



Latin America Basic Education Summit

**The Conference Center
of the Americas
at the Biltmore Hotel**

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B R I E F I N G B O O K

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Introduction

Business leaders have long recognized that a well-educated populace is crucial for thriving democracies, strong communities, and individual growth and achievement, not to mention economic growth, development, and global competitiveness. With this in mind, senior executives of Latin American operations from IBM, Motorola, AT&T, Bank America, MasterCard, Citigroup, Discovery Communications Latin America/Iberia, *The Miami Herald*, and William M. Mercer, among others, began meeting in early 2000 to discuss how they could join forces and partner with Latin American leaders and other stakeholders to help drive education reform in Latin America.

Knowing that the seismic shift to technology-based production and the opportunity to leverage the Internet requires employees who have a solid grounding in mathematics and science, they recognized that basic education reform was necessary and urgent. Workers who can adapt at a rapid pace to changing conditions and who can assume increasing responsibility for problem solving and decision making are essential to Latin America's economic stability, development, and growth. It is essential that Latin America transform its public education systems to ensure that each country's work force is competitive nationally and globally.

Concluding that no one sector alone could make the necessary changes, business leaders decided to go well beyond philanthropy and make a personal commitment to collaborate on a strategic investment. They were joined by Latin American national and regional companies including Suramericana de Inversiones S.A., Promon Tecnología, Banco Mercantil, CANTV, and others and were encouraged by President Enrique Iglesias (IDB), Dr. Rosabeth Kanter (Harvard), Vice President Gustavo Bell Lemus (Colombia), ministers of education from Brazil and Argentina—Paulo Renato and Hugo Juri, and Monterrey Technological System president, Rafael Rangel.

Collectively, they decided to convene a small group of Latin American leaders from business, government, and education to establish shared values on K-12 reform and to outline a short action plan calling for collaboration at the country level that can serve as a framework to focus on education standards, accountability, and teacher training—two areas where business thinks it can assist and where technology can be used as a tool to help facilitate the

transformation. The idea for the March 7 - 8, 2001 Latin America Basic Education Summit was born.

These executives, although eager to embrace and help the current trend of many Latin American governments to raise the education bar and systematically improve schools K through 12, recognized that business leaders are not education experts.

Yet, they do have resources, experience, and relationships in the community that can be leveraged to help drive reform of basic education. These leaders agreed to combine their efforts and join with government and education leaders to help build support for reform, as well as to leverage opportunities to communicate and support reform efforts.

The group also recognized that governments in the region have already taken significant steps—expanding enrollment, establishing assessment systems, and experimenting with new forms of professional development for teachers. Their goal was to build on these accomplishments.

The March Summit is designed to:

- Assert that quality education for all children is a necessity and that attainment of this goal is urgent;
- Identify key challenges to improving Latin America's schools, with a focus on standards, accountability, and quality teacher training;
- Develop consensus for a plan of action that will leverage cross-sector collaboration and drive improvement in the quality and equity of primary and secondary education.

Although the issues associated with achieving quality teaching and learning are complex—and no single meeting will solve such profound challenges—working collaboratively we can certainly begin an effort to initiate the next stage of reform.

Thank you for agreeing to join us. Below you will find briefing papers that address the current state of education in the region and initial ideas for formulating recommendations for improvement and collaboration.

The State of Education in Latin America: An Overview

I. Education is Key

Few issues generate more consensus world-wide than the belief that education is crucial to development. No country has achieved significant economic progress without expanding and improving the quality of its education. Virtually all high-growth economies have established universal primary education first and then improved quality by establishing high standards and steadily increasing investments per student. Some studies conclude that as much as 40% of the growth differential between East Asia and Latin America can be attributed to education—especially to high quality primary education.

Good education encourages entrepreneurial activity and makes workers more flexible, better able to learn on the job, and more capable of making decisions. It prepares citizens for responsible participation in the institutions of democracy and civil society. Quality education is decisive in reducing poverty and promoting equity.

II. Latin America Lags Behind

Every assessment of education in Latin America concludes that grave problems exist and that fundamental changes are needed. The region's major—and very significant—achievement during the past three decades has been an expansion in enrollment, chiefly at the pre-school and primary levels. However, even though more children are enrolled in school than ever before, the quality of the education they receive is inadequate. Instruction in language, mathematics, and science continues to be poor. Few students acquire the problem-solving, critical thinking, and decision-making skills that are critical to success. Only children from economically well-off families can afford to attend the private schools that provide a solid education. The majority of children throughout Latin America study in public schools that are not up to par and that cannot prepare them for participation in the global economy. At a time when human resources increasingly constitute the comparative advantage of nations, Latin America is falling behind.

Indicators of the region's educational problems include:

