. and Mead, Nancy A., (1992) "Learning Science," and "Learning Mathematics," Princeton, New Jersey: The Informational Assessment of Educational Progress, ETS.

CIDA/CODE (1989) "Rehabilitation of Jamaican Primary and All-Age Schools", Kingston.

CPEIP, (1983), "Serie Estudios," N°81.

CPEIP, (1984), "Resultados por estructuras en la asignatura de matemática del 4° año de enseñanza básica en 1982," Serie Estudios N°120.

Castro, Claudio de Moura and Fletcher, Philip, May 20-22, 1986, "Students and Schools in Brazil Today." Workshops on Income Returns to Education. Madison: University of Wisconsin.

Costa Ribeiro, Sergio, "A Pedagogia da Repetencia," Estudos Avancados, 5 (12), July 1991, pg. 7-21.

Cuadra, E. and Ewert, G., (1987), "Comparison of School Records with Parent's Information of Enrollment, Repetition, and Dropout: A Field Study in Honduras," Project Bridges: Harvard University.

de Jesús Contreras, Z. and Díaz Santana, M., (1985), "La repetición escolar en los núcleos escolares," N°13 y N°36, Matanzas.

de Jesús Contreras, Z. and Díaz Santana, M., (1985), "Los Botados, de Bani y Yamasa," Santo Domingo: Departamento de Investigación Educativa, PIDE, Secretaría de Estado de Educación (SEEBAC).

Drysdale, R., (1970), "A Study of Primary Education School Efficiency in Colombia." Doctoral Dissertation. Harvard University.

Fernández, M.L., Méndez, V.R., Osorio, A.J. and Palma, A.L., (1985), "Informe de investigación sobre el problema de deserción escolar realizado en el núcleo escolar de Jutiapa, Danli, Departamento El Paraíso," McLean, Virginia: Institute for International Research, Inc.

Finn, Ch., (1990), "The Biggest Reform of All," Kappan, 71 (8), (1990), pp.584-592.

Flechsig, K. H., and E. Schiefelbein, "Catalogo de modelos didacticos: version 1985-1986," Documentos de Trabajo del CIDE, Santiago Chile.

Fletcher, Philip and Claudio de Moura Castro, "Students and Schools in Brazil Today," Workshop in Income Returns to Education, University of Wisconsin, Madison, May 20-22, 1986.

Grosh, M., (1992) "From Platitudes to Practice: Targeting Social Programs in Latin America, LAT, The World Bank.

Grossi, M.C. and E. Schiefelbein, (1981), "Statistical Report on Repetition in Latin America," Paris: Division of Statistics on Education. UNESCO.

Hamilton, T. and Associates (1990), "Performance Measurement", Study IV, Education Policy Studies, Ministry of Education/USAID, Kingston.

Hanushek, Eric A. and Harbison, Ralph W., (1992), "Educational Performance of the Poor: Lessons From Rural Northeast Brazil." New York: Oxford University Press. p.362.

Klein, Ruben and Costa Ribeiro, Sergio, (1991), "O Censo Educacional e o Modelo de Fluxo: O Problema da Repetencia", Laboratorio Nacional de Computaçao Cientffica, No. 24/91, Rio de Janeiro, Brazil.

Leavey, Marshall, Madden, Nancy and Slavin, Robert, (1984), "Combining Cooperative Learning and Individualized Instruction: Effects on Student Mathematics Achievement, Attitudes and Behaviors," Elementary School Journal. N°4, pp. 409-422.

Lockheed, Marlaine and Verspoor, Adriaan, (1991), Improving Primary Education in Developing Countries. New York: Oxford University Press. p. 429.

McGinn, N., Reimers, F., Loera, A., Carmen Soto, M., Lopez, S., "Why do Children Repeat Grades? A Study of Rural Primary Schools in Honduras" Harvard University, USAID Project Bridges, No. 13, 1991.

Montero-Sieburth, M., (1990), "Classroom Management: Instructional Strategies and the Allocation of Learning Resources," Bridges Research Report Series N°4, Harvard University.

Musgrove, Philip., (1992), "Feeding Latin America's Children: An Analytical Survey of Food Programs," Report No. 10, Regional Studies, LAT, The World Bank, 1992.

Myers, Robert, (1992), "Investing in Early Childhood Development Programs," World Bank Technical Report.

Myers, Robert, (1992), The Twelve who Survive, Routledge: New York. p. 462.

Peruzzi, S., Ruiz, R., Schiefelbein, E. and Tedesco, J.C., (1989), "Primary Schooling and Illiteracy in Latin American Countries: 1980-1987," Bulletin N°20, UNESCO-OREALC.

