Learning Assessment in Latin America. School Performance Behaviour and Trends of Latin American Pupils in Primary and Secondary Education

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Abstract:

Learning assessment and school performance, systemic and legitimised practices in almost all Latin American countries are becoming consolidated as an essential and prioritised strategy for monitoring the quality and distribution of the education supplied by each system and country in this region. This article analyses and compares results of national and international assessment processes and school performance in primary and secondary[1] school pupils of Latin American countries, since such analysis provides important information and criteria for improving the quality of these educational systems.

The review and studies point to the fact that there have been serious problems in terms of the quality and equity of education in this region for a number of years and there are still no signs of significant advances or clear trends as far as this issue is concerned. The learning assessment and school performance rates of most of these Latin American children and youths are still well below the expected level and what is regarded as a pre-requisite for the full inclusion and social mobility of citizens. This general panorama takes on specific emphasis and undertones in the education of each of these countries, namely in the area or subject under analysis, among other variables.

Keywords:
Learning Assessment, School Performance, National and International results, Latin America.

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PRESENTATION

Learning assessment and school performance have taken on an unusually significant role in the political and technical agenda of Latin American countries over the last few years. Indeed, during this particular period a great increase in both national assessment processes and the participation of these countries in regional and international measurement systems may be observed. Knowing what they are learning, what they are capable of doing and the goals these Latin American children and youths are able to achieve have come to be viewed as essential and prioritised aspects for monitoring the quality of education offered by each system and country in the region.

Results have not been encouraging. The constant, systemic measurements — carried out for over a decade in most of the Latin American countries — highlight a serious lack of quality and high inequity levels which characterise and typify almost all the educational systems. Pupils, men and women from different educational levels and contexts are unable to master the knowledge and basic tools necessary for understanding and being capable of acting within reality and its phenomena. Young Latin Americans approaching the end of their compulsory schooling have not acquired the necessary competencies to successfully overcome tasks related to appropriation, analysis, interpretation, exchange, the communication and integration of knowledge and reality required by the dynamics and complexity of contemporary societies.

Thus, doubts and questions and the measurement of improvement in the educational quality of the systems have emerged to challenge the effects of education reforms. The publication of the poor school performance results year after year has called into question the curriculum, teacher performance, school management and administration, investment and expenditure [public] in education, the effectiveness of the policies under study and, at the same time, the validity and feasibility of the measurements employed. Strong criticism has also emerged in relation to the relevance of the models and strategies of the assessment systems to take on the diversity of the contexts and conditions in which learning takes place and, consequently, their unfair assessment of school performance.

However, in the midst of such dispute, it is worth picking up on the main role of learning assessment: to serve as *input* which sets out, at first, to promote and orientate significant change in the processes of schooling and educational dynamics; clarity when the type of student learning in need of development is identified; precision in the identification of what is being taught at the different educational levels; relevance and consistency in the identification and understanding of the factors associated with the goals achieved by the pupils and the contextualisation of school performance. These are the minimum requirements to be complied with by all national learning assessment and school performance systems.

So, on this basis we invite the reader to review how learning assessment in the different countries

of the region has been organised, which subjects and levels have been given priority in this process, what we have learned over this difficult period and, naturally, to gain knowledge of the learning and school performance of Latin American pupils frequenting primary and secondary education.

AIMS AND STRATEGIES OF LEARNING ASSESSMENT IN LATIN AMERICA

THE NATIONAL MEASUREMENT AND ASSESSMENT OF EDUCATIONAL QUALITY SYSTEMS

Currently, the vast majority of Latin American countries have national systems which allow them to frequently and systematically assess the learning and school performance achieved by pupils in primary and secondary education (Aedo, 2008; Ferrer, 2006), thus revealing the setting in which educational quality finds itself in each country. An interest in finding out what the children and youths within the school systems know, how much they know and learn existed prior to the reform processes but subsequently spread to the field of education in the early 90s. In Chile, the *Sistema Nacional de Medición de la Calidad Educativa* (SIMCE) [National Measurement System of Educational Quality] began in 1988 (Román, 1999). However, most of the National Assessment Systems emerged during the 90s, the period when student performance assessment became institutionalised.

We found the following differences in the various learning assessment systems to be the most prominent: the levels taken into consideration, the samples used, the frequency of measurements, the conceptual principles of the measurement tests which define the indicator through which school performance or success is analysed. The review that was undertaken enables one to ascertain that in some countries learning assessment is applied to the universe of assessed cohort pupils (for instance, in Chile, Brazil or Colombia), while in other countries it is accomplished through sampling (Paraguay, Uruguay and Ecuador, among others). These assessment procedures mainly affected the 3rd and 6th years of Primary and, over the last few years, have come to include some Secondary levels, focusing mainly on the 3rd and 5th years of this educational level.

The measurement frequency also differs according to the level or country. For example, in Chile, and since 2006, 4th year student performance in Primary Education is assessed and, every two years (alternately), student performance from the 2nd and 4th years of Secondary[2].

Finally, one of the important differences worth mentioning are the principles on the basis of which learning assessment tests/instruments are constructed: *criterion-referenced or normative*. In order to assess with reference to a norm implies comparing the result of each individual with that of the population or group to which he/she belongs (reference group) and, thus, establishing a norm [or standard] that is equal for everyone. In this case, the norm of the group is the *standard*.