LOW TEST SCORES

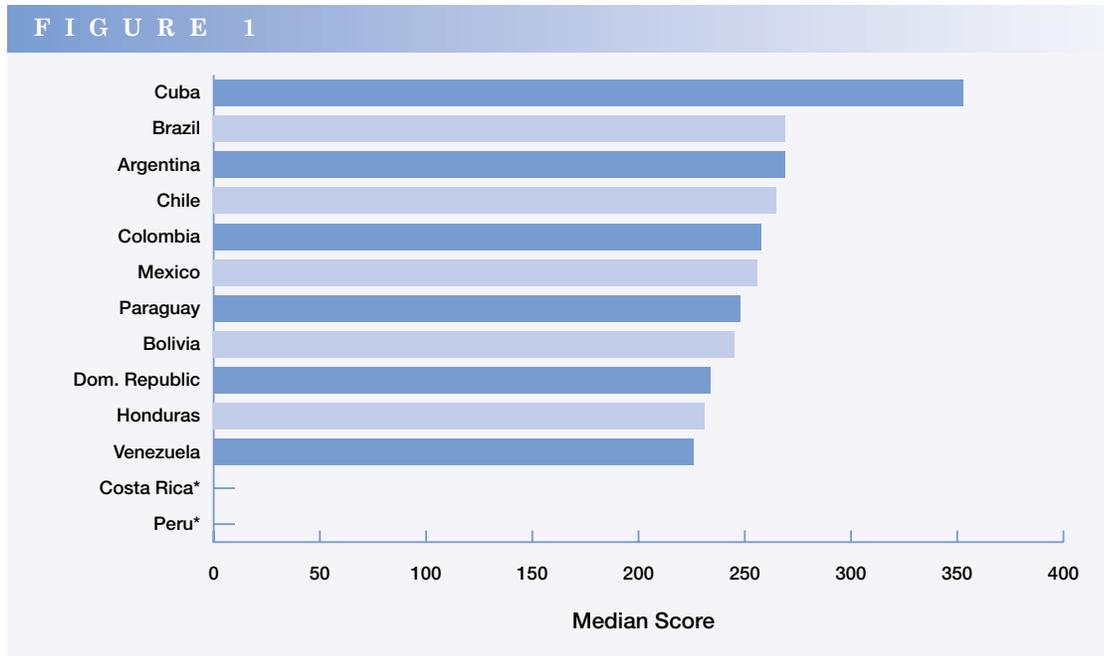
International comparisons illustrate the poor performance of Latin American schools.

- Only one Latin American country—Chile—participated in a 1999 world-wide test of eighth grade math and science skills, and finished 35th out of 38 countries, significantly behind Asian competitors, including Thailand and Malaysia.
- Only two countries from Latin America chose to participate in the same world-wide test in 1996. One of them—Colombia—ranked 40th out of the 41 countries surveyed, below every participating Asian, Eastern European, and Middle Eastern country. The other—Mexico—refused to make its scores public.
- In the only region-wide achievement test ever administered (by UNESCO in 1998) one country—Cuba—far and away led the region in third and fourth grade mathematics

Fourth Grade Mathematics Achievement

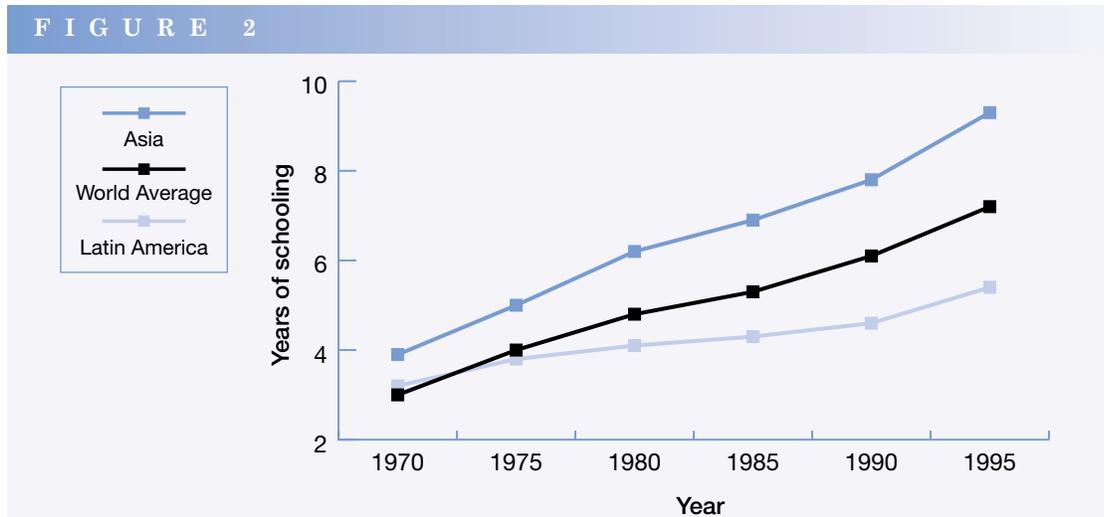
*Participated, but results not released.

Source: Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación, 1998. UNESCO.



Workforce Education, 1970-1995 (Average years of schooling)

Source: Londoño and Stokely, 1997.



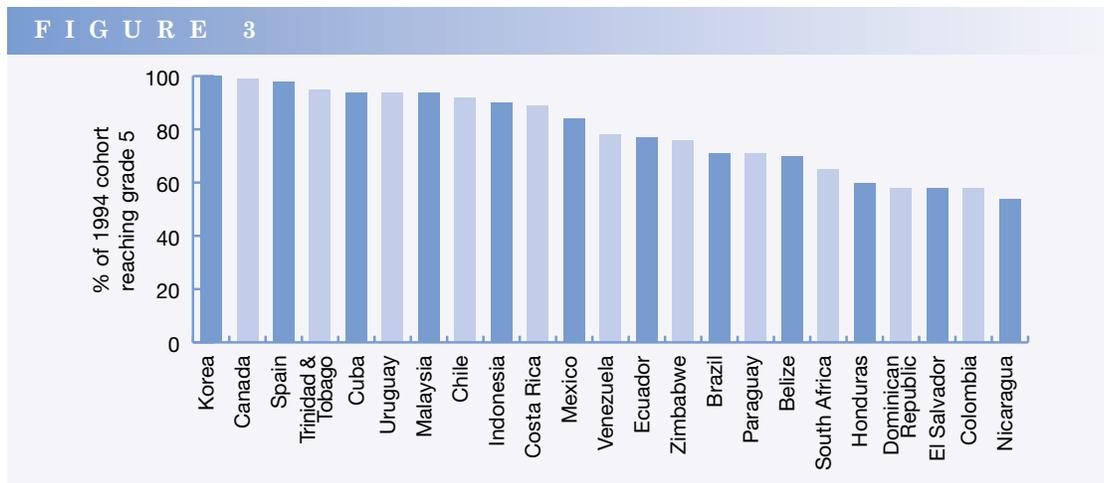
and language achievement. (Figure 1). Even the lowest fourth of Cuban students performed above the regional average. Chile and Colombia, which have scored poorly on world-wide tests, got average scores on this test, suggesting that most of the region would do poorly in world-wide tests as well. Two countries—Peru and Costa Rica—refused to release their results on the regional test.