Pollit, E., (1990), "Malnutrition and Infection in the Classroom", Paris, UNESCO, Pollit, Haas and Levitsky, (1989), editors, International Conference on Iron Deficiency and Behavioral Development, The American Journal of Clinical Nutrition, No. 3, 1989.

Prawda, Juan, (1992), "Educational Decentralization in Latin America: Lessons Learned." A View from LATHR, N°27. World Bank.

Psacharopoulos, George, and Velez, Eduardo, "Education Quality and Labor Market Outcomes: Evidence From Colombia," forthcoming, Sociology of Education.

Richards, H., (1985), "Evaluation of Cultural Action". CIDE, Programa Padres e Hijos.

Rojas, E., (1991), "Factores que explican los niveles de escolaridad media de los hijos en Guatemala," Santiago: UNESCO-OREALC.

Schiefelbein, E., (1989), "Repetition: The Key Issue in Latin America," Technical Department Report. Latin American Regional Office: World Bank.

Schiefelbein, E., (1990), "First Grade Repetition Levels in China: 1987-1988," Santiago: OREALC.

Schiefelbein, E., (1990), "Seven Strategies for Improving the Quality and Efficiency of the Educational System," Paris: UNESCO-UNICEF-WPF Cooperative Program.

Schiefelbein, E., (1991), "In Search of the XXI Century School. Is Escuela Nueva the Right Pathfinder?" Santiago: UNESCO-UNICEF.

Schiefelbein, E., (1991), "The Use of National Assessments to Improve Primary Education in Chile," Paris: IIEP.

Schiefelbein, E., J. C. Tedesco, R. Ruiz, and S. Peruzzi,(1989), "Primary Schooling and Illiteracy in Latin American Countries: 1980-1987," Bulletin No. 20, UNESCO-OREALC, (1989).

Schwille, John; Thomas Eisemon, Francois Ukobizoba, Richard Houang, Daebong Kwon, and Robert Proutry, (1991), "Is Grade Repetition Always Wasteful? New Data and Unanswered Questions, USAID Harvard University, Bridges Research Report Series, No. 7.

Slavin, Robert, (1991), "Chapter One: A Vision for the Next Quarter Century," 7 (8), Kappan. pp. 586-592.

Slavin, Robert, Marshall Leavey, Nancy Madden, "Combining Cooperative Learning and Individualized Instruction: Effects on Student Mathematics Achievement, Attitudes and Behaviors," Elementary School Journal, No. 4, 1984, pp. 409-422.

Slavin, R., N. Madden, L. Karweit, L. Dolan, and B. Wasik, "Success for All," Kappan, 72(8), (1991), pp. 593-599.

The Wall Street Journal, June 16, 1992, p.B1.

UNICEF-TARCO, (1991), "Los hogares comunitarios de bienestar del Instituto Colombiano de Bienestar Familiar", Bogota, 1991.

TABLE 1

LATIN AMERICA AND THE CARIBBEAN. ACCESS, FIRST GRADE REPETITION, SCHOOLING AND GRADES APPROVED

Subregion and Country (a)	School access: Entry Age	School access: On time	School access: Ever	Repeat Grade 1	Years in Primary	Total Grades Aproved
South America		76.5%	93%	45.3%	7.1	4.2
Bolivia	6	60.7%	90%	38.4%	4.8	2.2
Brazil	7	69.0%	92%	54.4%	7.7	3.9
Colombia	6	43.1%	83%	43.8%	6.2	4.5
Chile	6	39.7%	98%	10.5%	6.4	5.5
Ecuador	6	81.5%	100%	28.2%	6.2	5.2
Paraguay	7	100.0%	100%	27.6%	6.3	4.8
Peru	6	66.2%	97%	29.0%	6.5	5.1
Uruguay	6	43.4%	100%	18.2%	6.3	5.7
Venezuela	6	76.0%	95%	28.3%	6.4	4.5
Central America and Panama		65.2%	81%	47.3%	6.7	4.1
Costa Rica	6	43.0%	99%	23.4%	6.4	5.2
El Salvador	7	64.6%	73%	50.9%	7.0	4.0
Guatemala	7	51.9%	72%	46.7%	6.4	4.0
Honduras	7	82.7%	93%	48.7%	6.9	4.5
Nicaragua	7	72.7%	78%	59.5%	6.8	2.7
Panama	6	82.2%	99%	26.3%	6.5	5.4
Gulf of Mexico		91.6%	96%	33.0%	5.8	4.1
Cuba	6	100.0%	100%	1.4%	5.6	5.0
Haiti	6	1.3%	44%	53.5%	4.8	1.3
Mexico	6	96.4%	100%	31.5%	5.7	4.3
Dominican Republic	7	75.7%	74%	55.0%	6.7	3.4
English Speaking Caribbean		81.6%	100%	6.9%	5.6	4.9
Bahamas	5	19.0%	100%	0.0%	6.0	5.7
Barbados	5	87.3%	99%	17.9%	5.7	5.0
Dominica	5	94.6%	98%	25.5%	6.3	5.2
Granada	5	87.5%	100%	15.4%	6.0	4.4
Guyana	6	73.0%	100%	7.9%	6.0	5.4
Jamaica	6	81.8%	100%	4.2%	5.3	4.7
San Cristobal and Nieves	5	21.1%	100%	2.3%	6.0	5.9
San Vicente and the Granadines	5	86.6%	99%	22.5%	6.3	5.2
Santa Lucia	5	96.4%	100%	4.0%	5.8	5.4
Trinidad and Tabago	5	100.0%	100%	7.5%	5.7	4.8
REGION		41.0%	93%	42%	6.8	4.2