From a *criteria* perspective, the performance of each student is assessed by its relation to certain pre-established subject criteria that convey the curriculum goals proposed for each learning area or sector. In some cases, and for each criterion, performance standards (performance levels) are drawn up which form a quality continuum ranging from performance regarded as basic to a level of excellence. In other cases, only the percentage of correct answers is supplied and the percentage considered acceptable determined.

On using different conceptual and methodological perspectives, instruments and analytical models, these national systems share the aim and challenge of contributing to the improvement of quality and equity in education, by revealing the performance or success of pupils in certain key areas of the national curriculum and, in very few cases, by analysing it in relation to the school, social and cultural context in which they learn. For example, owing to an increasingly sophisticated development of these systems, we have access to a wide range of valid information as far as student performance in the various countries of this region are concerned, in Language [Mother Tongue] and Mathematics, as well as their trends and behaviour over time. This accumulated information is particularly important for Primary Education which has historically been the main target of these processes. However, and with increasing weight, we also have access to the results of student performance in Secondary Education and in other subjects or curriculum areas, which provide us with

a more global and comprehensive vision of learning and performance within the systems.

An examination of the learning measurement and assessment systems sheds light upon their main focus, the prioritised levels, the levels involved and makes it possible to identify the year of the first student performance assessment (table 1).

TABLE 1 — LEVELS AND AREAS ASSESSED BY THE NATIONALSYSTEMS OF LEARNING MEASUREMENT AND ASSESSMENT IN LATIN AMERICAN COUNTRIES

	PRIMARY EDUCATION						SECONDARY EDUCATION						1ST ASSESS.
	1°	2°	3°	4°	5°	6°	1°	2°	3°	4°	5°	6°	YEAR
ARGENTINA			L, M, NS, SC			L, M, NS, SC			L, M, NS, CIU			L, M, NS, SC, CIU	1993
BOLIVIA	L, M		L, M			L, M		L, M				L, M	1996
BRAZIL				L, M				L, M			L, M		1990
CHILE				L, M, NS, SC				L, M, NS, SC		L, M			1982
COLOMBIA			L, M		L, M, NS		L, M, NS		L, M, NS		L, M, NS, SC, IE		1991
COSTA RICA			L, M, NS, SC			L, M, NS, SC			L, M, NS, SC				1986
CUBA						L, M			L, M			L, M	1975
ECUADOR			L, M				L, M			L, M			1996
EL SALVADOR			L, M, ES, NS, SC			L, M, ES, NS, SC			L, M, ES, NS, SC		L, M, ES, NS, SC		1993
GUATEMALA	L, M		L, M			L, M			L, M				1992
HONDURAS			L, M, NS			L, M, NS							1990
MEXICO			L, M, NS	L, M, NS	L, M, NS	L, M, NS			L, M, NS, IE, SC	L, M, NS, IE, SC	L, M, NS, IE, SC		1996
NICARAGUA			L, M	L, M	L, M	L, M					L, M		1996
PANAMA			L, M, NS, SC			L, M, NS, SC			L, M, NS, SC				1981
PARAGUAY			L, M		L, M, NS, SC				L, M, SC			L, M, NS, SC	1996
PERU		L, M		L, M, NS, SC	L, M, NS, SC				L, M, NS, SC	L, M, NS, SC	L, M, NS, SC		1996
DOMINICAN R.								L, M, NS, SC				L, M, NS, SC	1991
URUGUAY			L, M, NS, SC		L, M						L, M, NS, SC		1996
VENEZUELA					L, M								1998

L: Language, Language and Communication, Reading, Portuguese, Spanish **M:** Mathematics **NS:** Natural Sciences, Understanding of the Natural and Social Environment, Physics, Chemistry, Environment **SC:** History, Social Sciences **CIU:** Citizenship, Ethics

Source: drawn up on the basis of the assessment reports and official pages of the entities responsible for Department of Education assessments of the different countries.

Although less frequent and less developed, we have found contextualisation studies on school performance, a perspective that sets out to understand and explain the acquired learning and results. The methodological complexity and costs implied in these studies have hindered a more effective and swift incorporation of this analytical strategy in national quality assessment systems. Nevertheless, the solid evidence that studies and research offer us in terms of school efficacy, which demonstrates the im-

pact and weight of certain factors on learning, draws attention to the need not only for measuring and assessing student performance, but also for monitoring and disseminating the behaviour of each country's own factors, context, schools and classrooms in the performance attained by pupils.

INTERNATIONAL MEASUREMENTS AND ASSESSMENTS

Along with these national and internal processes, some of the countries in the Region have participated in the international measurement of school learning promoted by the OECD, through the PISA. Almost all of these countries have also participated in the learning assessment programmes developed by the *Laboratório Latino-americano de Avaliação da Qualidade da Educação* (LLECE) [Latin American Laboratory of Educational Quality Assessment], coordinated by UNESCO. A small number of other countries also participate in various international learning assessment programmes, such as TIMSS (Trends in International Mathematics and Science Study) or CIVED (Civic Education Study), held by the IEA (International Association for the Evaluation of Educational Achievement). They assess and compare the school performance of 4th and 8th level primary pupils (TIMSS) in Mathematics and Science and the behaviour and Civic Education of 8th year primary school pupils and 4th year secondary school pupils (CIVED)[3].