LOW LEVELS OF EDUCATION

Latin American and Caribbean students enter the labor force with less education than their counterparts in Asia and the Middle East—and the gap is widening. Latin America's workforce averages less than six years of schooling, two years below world patterns and what the region's own level of development would predict. (Figure 2). To make matters worse, the average schooling of the workforce rose by less than one percent annually during the 1990s,

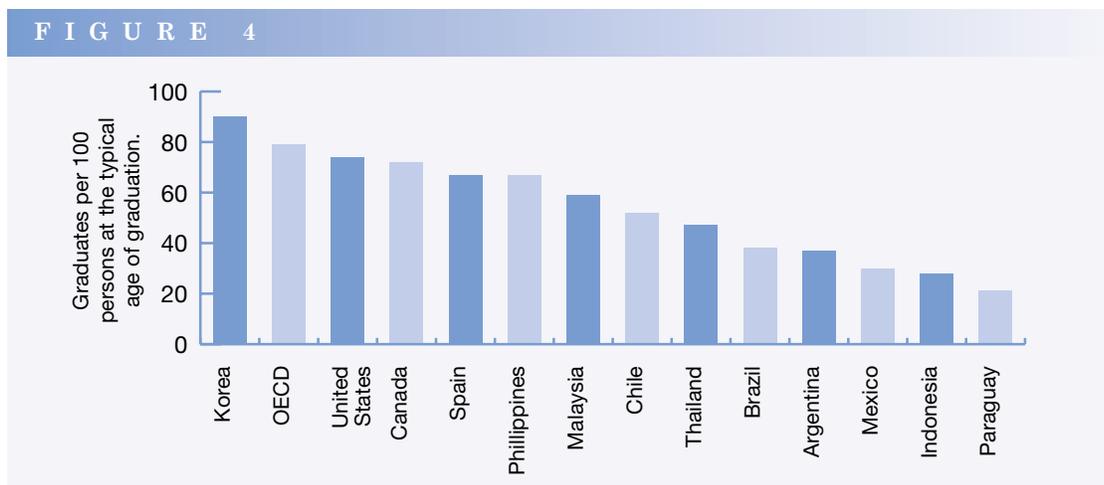
Fourth Grade Completion 1998

Source: UNESCO World Education Report, 1998.



Secondary Completion 1998

Source: OECD, Education at a Glance, 2000.



compared with sustained annual rates of some three percent over three decades for the four Asian Tigers (Korea, Taiwan, Singapore and Hong Kong). With such different rates of improvement, Latin America is fast falling behind its competitors. This trend is particularly disturbing given the concentrated efforts that governments have been making to provide universal access to education.

INEFFICIENCY

Although more students enroll in school, few manage to complete their studies. In many countries, one-fourth to one-half of the students who enter primary school fails to make it to the fifth grade. In the Dominican Republic, El Salvador, and Colombia, a quarter or more of children who enroll in the first grade fail even

to make it to the second grade. By contrast, nearly all students who enter primary school in the East Asian Tigers, Egypt, and China reach grade five. In Latin America, only Cuba, Uruguay, and Chile have comparable completion rates. (Figure 3).

Even fewer students finish secondary school. In 1998, only around half of Chilean students and only 30% of Mexican students graduated from high school. Argentina and Brazil did not fare much better, with little more than a third of their students completing high school—less than in Thailand, Malaysia, and the Philippines. And these are among the larger, more developed countries in the region. One can only assume that the situation is worse in the smaller, more underdeveloped countries. (Figure 4).

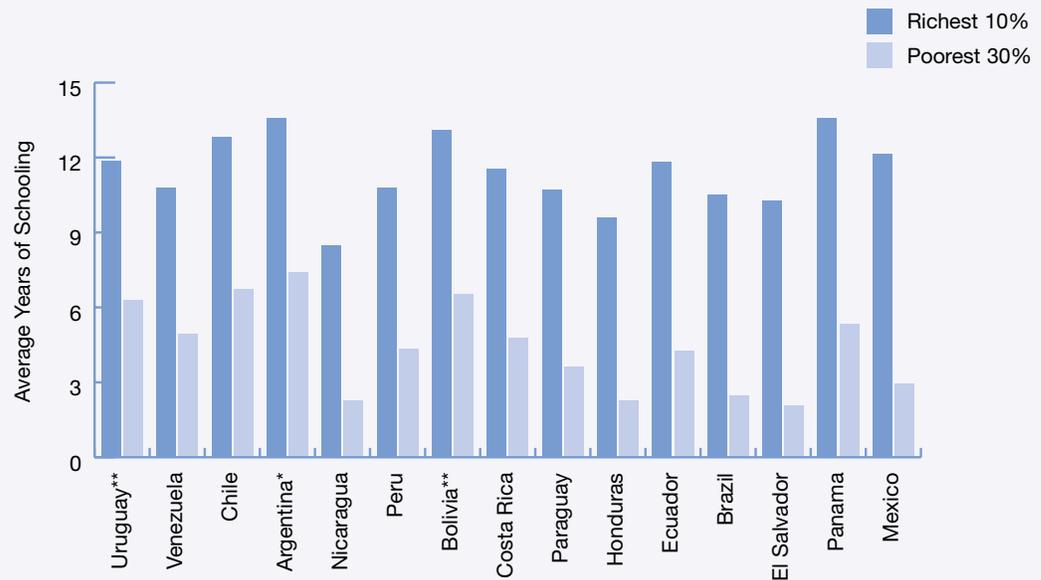
Educational Attainment of Richest and Poorest 25 Year Olds 1996

*Includes only Greater Buenos Aires

**Includes only urban areas

Source: IDB, Economic and Social Progress, 1998-99.