a. Subregional and regional totals were obtained from first grade 1989 registration data (SSG).

TABLE 2
LATIN AMERICA AND THE CARIBBEAN
FIRST GRADE REPETITION LEVELS IN THE 1980-1989 PERIOD

Subregion and Country (a)	1980	1985	1989
South America	53.3%	51.4%	45.5%
Argentina	27.0%	26.4%	30.5%
Bolivia	40.7%	40.3%	33.3%
Brasil	61.9%	59.6%	52.5%
Colombia	54.8%	53.7%	51.9%
Chile	24.1%	19.2%	10.1%
Ecuador	40.3%	36.9%	32.8%
Paraguay	33.5%	30.1%	32.9%
Peru	43.6%	47.2%	38.3%
Uruguay	21.5%	22.3%	15.1%
Venezuela	33.0%	29.4%	27.9%
Central America and Panama	48.9%	49.2%	51.3%
Costa Rica	13.0%	22.7%	21.5%
El Salvador	47.9%	55.0%	53.6%
Guatemala	51.0%	50.2%	55.2%
Honduras	48.9%	51.2%	52.8%
Nicaragua	67.0%	57.8%	59.5%
Panama	24.1%	26.4%	28.4%
Gulf of Mexico	41.4%	37.3%	34.4%
Cuba	0.0%	0.0%	3.1%
Haiti	53.2%	62.1%	60.5%
Mexico	40.4%	35.8%	32.8%
Dominican Republic	70.5%	57.1%	57.5%
English Speaking Caribbean	16.9%	8.8%	4.7%
Bahamas	14.7%	21.4%	0.1%
Barbados	20.9%	10.3%	10.4%
Dominica	12.5%	10.7%	11.0%
Granada	12.0%	8.4%	6.0%
Guyana	15.3%	4.2%	2.0%
British Virgin Islands	8.0%	6.7%	6.6%
Jamaica	23.2%	11.7%	6.2%
San Cristobal and Nieves	0.0%	0.0%	2.6%
San Vicente and the Granadines	44.5%	32.1%	26.6%
Santa Lucia	0.0%	0.0%	3.6%
Trinidad and Tabago	0.0%	0.0%	0.3%
REGION	49.7%	47.8%	43.2%

a. Regional and subregional totals were obtain from first grade registration data. Countries for which there was no information available were included taking the the most recent year existing data.

Source: SIRI Data Bank processed with SSG model.