Programme for International Student Assessment: PISA

The Programme for International Student Assessment (PISA) is designed, implemented and coordinated by the Organisation for Economic Co-operation and Development (OECD) and includes 30 participant countries. From Latin America, only Mexico belongs to this select group of states- the most advanced and developed in the world[4].

As part of its activities, since 2000 the OECD has developed the PISA programme which analyses and compares the performance of 15 year old pupils approaching the end of compulsory schooling in most of the member countries, in the subjects of Mathematics and Science, through the application of international tests. Such tests are applied every three years with a view to assessing the extent to which the pupils about to end compulsory schooling have acquired the necessary knowledge and competencies for full participation in 21st century societies.

Three measurements have already been employed (2000, 2003, 2006), the fourth currently under way this year (2009). In each of the measurements, greater emphasis is placed on one of 3 areas [Reading, Mathematics or Science], even when the three are being assessed[5]. Only seven Latin American countries have participated in any of the measurements already put into practice: Argentina, Brazil, Colombia, Chile, Mexico and Uruguay[6]. Another three countries will be part of the measurement already under way this year, 2009 (Table 2).

Regional Assessment: Laboratório Latino-americano de Avaliação da Qualidade da Educação

The Latin American Laboratory of Educational Quality Assessment (LLECE, of UNESCO/OREALC) emerged in 1994 as a network of educational quality measurement and assessment units in Latin American countries. One of its main challenges, since the beginning, has been to provide quality

TALBE 2 — PISA ASSESSMENTS 2000 -2009. PARTICIPATING COUNTRIES AND ASSESSMENT FOCUS

	ASSESSMENT FOCUS	PARTICIPATING COUNTRY TOTAL	LATIN AMERICAN COUNTRIES
PISA 2000	Reading	43	Argentina, Brazil, Chile, Mexico and Peru
PISA 2003	Mathematics	41	Brazil, Mexico and Uruguay
PISA 2006	Science	57	Argentina, Brazil, Colombia, Chile, Mexico and Uruguay
PISA 2009	Reading	62 countries involved	Argentina, Brazil, Colombia, Chile, Mexico, Panama, Peru, Dominican Republic and Uruguay

Source: Drawn up on the basis of OECD reports (www.oecd.org).

information on the state and development of learning and student performance in Latin America, including in the analysis the identification of factors which are seemingly associated with such results. In this context, they are responsible for developing regional comparative studies that supply data on the performance achieved by primary school pupils in the different countries of the region, as well as for collecting and analysing information so as to identify the countries in question, their behaviour and what the most influential factors are in the learning acquired by pupils in the assessed areas and levels.

Up to now, two studies have been carried out with a third already on the agenda for 2012. The *First International Comparative Study on Language, Mathematics and Associated Factors in Third and Fourth Year Primary School Pupils,* carried out in 1997, assessed and analysed the performance of 3rd and 4th year primary school pupils in the areas of Mathematics and Language in 13 countries in the region: Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Chile, Honduras, Mexico, Paraguay, Peru, Dominican Republic and Venezuela (LLECE, 2001).

The *Second Regional Comparative and Explanatory Study,* SERCE (LLECE, 2008), analysed and compared the performance achieved by 3rd and 6th year primary Latin American pupils in the areas of Mathematics, Language (reading and writing) and Natural Sciences (the latter only applicable to 6th year pupils). 16 Latin American countries and the Mexican State of Nuevo Leon participated in this study (Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Panama, Peru, Dominican Republic and Uruguay)[7]. For a number of reasons and motives, we have focused our attention on just eight countries in the region.

As a final note to this section of the article, we will refer to the processes and effects that are triggered when a country takes part in this type of international agenda on educational assessment. First of all, it is important to point out that the Latin American countries that participate in such international measurements are particularly affected by the assessment results. Not only are they confronted with confirmation of their educational quality problems already highlighted in national assessment processes, but they also find themselves exposed to a two-fold judgement (internal and external) and a harsh comparison with their regional counterparts. Thus, states and governments have to explain and justify not only the weak performance rate of their pupils, but also the reasons why they have lower performance than the other pupils in Latin American countries. It is not easy to decide whether they should continue to participate in the assessment programmes or not: if they continue, they always run the risk of being "badly assessed", while self-exclusion would imply being excluded from an important site for reflection, exchange and learning in terms of educational quality assessment.

On the other hand, inclusion in these international studies with advanced technological and methodological development has put positive pressure on national assessment units and systems, as well as on their technical and professional teams. For instance, over the last few years, we have witnessed reviews and changes in data collection and processing procedures, in the instruments (tests and questionnaires based on associated factors), in the strategies and ways of presenting school performance assessment results, among others. Changes and advances that have accompanied an increase in know-how and a strengthening of the capacity of the technical teams.

LATIN AMERICAN STUDENT PERFORMANCE: LEARNING AND SCHOOL PERFORMANCE IN PRIMARY AND SECONDARY EDUCATION

Both national and international assessment processes provide a detailed contribution to the learning of Latin American pupils. Indeed, such information, far from being irrelevant, presents a more complete picture of the situation and makes it possible to obtain more data in order to deal with its transformation.