FIGURE 5



These inefficiencies exist despite relatively high rates of public spending on education. Latin American governments have increased their investment in education from 3.9% of GNP in 1980 to an average of 4.6% in 1997, exceeding levels in Eastern and Southern Asia and not far off the 5.1% invested by developing countries.

INEQUITY

Education may be the single most effective tool for reducing income inequality. In Latin America today, however, education is doing just the opposite: it is exacerbating inequality.

In most countries, the richest 10% of 25 year-olds have 6-8 more years of schooling than the poorest 30%. The gaps are even higher in Mexico, Panama, and El Salvador, exceeding eight years. (Figure 5). And the figures for Argentina, Bolivia, and Uruguay leave out the rural population—the people who are usually the most deprived.

Indigenous populations are particularly disadvantaged. The limited data available suggests that children in indigenous

communities receive substantially less education (and are more likely to be illiterate) than non-indigenous children.

The problem of inequity is illustrated by the difference between public and private schools. The best schools in the region are private—and many of these are on a par with the best schools world-wide. Most private schools invest significantly more money per pupil, enabling them to pay teachers higher salaries and provide more teaching materials. Private schools, on average, offer more hours yearly and tend to cover a higher percentage of the official curriculum than do public school students. As a result, virtually all families with the resources to do so send their children to private primary and secondary schools. Virtually all poor families—by necessity—send their children to public schools.

Inequalities also show up in public spending on education, which tends to be disproportionately allocated among levels. Despite the poor coverage and quality of primary and secondary education, substantial resources are allocated to higher education. Since higher education primarily serves the middle and upper sectors

of the population, this pattern of spending significantly discriminates against the poor.

With respect to gender equity, however, Latin America is doing relatively well. Girls are as likely to attend and complete school as boys in most countries. The notable exception occurs among indigenous populations, where indigenous girls continue to get less education

than boys. The challenge now is to eliminate gender stereotypes in schools, and to make sure that girls are just as likely to study mathematics and science as boys.

Latin America has the most unequal distribution of income in the world. Much of that inequality reflects a failure to invest in quality education for all its children.

III. Progress and Challenges

Latin American governments recognize the need for action and have already begun to respond to these issues by giving increased priority to education reform over the past several years. At the 1994 Summit of the Americas in Miami, the heads of state agreed to pursue three education goals over a 15-year period. In 1998, they made the Santiago Summit of the Americas the “education summit”, committing themselves to revitalizing education and making it a sustained force for economic development and social equity.

Most countries have embarked on reforms of one kind or another. Leaders from business, politics, churches, the media, and civil society have begun to call for better schools. Among the most common initiatives underway are:

- National agreements on education reform negotiated among government, political, business, church, and civil society leaders designed to raise education policy above the whims of partisan politics.
- Increased decentralization that expands the authority of municipalities and individual schools.
- Targeted programs designed to improve quality and equity in the most disadvantaged primary schools.
- New curricula and longer school days.
- Greater use of achievement tests to monitor student progress.

- Initiatives to raise teachers’ salaries and link pay to performance.
- New approaches to pre-service and in-service teacher training.
- Efforts to increase relative public investment in primary education.

Nonetheless, education remains in crisis. At least four core problems—1) a failure to set standards and evaluate performance; 2) limited school authority and accountability; 3) poor teaching; and 4) too little investment in primary and secondary schools—underlie the region’s educational deficiencies.

1. FAILURE TO SET STANDARDS AND EVALUATE STUDENT PERFORMANCE

To be sure, most countries have a national curriculum, and several have sought to make performance indicators clearer and more measurable. But to date, no country in the hemisphere has established, disseminated, and implemented comprehensive national education standards.

There is one important initiative underway in Central America. A consortium of ministers of education is working to establish common standards in language, math, and the natural sciences for primary schools. Draft standards have been prepared, but have not yet been widely discussed or approved by any country.

But a modern system of educational standards requires more. It must include:

- Content standards—definitions of what children should know and should be able to do at each grade level from primary to upper secondary; and
- Performance standards—descriptions of what kind of performance represents inadequate, acceptable, and outstanding accomplishment.

Because educational standards have not been established, parents and employers cannot easily hold schools accountable for what students learn, nor make sure that education has the quality and relevance necessary for participation in the global economy.

Considerably more progress has been made in evaluating student performance. Almost every country has established a test to measure the most important indicator of education success—student learning. All countries cover mathematics and language; at least nine nations also cover science and social studies. In addition, Brazil, Mexico and Uruguay are developing achievement tests at the provincial or state level.

However, because these testing systems are new, many have serious shortcomings: capacity for testing and measurement is weak; test objectives are not clear; test results are not used to improve schools; and there is widespread resistance to measuring and comparing scores.

As a result, analysis of test results is rudimentary at best and seldom meets the information needs of educators, policymakers, parents and employers.

2. LIMITED SCHOOL AUTHORITY AND ACCOUNTABILITY

The traditional model of school management is fundamentally flawed. Responsibility lies in the hands of central governments, which build and equip schools, establish salaries and personnel policies, hire (but seldom fire) teachers, select textbooks, establish curriculum, develop tests, and decide on other academic and administrative matters. Parents, principals, and teachers have almost no authority over the key aspects of school management—budgets, personnel, materials, and curriculum—and very little responsibility for results.