TABLE 3
COMPARISON OF ESTIMATED AND REPORTED REPETITION LEVELS - 1988

Subregion and Country	First Grade		Sixth Grade		All Grades	
	Estimated (a)	Reported	Estimated (a)	Reported	Estimated (a)	Reported
South America	45.3%	21.8%	24.8%	11.3%	32.5%	15.9%
Argentina	26.1%	...	12.1%	...	19.3%	...
Bolivia	38.4%	...	35.0%	...	37.3%	...
Brasil (b)	54.4%	24.0%	40.9%	16.0%	43.2%	18.9%
Colombia (e)	43.8%	20.4%	10.5% (b)	10.5%	23.5%	12.9%
Chile	10.5%	...	13.4%	...	10.7%	...
Ecuador (c) (d)	28.2%	13.1%	3.0%	2.0%	14.5%	6.0%
Paraguay	27.6%	18.4%	3.0%	1.6%	20.8%	9.1%
Peru (e)	29.0%	19.8%	8.0%	4.3%	19.2%	12.1%
Uruguay	18.2%	16.0%	3.0%	3.3%	8.1%	9.6%
Venezuela (c)	28.3%	0.0%	21.1%	2.7%	21.9%	10.0%
Central America and Panama	47.3%	0.0%	12.9%	2.1%	31.7%	12.7%
Costa Rica	23.4%	19.1%	3.0%	1.6%	15.7%	11.0%
El Salvador	50.9%	18.6%	23.5%	2.3%	35.4%	9.4%
Guatemala	46.7%	...	3.0%	...	31.5%	...
Honduras (e)	48.7%	25.3%	3.0%	1.2%	30.8%	14.1%
Nicaragua	59.5%	29.3%	41.6%	3.8%	47.5%	17.1%
Panama (e)	26.3%	19.1%	3.0%	2.5%	15.4%	11.4%
Gulf of Mexico	33.0%	17.1%	4.3%	4.2%	20.0%	10.3%
Cuba (f)	1.4%	0.0%	3.0%	1.3%	6.8%	3.6%
Haiti	53.5%	0.0%	6.6%	...	50.6%	...
Mexico (c)	31.5%	...	3.0%	1.0%	18.3%	9.3%
Dominican Republic (a) (e)	55.0%	17.6%	33.3%	8.7%	40.0%	16.7%
English Speaking Caribbean	6.9%	0.0%	8.0%	8.9%	6.0%	6.3%
Antigua and Barbuda		...		...		...
Netherland Antilles		...		...		...
Aruba		13.4%		1.9%		8.8%
Bahamas	0.0%	...	7.0%	...	2.6%	...
Barbados	17.9%	...	3.0%	...	7.2%	...
Belize		...		...		...
Dominica	25.5%	4.9%	2.1%	3.8%	13.8%	3.1%
Granada	15.4%	...	25.6%	...	19.6%	...
Guyana	7.9%	...	7.0%	...	7.8%	...
British Virgin Islands	15.4%	...	3.0%	...	11.1%	...
Jamaica (f)	4.2%	6.7%	7.0%	6.9%	4.3%	3.3%
Montserrat		...		...	1.5%	...
San Cristobal and Nieves	2.3%	...	0.3%	...	14.3%	...
San Vicente and the Granadines	22.5%	...	12.7%	...	4.0%	...
Santa Lucia	4.0%					
Trinidad and Tabago		...		...		...
REGION	42.4%	21.7%	17.7%	10.2%	28.9%	15.3%

a. Ratios were estimated using SMMG model. Grades 1 through 6 were considered in the total.
b. Estimate.

Notes for declared repetion.
b. 1986.
c. 1988
d. There is automatic promotion for cycles: from 1st to 2nd grade; from 3rd to 4th grade; and from 5th to 6th grade.
e. 1987.
f. There is automatic promotion up to 3rd grade.
g. There is automatic promotion up to 6th grade; the figures in this table correspond to public sector only.

Source: Survey SIRI-OREALC-UNESCO, 1987; -1990; Table 19.

TABLE 4
ESTIMATED NUMBER OF REPEATERS (in thousands)
CIRCA 1988

Subregion and Country	First Grade	Sixth Grade	All Grades
South America	5,536	1,147	14,463
Argentina	239	66	830
Bolivia	84	27	252
Brasil	4,017	864	10,325
Colombia	569	35	1,107
Chile	31	31	164
Ecuador	119	7	259
Paraguay -	45	2	137
Peru	239	36	712
Uruguay	11	2	28
Venezuela	182	78	649
Central America and Panama	559	49	1,258
Costa Rica	20	1	60
El Salvador	120	19	296
Guatemala	152	3	328
Honduras	119	2	236
Nicaragua	128	22	285
Panama	20	1	53
Gulf of Mexico	1,256	99	3,499
Cuba	2	5	61
Haiti	83	4	322
Mexico	1,010	60	2,745
Dominican Republic	161	30	370
English Speaking Caribbean	9	9	45
Bahamas	0	0	1
Barbados	1	0	2
Dominica	0	0	1
Granada	0	1	3
Guyana	2	1	9
British Virgin Islands	0	0	0
Jamaica	2	4	15
San Cristobal and Nieves	0	0	0
San Vicente and the Granadines	1	0	3
Santa Lucia	0	0	1
Trinidad and Tabago	2	3	10
REGION	7,360	1,303	19,265

Source: SIRI Data Bank processed with SMMG model
First to sixth grades

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- Continued on inside Page

- Continued from back Page

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