NATIONAL ASSESSMENT RESULTS

National assessment results offer information on student learning which is useful for improving the education of each country, but impossible for use in international comparisons. The huge differences in the construction of the afore mentioned assessment system models render a global image of Latin

American student learning and performance impossible to acquire.

Nevertheless, it would be reasonable to say that Latin American pupils have poor school performance, in both the different analysed areas and the different assessed years. If we look at the high percentage of pupils who rank below the pre-established basic, sufficient or minimal levels, this statement is justifiable in the countries which assess performance on the basis of criterion-referenced tests. We made a fairly detailed observation of performance in the areas of Language and Mathematics in the 6th year of primary school and the 3rd year of secondary (Murillo & Román, 2008).

TABLE 3 — PERFORMANCE IN LANGUAGE AND MATHEMATICS IN THE 6TH YEAR OF PRIMARY AND THE 3RD YEAR OF LOWER SECONDARY EDUCATION IN LATIN AMERICAN COUNTRIES, ACCORDING TO RESPECTIVE NATIONAL ASSESSMENT RESULTS

	PERFORMANCE MEASURED AS	LEVEL	LANGUAGE	MATHEMATICS
ARGENTINA	% of correct answers	6 P 3 S	54,1 52,7	56,4 53,4
COSTA RICA	% of pupils with a mark equal to or higher than 65	4-6 P 1-3 S	77,7 74,5	48,3 22,5
EL SALVADOR	% of pupils at an intermediate or higher level	6 P 3 S	73,3 70,4	54,5 51,1
GUATEMALA	% of pupils who have attained mastery	6 P 3 S	47,9 52,2	55,3 41,7
HONDURAS	% of pupils at a sufficient level (average or high)	6 P	11,1	7,8
MEXICO	% of pupils at a basic or higher level	6 P 3 S	82,0 67,3	82,6 48,9
NICARAGUA	% of pupils at an intermediate or proficiency level	6 P	30,3	11,9
PANAMA	% of pupils at a regular or good level	6 P 3 S	56,3 28,8	48,2 14,7
PARAGUAY	Average % of correct answers	6 P	51,3	45,9
PERU	% of pupils at a sufficient level	6 P 3 S	12,1 15,1	7,9 6,0

Notes: 1. None of the countries provides information on whether the differences in areas and years are statistically significant.
2. Since the tests in Brazil, Chile, Colombia and Uruguay, in the considered years, are of a normative nature, we are unable to compare the result by subject matter or years.

Source: Murillo & Román (2008).

Effectively, the results of the countries that defined the sufficiency level to be attained by the pupils in the areas under assessment, show, overall, that the results are insufficient. So, for example, in Peru only 7.9% of 6th year primary pupils and 6.0% of those who frequent the 3rd year of secondary education manage to attain the expected learning performance for their level in Mathematics; In Honduras (6th year), only 11% of pupils in Language (Spanish) and 7.6% in Mathematics reach the level defined as sufficient. It is important to mention that the data of the countries are not inter-comparable as they depend on the sufficiency level established in each country and in each assessment process.

An analysis of school performance results in the countries which did not establish sufficiency levels *a priori* is carried out by taking into account the percentage of the correct answers for the set of assessed pupils. So, Argentina indicates that throughout the country pupils provide between 56.4% and 52.7% correct answers, depending on the assessed year and subject matter. In Paraguay, the average percentage of correct answers by 6th year primary school pupils is 51.3% in Language (communication) and 45.9% in Mathematics.

One may also affirm that the results are lower in *Lower Secondary Education,* when compared with those of the final years of primary education, and that this difference in results is quite variable if we take the several assessed levels and areas within in each country into consideration.

Therefore, we find countries, such as Mexico and Panama, with a considerable difference between performance in Language and Mathematics in primary education or *lower secondary.* Indeed, one may observe a considerable increase in Mexico in the percentage of 6th year primary and 3rd year secondary pupils who do not attain the basic level, whether in Language (from 18.0% to 32.7%) or Mathematics (from 17.4% to 51.1%). In Panama an analogous situation may be found, where the percentage of pupils who obtain regular or good levels drops from 56.3% in the 6th year of primary education to 28.2% in the 3rd year of secondary education in Language, and from 48.3% to 14.7% in Mathematics.

In other countries the differences are more tempered, such as the cases of Argentina and El Salvador. In Argentina, there is only a discrepancy of 1.5% between the performance of 6th year primary school and 3rd year secondary school pupils in Language and 3% in Mathematics. In El Salvador the differences are around 3%, always favouring 6th year primary education (2.9 in Language and 3.4 in Mathematics). Finally, the comparison in performance per year enables us to form a third group of countries in which we do not encounter a pattern —Guatemala and Peru.

Our final observation focuses on a comparison of the results between the subjects under analysis- Language and Mathematics. Bearing in mind the differences found among the countries, the data do not provide conclusive ideas with regard to this aspect.

Thus, on the one hand in Argentina, Brazil and Mexico the pupils seem to obtain better results in Mathematics than in Language, both in primary as well as *lower secondary education;* this only occurs with 6th year primary pupils in Guatemala. There is a second group of countries in which the results are better in Language than in Mathematics. El Salvador, Guatemala (for 3rd year secondary pupils), Honduras, Nicaragua and Panama all figured in this group. In the latter group, Costa Rica stands out owing to the huge performance differences in Language and Mathematics: while in Language 77.7% of the pupils attain a classification of 65 or above (pre-established average mark), this is only the case for 48.3% in Mathematics.