Education ministries tend to be large, bureaucratic, and overloaded with responsibilities. They typically have excessive numbers of non-teaching staff on the payroll and tend to perform below the standards of any private corporation. Ministers change frequently and are appointed for political, rather than professional, reasons.

This model is slowly beginning to change in a few countries—chiefly through programs to delegate some decision-making authority from the central government to provinces or municipalities. But only a few countries (notably in Central America and much of Brazil) have placed significant authority and responsibility in the hands of schools and local communities.

To be sure, local authorities often lack basic management skills and have little experience in making decisions. But few have been given the opportunity to develop those capacities. The result is that school administrators and teachers are unable to implement changes that could potentially improve education.

3. POOR TEACHING

Teachers tend to be poorly trained, poorly paid, and poorly managed. Most have significantly less education than their counterparts in developed countries. Very few have completed a university degree. (Table 1). The education they do receive is usually of poor quality—with too much emphasis on theory, too little on classroom practice, and insufficient preparation in specific subjects like mathematics and science.

Teachers salaries are not high enough to attract the best candidates and do not reward good teaching. Crucial reforms such as teacher evaluations, keying salaries to performance,

and enabling principals to remove incompetent teachers are almost non-existent. Teachers have little control over materials and school management. They are not directly accountable to parents and local communities for their work.

In many countries, teachers' unions have national monopolies on the supply of teaching. They tend to resist efforts to establish local control, greater accountability, and incentives for performance. Teachers' unions have concentrated almost entirely on raising wages. With few exceptions, they have not played an important role in efforts to improve learning.

The result is that teaching is not a highly respected profession. Prestige is low, morale is weak, and performance is mediocre.

Educational Background of Teachers in Selected Countries

Percentage with University or Equivalent Degree

Source: UNESCO World Education Report 1998.

TABLE 1

	Primary	Secondary
Egypt	55	100
Japan	79	93
Indonesia	5	62
Swaziland	1	47
Argentina	17	39
Panama	6	9
Ecuador	1	1

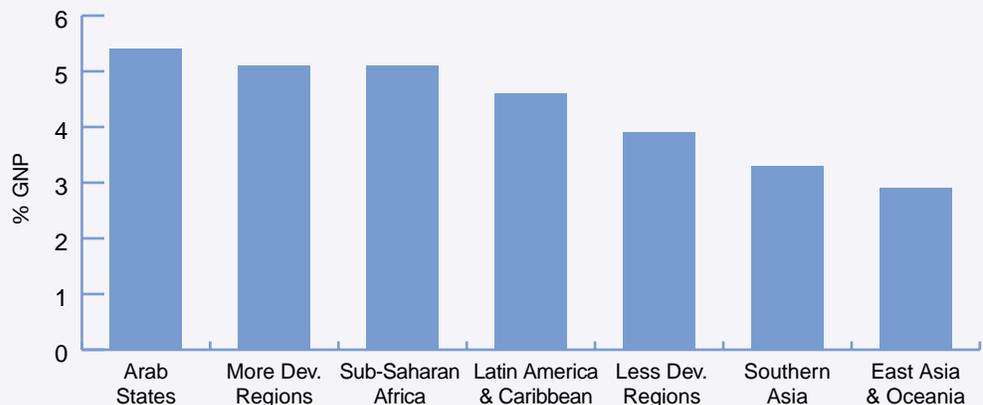
4. TOO LITTLE INVESTMENT IN PRIMARY AND SECONDARY SCHOOLS

Although governments invest 4.6% of GNP in education each year—above the developing country average of 3.9% (Figure 6)—funds invested per-student are relatively low. Latin America invests, per-pupil, at best one-half as much as do developed countries (comparing Chile with Spain) and, at worst, one-twenty-fifth as much (comparing El Salvador with

Estimated Public Expenditure on Education Regions, 1997

Source: UNESCO World Education Report, 2000.

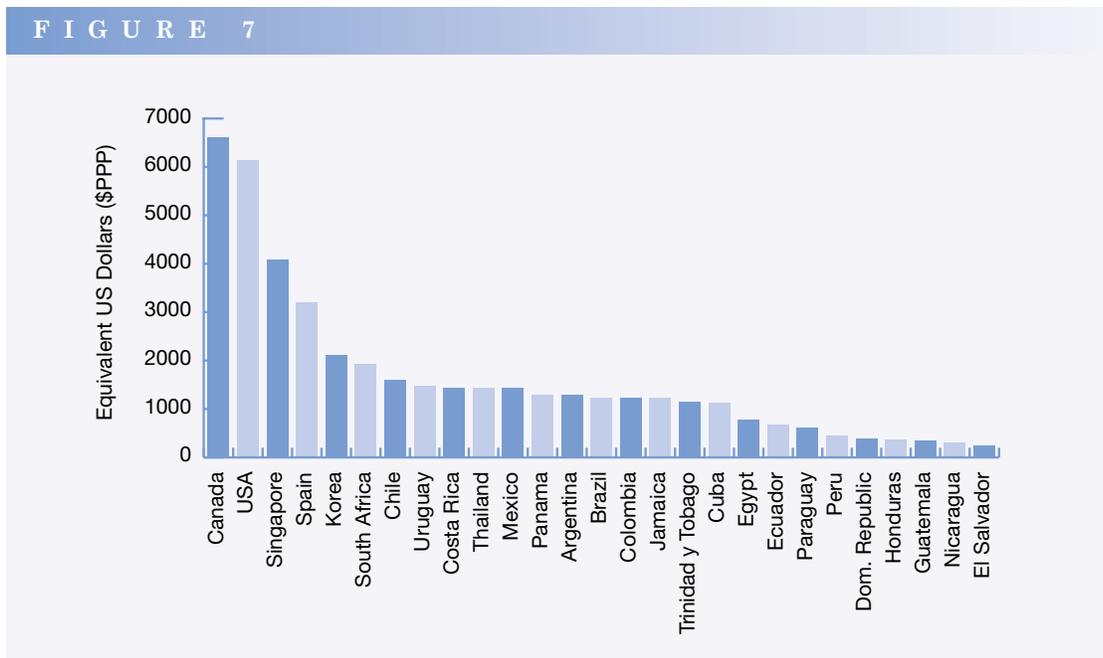
FIGURE 6



Public Spending per Pupil (\$PPP)* at All Levels, 1997

Source: Sancho, 2000. Unpublished. UNESCO data.