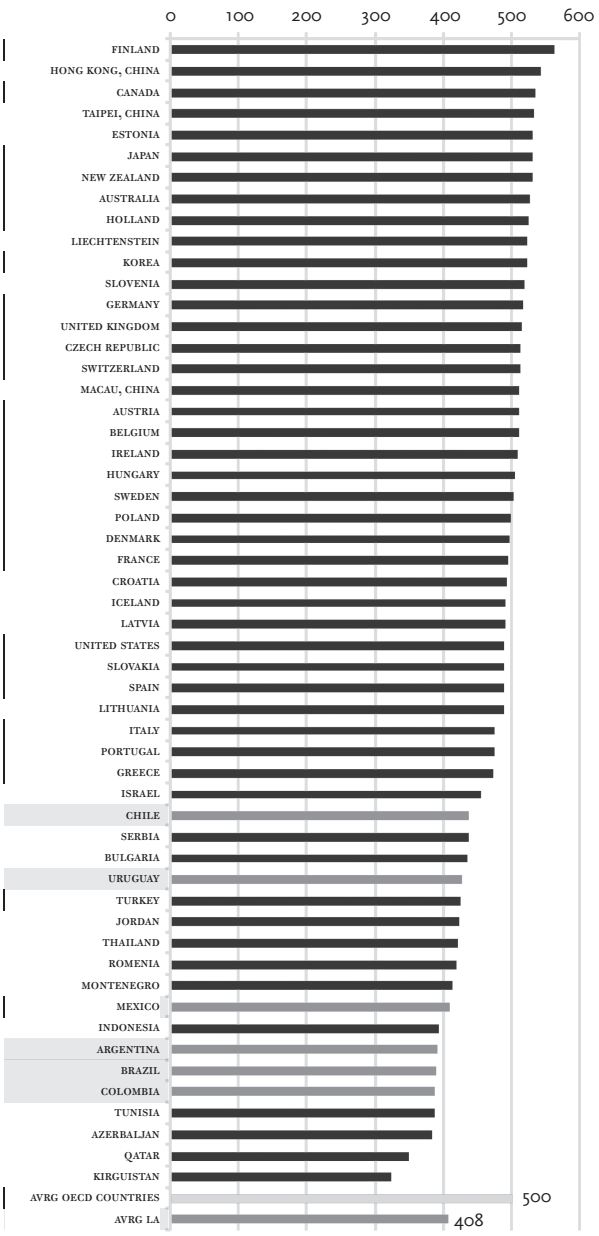
However, we feel it is important to stress the difficulty in making extrapolations in relation to superiority of results among different areas or school years. What needs to be underlined is the fact that none of these comparisons can be established among national, normative assessment processes. On the other hand, in criterion-referenced testing, the comparisons are not direct o simple since the cutting points are arbitrary and, thus, not immediatly comparable. Therefore, the differences found in the results may simply correspond to the use of more demanding criteria in certain subjects or school years and no to a disparity in terms of student performance.

SCHOOL PERFORMANCE OF 15 YEAR OLD LATIN AMERICAN PUPILS. PISA ASSESSMENTS

The results of the three PISA measurements show that the performance of Latin American pupils is below the international standards of pupils in the majority of OECD countries (MEC, 2007; MINEDUC, 2001; OECD, 2001, 2004a).

Effectively, whether in Reading (2000), Mathematics (2003) or Science (2006), the performance of 15 year old pupils in any one of the six Latin American countries that participated in the measurements is lower than the average of the 30 OCDE countries. This fact goes to show that pupils of this age in Argentina, Brazil, Chile, Mexico, Peru and Uruguay do not acquire the necessary knowledge and competencies required by the dynamics and complexity of contemporary societies to fully participate in them. Such observation may be drawn from the reading of

GRAPH 1
AVERAGE PERFORMANCE OF 15 YEAR OLD PUPILS IN SCIENCE — PISA 2006 (CLASSIFICATION ON THE GENERAL SCIENCE SCALE)



Source: Chile Report Chile PISA 2006. MINEDUC (2007).

TABLE 4
PISA RESULTS 2006 (AVERAGE PERFORMANCE)

COUNTRY	SCIENCE	READING	MATHEMATICS
FINLAND	563	547	548
HONG KONG, CHINA	542	536	547
CANADA	534	527	527
TAIPEI, CHINA	532	496	549
ESTONIA	531	501	515
JAPAN	531	498	523
NEW ZEALAND	530	521	522
AUSTRALIA	527	513	520
HOLLAND	525	507	531
LIECHTENSTEIN	522	510	525
KOREA	522	556	547
SLOVENIA	519	494	504
GERMANY	513	495	504
UNITED KINGDOM	515	495	495
CZECH REPUBLIC	513	483	510
SWITZERLAND	512	499	530
MACAU, CHINA	511	492	525
AUSTRIA	511	490	505
BELGIUM	510	501	520
IRELAND	508	517	501
HUNGARY	504	482	491
SWEDEN	503	507	502
POLAND	498	508	495
DENMARK	496	494	513
FRANCE	495	488	496
CROATIA	493	477	467
ICELAND	491	484	506
LATVIA	490	479	486
UNITED STATES	489		474
SLOVAKIA	488	466	492
SPAIN	488	461	480
LITHUANIA	488	470	486
NORWAY	487	484	490
LUXEMBOURG	486	479	490
RUSSIAN FEDERATION	479	440	476
ITALY	475	469	462
PORTUGAL	474	472	466
GREECE	473	460	459
ISRAEL	454	439	442
CHILE	438	442	411
SERBIA	436	442	411
BULGARIA	434	402	413
URUGUAY	428	413	427
TURKEY	424	447	424
JORDAN	422	401	384
THAILAND	421	417	417
ROMENIA	418	396	415
MONTENEGRO	412	392	399
MEXICO	410	410	406
INDONESIA	393	393	391
ARGENTINA	391	374	381
BRAZIL	390	393	370
COLOMBIA	388	385	370
TUNISIA	386	380	365
AZERBALJAN	382	353	476
QATAR	349	312	318
KIRGUISTAN	322	285	311
AVRG OECD COUNTRIES	500		
AVERAGE LA	408		

Source: PISA Reports PISA 2006: Chile and Spain

graph 1 and table 4 which provide a detailed representation of the school performance results of the 57 countries that participated in the last PISA assessment (2006) in the three assessed areas: Science (main field), Reading and Mathematics.

As it occurs in the countries with the highest school performance results in the Latin American context (for example, Chile, Uruguay and Mexico), we can defend that this reality is shared on a regional level. In other words, the Latin American youths do not receive an education from their schools and systems which successfully equips them with the ability to accomplish tasks involving analysis, interpretation, communication, the use or integration of knowledge in order to understand and act in the world today as individuals and full citizens.

LLECE ASSESSMENT RESULTS

Data obtained from the *Second Comparative and Explanatory Study,* SERCE (LLECE, 2008) offer us a more updated picture of Latin American student results. As already mentioned, its main virtue is that it makes a comparison possible of student learning in the different countries of the region and, in this case, with regard to 3rd and 6th year primary school pupils in Reading, Mathematics and Science.

At a first glance, the results highlight important disparities in the student learning of the different countries. Indeed, the dispersion of data is such that there are more than two standard deviations among the countries that are located at the far ends in the three assessed areas (Table 5).

This studies shows that the Cuban pupils attained better performance in Mathematics, Reading and Science in the two assessed years. The Dominican Republic is at the opposite end with its pupils presenting the lowest performance rate in all the areas and years under study. In both cases, a considerable distance separates them from the rest of the countries which means they have to be studied in isolation when we form groups of countries on the basis of average performance. The other countries

TABLE 5 — AVERAGE CLASSIFICATION, PER COUNTRY, OF 3RD AND 6TH YEAR PRIMARY PUPILS IN MATHEMATICS, READING AND SCIENCE

	3RD YEAR OF PRIMARY		6TH YEAR OF PRIMARY		
	MATHEMATICS	READING	MATHEMATICS	READING	SCIENCE
ARGENTINA	505,36	510,04	513,03	506,45	488,72
BRAZIL	505,03	503,57	499,42	520,32	
CHILE	529,46	562,03	517,31	546,07	
COLOMBIA	499,35	510,58	492,71	514,94	504,32
COSTA RICA	538,32	562,69	549,33	563,19	
CUBA	647,93	626,89	637,47	595,92	661,74
ECUADOR	473,07	452,41	459,50	447,44	
EL SALVADOR	482,75	496,23	471,94	484,16	479,10
GUATEMALA	457,10	446,95	455,81	451,46	
MEXICO	532,10	530,44	541,61	529,92	
NICARAGUA	472,78	469,80	457,93	472,92	
PANAMA	463,04	467,21	451,60	472,05	472,52
PARAGUAY	485,60	469,09	468,31	455,24	469,26
PERU	473,94	473,98	489,98	476,29	464,90
DOMINICAN REP.	395,65	395,44	415,64	421,47	426,31
URUGUAY	538,53	522,65	578,42	542,15	533,13
NUEVO LEÓN	562,8	557,8	553,95	542,35	510,68
AVERAGE COUNTRIES	500	500	500	500	500
TOTAL LA AND C	505,11	505,13	506,7	513,02	491,57

Source: LLECE, 2008.

TABLE 6 — COMPARISON OF SCHOOL PERFORMANCE IN THE 3RD YEAR OF PRIMARY SCHOOL ACCORDING TO AVERAGE CLASSIFICATIONS PER COUNTRY