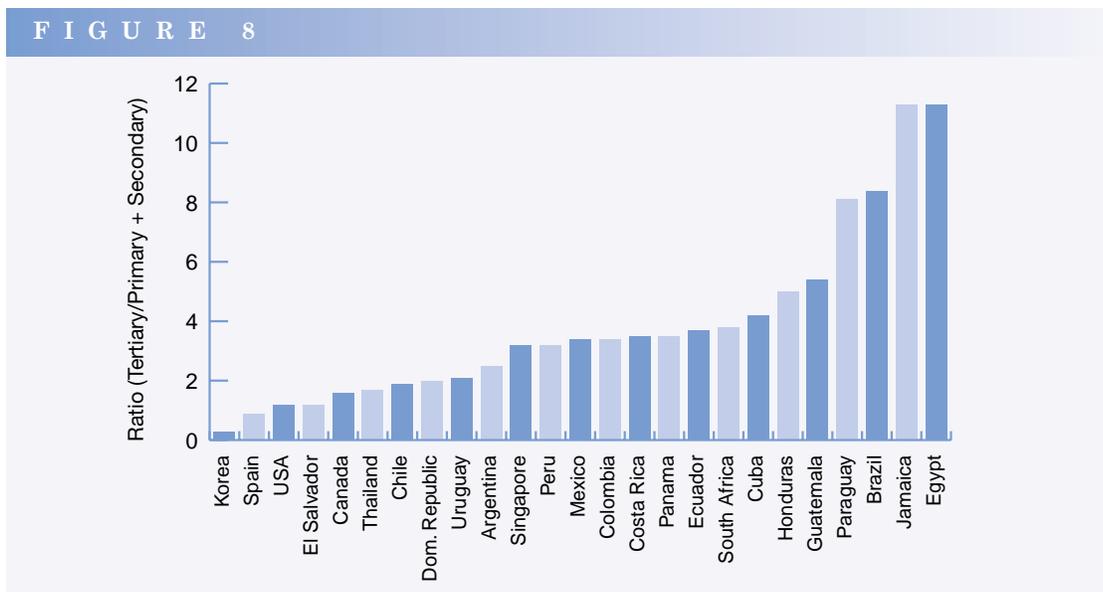
*Purchasing Power Parity (\$PPP)



Ratio of Spending per Pupil at the Tertiary vs. Primary/Secondary Levels (\$PPP)*, 1997

Source: Sancho, 2000. Unpublished. UNESCO data.

*Purchasing Power Parity (\$PPP)



Canada). (Figure 7). Governments are not equipping their students to compete in the global economy when such vast differences exist.

Furthermore, governments tend to over-invest in higher education and under-invest in primary and secondary education—in part because of the greater political clout of university students. Whereas Spain, Canada

and the United States invest almost equally per student at the two levels, most Latin American countries invest at least twice as much at the upper level. Two nations—Brazil and Paraguay—invest eight times as much. (Figure 8). Given the large number of children in most countries who fail to graduate from primary school, such heavy public investments in university education seem unwarranted.

IV. Opportunities

Commitments already made and work under-way provide a special opportunity for moving forward. However, there are many challenges. The traditional approach to providing primary and secondary education requires fundamental changes. Schools are producing neither the quantity nor the quality of education required for successful competition in a global economy. They tend to reinforce inequality rather than reducing it. And too often precious public funds are wasted. This situation suggests at least eight opportunities for reform (not necessarily in order of priority):

1. Take clear and systematic steps toward making schools and teachers accountable to the communities they serve by setting clear performance goals, accurately assessing progress toward meeting those goals, and empowering principals and parents to take corrective action if goals are not met.
2. Establish national content and performance standards for education in each country and consider establishing a regional system of education standards.
3. Strengthen the assessment systems in each country and establish a region-wide system of tests in mathematics, sciences, social studies, and language.
4. Decentralize authority and responsibility all the way to the level of the school, giving principals and community leaders real power to manage staff, curriculum, and budgets.
5. Thoroughly reform teacher training and professional development to deepen preparation in specific subjects, emphasize classroom experience, and target problem-solving, critical thinking, and decision-making skills.
6. Revitalize the teaching profession, instituting professional evaluations, merit pay, and consequences for poor performance.
7. Re-allocate public spending on education in order to increase per-student investment at the primary and secondary levels and to close the gap with the university level. Increase funding by exploring alternative finance strategies that include co-operation with the private sector and cost-sharing at the university level.
8. Develop a systematic plan for incorporating cost-effective new technologies throughout the school system.

Policy Briefs

I. Strengthening Accountability

Accountability is crucial to improving education.

Accountability systems establish goals and clear incentives for meeting them. They measure progress and tell us where we need to allocate attention and resources so as to improve. They help us identify success, reward it, and replicate it elsewhere. They help ensure that teachers, schools, and children perform at adequate levels. Communities that collectively set high educational standards and work hard to reach them benefit all children—rich or poor.

Unfortunately, accountability is a relatively new idea in the region's schools—seldom discussed, not well understood, and insufficiently applied.