AVERAGE CLASSIFICATION	MATHEMATICS		READING		SCIENCE
	3rd	6th	3rd	6th	6th
Much higher than the countries' average (more than one standard deviation)	Cuba	Cuba	Cuba	Cuba and Costa Rica	Cuba
Above the average of the countries, but below a standard deviation	Chile, Costa Rica, Mexico e Uruguay, plus the Mexican state of Nuevo León	Argentina, Chile, Costa Rica, Mexico, Uruguay plus the Mexican state of Nuevo León	Argentina, Chile, Colombia, Costa Rica, Mexico e Uruguay, plus the Mexican state of Nuevo León	Brazil, Chile, Colombia, Mexico e Uruguay plus the Mexican state of Nuevo León	Uruguay plus the Mexican state of Nuevo León
Equal to the average (with no statistically significant differences	Argentina, Brazil and Colombia	Brazil, Colombia and Peru	Brazil and El Salvador	Argentina	Colombia
Below the average, but below a standard deviation	Ecuador, El Salvador, Guatemala, Nicaragua, Panama, Paraguay and Peru	Ecuador, El Salvador, Guatemala, Nicaragua, Panama and Paraguay	Ecuador, Guatemala, Nicaragua, Panama, Paraguay and Peru	Ecuador, El Salvador, Guatemala, Nicaragua, Panama, Paraguay and Peru	Argentina, El Salvador, Panama, Paraguay, Peru and Dominican Republic
Very low in comparison with the average of the region (more than one standard deviation difference)	Dominican Republic	Dominican Republic	Dominican Republic	Dominican Republic	

Source: Drawn up on the basis of the LLECE (2008).

TABLE 7 — DISTRIBUTION OF 3RD AND 6TH YEAR PRIMARY SCHOOL LATIN AMERICAN AND CARRIBEAN PUPILS, ACCORDING TO PERFORMANCE LEVELS

AREA/YEAR	PERFORMANCE LEVELS (%)				
	BELLOW I	I	II	III	IV
3rd MATHEMATICS	10,2	36,0	28,3	14,3	11,2
3rd LEITURA	6,7	25,5	44,3	21,6	8,4
6th MATHEMATICS	1,5	13,9	40,8	32,4	11,4
6th LEITURA	0,9	16,5	35,5	26,8	20,3
6th CIÊNCIAS	5,2	38,7	42,2	11,4	2,5

Source: Drawn up on the basis of the LLECE (2008).

may be split into three groups according to their classification: statistically equal to the average, above average, below average. In table 6 we describe these groups for each area and year under study.

Furthermore, the SERCE has been designed in such a way that it is possible for us to find out what the pupils know on the basis of the appropriation level and use of knowledge included in each year and area under study. As is custom, the scale used groups the pupils into five levels of increasing complexity. Thus, ideal distribution should point to a concentration of most pupils in levels III and IV, with the percentage of those positioned below level 1 being closer to zero. However, the results differ greatly from this standard (Table 7).

Indeed, the SERCE results show that more than 60% of 3rd year primary school Latin American and

Caribbean pupils are in Levels I and II in Mathematics, while only 25.5% are in any of the above levels. Around 10.2% of the pupils are unable to accomplish the tasks corresponding to the lowest level. In other words, they are incapable of correctly differentiating natural figures or interpreting simple tables or graphs in order to withdraw directly presented information. We are talking about over a million children who, although they frequent the 3rd year of primary education, are unable to master pre-established minimum and priority learning levels in Mathematics.

In Reading, 7 in every 10 pupils frequenting 3rd year are in Levels I and II, while only 8.4% attain a more demanding performance rate in accordance with their age and schooling. 6.7% of pupils do not master the minimum learning levels required for the appropriate use of such knowledge. Access to knowledge for these children is even more remote since they can not even identify information presented directly to them with an explicit meaning, repeated in a text and isolated from other information.

A regional study of the 6th year of primary education points to similarities and some differences when compared to the 3rd year. Most of the pupils are concentrated into two lower levels (I and II), attaining 54.7% in Mathematics and 52% in Reading. In Mathematics, only 11.4% of the pupils reach the highest performance level (IV), which increases to 20.3% in Reading. In this particular year the percentage of children below Level I is lower (1.5% in Mathematics and 0.9% in Reading). Finally, an analysis of the results in Science shows that 80% of 6th year primary school pupils is grouped around the lower levels (I and II), with only 2.5% of pupils in Level IV.

These results highlight the profound educational inequalities among pupils who frequent different schools. Indeed, they serve to prove the importance of decisions taken in relation to the set of education systems. The importance, interest and resources each country attributes to the area of education have a direct impact on the learning results of its pupils.

FINAL CONCLUSIONS

The final comments of this text need to be contextualised within the scope of the important actions and efforts employed by the countries of this region to create national learning assessment systems. Indeed, the fact that they also submit and expose themselves to regional and international comparison, assessing the quality and quantity of each country's pupils' knowledge, should also be taken into consideration. Therefore, first of all credit should be given to the firm decision, on the part of Latin American governments and states, to monitor and assess the educational quality offered by their systems by means of a thorough assessment of their pupils' rates of learning and performance. Even though school performance and educational quality are by no means synonymous, which is understood and accepted by all the region's systems, educational quality can not be called into question if the pupils do not master the required learning level for full and equal development and participation in society.

The audacity of some countries is also worth mentioning, since they were able to regard their participation in both regional and international studies as an opportunity to improve the quality and distribution of their education supply within their systems. By participating in the studies, they ran the risk of exposing their administration to internal criticism and their systems to the harsh judgement of specialised external organisations and entities, renowned all over the world in the field of learning assessment. Indeed, participation in this type of study sheds light, on the one hand, upon the knowledge, competencies, value and attitudes that the most successful education and economic systems believe their pupils should develop while, on the other, these studies form privileged sites for the improvement of assessment systems, for developing and strengthening internal technical ability, for debating and defining actions and policies geared towards improving educational conditions, processes and results in the different participating countries. The effort and investment needed to maintain legitimate assessment systems which operate at the highest level only makes sense if these systems develop substantial elements to improve the educational supply and distribution equity within the systems.

This brief review of the strategies used and results obtained in the national and international assessment of Latin American school performance rates, provides us with interesting elements and

criteria for the understanding, improvement and fair distribution of these systems' educational quality. Let us focus on some:

School learning assessment is a systematic, institutionalised and legitimate practice in all Latin American countries. These assessment processes began in the early 90s in the majority of the countries (11 of the 18), while the others underwent the same process in the latter part of the same decade. They also all shared the same initial priority given to studying the performance of primary school pupils in Language and Mathematics- essential learning areas for access to the knowledge, use and mastery of the cultural codes required for their inclusion in our societies. Over the last few years, along with the broadening of learning assessment to cover secondary school pupils, performance assessment in Natural Science and Social Science has also been included and, in some cases, the assessment of aspects related to the development of citizenship and the socio-affective aspects of the pupils.

On the basis of discoveries and results, first of all we must mention the fact that in spite of the important differences encountered among the countries, and bearing in mind all the perspectives used by each one of them to measure student learning and school performance results, we identified serious flaws in the quality of all their education systems. We have been well aware of this fact for a number of years however, there are no signs of significant progress or clear trends as far as this issue is concerned. On this level the learning and school performance rates of most primary and secondary school pupils in the vast majority of Latin American countries are still well below the expected and required standard for the attainment of real inclusion and social mobility of all citizens. This is a very harsh reality, not only for the poorer populations who experience exclusion within the systems, but also for pupils from middle or upper socio-economic sectors, who are also affected. The pupils belonging to such social strata do not demonstrate learning or school performance rates on a par with international standards, typical of modern, developed societies- which becomes clear when their performance is compared with the student average of the most developed countries in the world.

Nevertheless, when we analyse the results, we encounter differences and undertones which prove to us that some countries and educational levels have larger problems and fragilities, "unveiling" the inequity that crosses the entire region and whose deepest roots stem from the social inequality which is produced and reproduced in each education system. The data clearly shows that in some Latin American countries pupils learn less than their peers in neighbouring countries on their part of the continent, and this occurs in all the assessed levels and subjects. The lower performance attained by secondary school pupils (in relation to their age and schooling) when compared with those who frequent primary education is also a constant. Such evidence calls into question not only the efficacy and effectiveness of the education provided in secondary school establishments, but also the pertinence and relevance of the curriculum established for this level in the various school years.

Even if this brief article does not allow for a more in-depth study of the gender, habitat and socio-economic background of the pupils, attention needs to be drawn to the profound iniquities that affect the women, the pupils from rural areas and those who belong to more disadvantaged socio--economic groups.

Finally, we would like to refer to some of the pending challenges in terms of learning quality assessment: those which set out to improve available information and use it to strengthen and increase the quality of education in their systems:

- Integration of other subjects and school years [in the assessment process] to allow for an improvement of the supply of education quality and which are geared towards the full, civic development of children and youths.
- To contextualise learning: national assessment systems need to collect and process information on learning-related factors so as to identify the conditions under which teaching and learning occur in each country and, at the same time, recognise the factors that favour and make possible the acquisition of significant, relevant and stable learning, on the part of the pupils.
- To improve the use made of assessment processes, on both a national level and within schools.

We can not allow ourselves to stop at the systematic development of hi-tech methodologies, which are increasingly more effective in measuring and assessing the cognitive, socio-affective, citizenship, ethical learning and value development in pupils. Pertinent and explicit strategies are needed in order to make it possible to use the information and analysis created by such national assessment systems as *input* for improving the teaching and learning processes, thus ensuring the acquisition of better learning and an increase in school performance.

Endnotes

1. With a view to standardising the different education systems under analysis, this article has adopted the term *Primary and Secondary Education*. While primary education includes the first six years of schooling (children between the ages of six and eleven or twelve years, approximately) secondary education covers a further six years of schooling (children and youths between the ages of twelve, thirteen years and eighteen years, approximately). Secondary education is also sub-divided into Lower Secondary Education (first three years) and Higher Secondary Education (last three years).

2. See: www.simce.cl

3. Such as Chile, which participated in the TIMSS in 1999 and 2003 and the CIVED in 1999 and 2000 (www.simce.cl).

4. The OECD countries are: Germany, Australia, Austria, Belgium, Canada, Korea, Denmark, Spain, United States of America, Finland, France, Greece, Holland, Hungary, United Kingdom, Ireland, Iceland, Italy, Japan, Luxembourg, Mexico, Norway, New Zealand, Poland, Portugal, Czech Republic, Slovakia, Sweden, Switzerland and Turkey.

5. Scales are prepared and attributed to each one of the PISA cycles for the three areas under assessment. However, only inter-cycle comparisons can be carried out in any particular area from the point when this area has been the main field of assessment (MINEDUC, 2007). So, with the PISA 2009 measurement under way, conditions will be provided for the comparison of Reading performance in 2000 when it was, in fact, the main field and 2009.

6. The reports containing the results of the three PISA assessments are available at: www.pisa.oecd.org.

7. The results of the LLECE regional studies are available at: www.llece.unesco.cl.

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