Schools have traditionally been a public monopoly, managed centrally by national ministries or state-level education departments that are accountable to practically no one. They make critical decisions about school resources, including budgets, staff, textbooks, and management. They also set teacher salaries based on rigid formulas tied mainly to seniority rather than to performance.

Teachers are seldom evaluated and even more rarely dismissed. School principals have limited authority, and the clients of education—students, parents, local communities and employers—have almost no influence. The result is that schools are more responsive to those who supply education—chiefly government ministries and teachers unions—than to those who receive it.

Accountability means setting goals and holding people—students, parents, teachers, principals and ministry officials—responsible for results.

It establishes clear incentives for performing at an appropriate professional level. It helps make sure that schools provide the level of education that is expected.

Holding schools accountable requires at least four conditions:

STANDARDS

Countries should establish comprehensive educational standards so that everyone knows what schools are being held accountable for. Most important are comprehensive content and performance standards that define what children are supposed to know at each grade level and that describe what kind of performance represents outstanding, acceptable, and poor accomplishment. Also useful are minimum standards for teacher preparation and performance and the availability of teaching materials such as libraries, texts, computers and laboratories.

In spite of serious efforts to improve national and local curricula, no country in the hemisphere has yet succeeded in establishing, disseminating, and fully implementing national education standards that set high expectations for all students. Many have established minimum standards for teacher preparation, but fail to enforce them. Virtually none have established minimum standards for the availability of teaching materials, although Brazil has taken strong steps in this direction.

INFORMATION

The clients of education, including schools, parents, community leaders and employers, should have access to reliable information on student achievement, school performance, and the steps being taken to make things better. Without it, consumers will not have a clear picture on which to base their assessment of school performance. The first priority is a strong system of national tests in mathematics, sciences and language—and other areas and competencies that each country deems crucial—that monitor student achievement over time. The results should be wisely and widely publicized, in formats that are easy to understand. Teachers should also be periodically evaluated, and outstanding performance should be publicly recognized. Parents and local communities should receive regular updates on teacher qualifications, teaching materials, and school budgets.

This information is scarce in most Latin American countries. No organization independently monitors or reports to education stakeholders on the achievements and shortcomings of schools and the progress of education reforms. Achievement tests are conducted in most countries, but the results are often poorly disseminated or may not be made public at all. No country periodically evaluates all its teachers. Education “report cards”, which have become a vital tool in monitoring and holding schools accountable in North America and Europe, are uncommon in Latin America. Consequently, the clients of schools usually lack the information necessary to press effectively for change.

CONSEQUENCES

In order for accountability to work, there must be consequences to meeting (or failing to meet) objectives. Good teachers should be rewarded. Bad teachers should be identified and helped to improve. School performance should be rated, so that good schools can be identified, and their approaches replicated. Schools that

fail to provide good education should be subject to corrective action. Degrees and certifications should be withheld until students demonstrate that they meet agreed-upon national education standards.

Consequences are almost non-existent in the region’s schools. Good teachers are not paid more than bad teachers, and poor teaching almost never affects salaries or job security. Schools continue to receive funding year after year regardless of how well their students do. Degrees are granted with minimal reference to education objectives.

AUTHORITY

Schools, local communities and parents should have the authority necessary to make decisions and implement changes. If they do not, it makes little sense to take them to task for shortcomings. School principals need the power to hire, promote, retrain and, if all else fails, fire teachers. They also need the power to set and allocate school budgets. Teachers should be given autonomy in designing courses and selecting materials, in return for agreeing to be held strictly accountable for learning results. They should participate in school management and reform. Communities should have influence over how schools are managed, which teachers are selected, and how much they are paid. Parents should have some choice in where to send their children for schooling.

Fortunately, most countries have devolved some decision-making authority from the central level to lower levels of government. But very little authority has been devolved all the way to the school level. Where they exist, school autonomy reforms tend to be implemented only partially, largely due to a lack of confidence in schools and their abilities. The authority delegated is often limited to pedagogical decisions or small project designs, and few or no additional resources are allocated for staff training or new programs.

Throughout, accountability requires participation—by teachers, employers, parents, and communities—in making education decisions. Responsibilities need to be clearly allocated to

each participant, accepted, and then monitored for results. It is not enough to wait for ministry officials to make schools better. Good education depends on everyone doing his or her part.

II. Educational Standards

What should all students know, and how do we know that they know it? These two questions are at the heart of the debate about establishing national educational standards to assess students.

In general, a standard is both a goal (what should be done) and a measure of progress toward that goal (how well it is done).

Standards are clear, demanding, and consistent statements about what students are expected to learn. Their most common forms include:

- **Content standards** (or curriculum standards), that define what teachers should teach and what students are expected to learn;
- **Performance standards**, that describe degrees of mastery or levels of attainment expected at a given level of school. They describe (often with examples) what kind of performance represents inadequate, acceptable, and outstanding accomplishment;
- **Opportunity-to-learn, or school delivery, standards**, that define the availability of programs, staff, and other resources that schools and governments should provide to enable their students to meet challenging content and performance standards.

Educational standards are, first, a means of communicating to diverse audiences (and not only to specialists) what students should know in each field and at each grade or level, and what they should be able to do with that knowledge. They also establish how well students should be able to perform, using observable benchmarks. Standards should also guide and stimulate other efforts to improve

education, such as curriculum, texts, teaching materials, teacher training, and the design and use of tests. They should enhance accountability for results. The gaps between expected and actual student performance should be analyzed to determine their relationship to each of the factors responsible for how much and how well students learn.

National education standards, and the degree of success in reaching them, help employers evaluate the real significance of student degrees and certificates. For foreign and national investors, the fact that a country that has a consensus-based system of clear educational standards can be a critical element in evaluating investment alternatives, insofar as it provides explicit information on the quality of the workforce.

THE SITUATION IN LATIN AMERICA

While countries (particularly Brazil and Chile) have initiated components of this agenda, no country has established, disseminated, and implemented comprehensive, widely accepted national education standards.

- Almost all curriculum reform programs have repeatedly acknowledged the need to develop clear, broadly accepted and measurable definitions of the abilities and capacities which educational systems should be expected to produce.
- Several countries have made significant progress toward defining the minimum contents that all students should learn. Recently—reformed curricula are much better than the old-fashioned lists of facts and information they have replaced.

- Neither the “intended” nor the “implemented” curricula in Latin America appear to contain high standards of academic excellence comparable to those that are being explicitly pursued in other regions of the world.
- With a few exceptions, countries in Latin America have not specified, discussed, and disseminated the levels of achievement they expect of students, nor how they would determine whether students have learned what they were supposed to learn.
- Given the absence of publicly shared and accepted standards, and the failure to base achievement tests on them, it is very

difficult to interpret the results of existing national achievement tests. The fact that, on average, students get the right answers on half the questions does not guarantee—as many believe—that they know half the material they are expected to learn. It just depends on how the tests were constructed.

RECOMMENDATIONS

In order to make real progress in educational standards, countries should:

1. Stimulate debate on the role of standards in education.

BOX 1

Setting Standards in Central America

The **Coordinación Educativa y Cultural Centroamericana (Central American Education and Cultural Committee—CECC)** is spearheading a project designed to establish common content and performance standards in mathematics, Spanish and natural sciences at the primary school level for Central American countries. CECC, the coordinating body for the Central American ministries of education, through this project seeks to:

- Strengthen and review curricular reform projects that are being carried out in each participating country
- Raise awareness that clear goals and objectives are necessary to achieve a quality education
- Establish a baseline for systems of measuring academic achievement, and
- Define an ideal of quality for primary education in Central America.

National teams, composed of ministry personnel from each country, will produce national standards in accordance with the newly reformed primary curricula. These standards are to be developed in consultation with local stakeholders. Once national standards are completed for each country, a central team will use these to draft regional standards for Central America.

Several countries have already completed draft national standards under this effort, but these standards have not yet been widely disseminated or approved at the national level.

In September 1999, the ministers of education in the region approved and obtained financing for a project to consolidate the standards work completed to date. This new project, already underway, will produce a teachers guide to standards, materials for parents and the community in general, and disseminate information about standards to the local, national, and education communities. At the same time it seeks to align measures of student achievement and teacher training with the standards already defined, and to complete social studies standards for primary grades.

Source: PREAL *Informa* (October 1999).

2. Consider establishing standards for selecting candidates for teacher training, for designing training programs, and for certifying teacher competencies—and then use these standards to develop teacher evaluation programs. Teachers associations should play a key role in this process.
3. Establish a monitoring process and promote ongoing discussions regarding international and local trends in standards and assessment systems—within schools and in the labor market more broadly.

Finally, it is worth noting that in a well-integrated education system, standards and assessments go hand in hand. Standards provide an important indicator for students, parents, teachers, employers and universities,

advising each what the educational system expects; assessments provide information on how well those expectations are being met. Standards tell children what they must do to have success in school; assessments tell them whether they are making progress. Assessments also tell employers and universities whether secondary graduates really possess the knowledge and skills necessary for work or further study.

What is noteworthy is that Latin America has made important efforts to develop systems of testing and measurement, but almost no country has yet developed a system of standards. Making progress toward developing education standards is important. If you know what you are trying to achieve, it is much easier to determine whether in fact you are achieving it.

BOX 2

What Steps Lead toward Raising Educational Standards in Democratic Societies?

The following conclusions and recommendations derive from international experience:

- A good model begins with a vision of what education should be and the conviction that all students can achieve at high levels.
- Higher expectations alone can improve student performance.
- Once the idea of raising expectations has been formulated, three conditions are necessary for success: 1) clear content standards; 2) changes throughout the educational system including tests, professional development, textbooks, and technology; and 3) a commitment to support over time a reform agenda in each school.
- Changes must be systematic and include standards, assessments, and the means of coordinating the two.
- Change requires strong leadership and the determination to avoid the lowering of standards to a minimum level.
- The process of setting standards should involve the public.
- If standards are perceived as the first—rather than the last—step in educational reform, they can serve as a means of ensuring equal opportunity.
- Standards can and should accommodate different methods and styles of teaching. The idea is not to create uniform teaching practices but rather to establish challenging curricula that are equally accessible to all students.
- Attention should be paid to the transition from the classroom to the workplace. Students need to understand that what they learn in school will be useful once they enter the workforce. Employers, meanwhile, should more effectively communicate their expectations to schools.
- Universities should recognize the influence that their admission standards have upon the requirements for graduation from secondary school.
- Assessment results should bring appropriate and significant consequences.
- Governments should prepare case-specific reports that provide information on individual student performance, school drop-out rates, teacher qualifications, and school resources.

III. Educational Assessment in Latin America

The public usually wants to know whether schools are “better” or “worse” than they used to be. They also want to know which ones are the best and the worst compared with others.

But the crucial question—that should concern students, parents, teachers and employers—is whether students are learning as much today as they can or should to prepare them for a rich personal life, effective citizenship and successful participation in the labor market.

These questions can be answered with well-designed educational assessments that measure what students have learned, how well they have learned it, and why.

Assessments of educational achievement can:

- Provide educational authorities and teachers with information regarding what, and how much, children are learning.
- Determine whether specific reforms or programs are achieving the expected results, and make needed adjustments.
- Identify schools that perform extraordinarily well and the factors that explain their success, so as to comment on their achievements and enable others to emulate them.
- Identify schools that perform poorly so as to provide the support and resources necessary for improvement.
- Strengthen the relationship between curriculum, textbooks, teacher knowledge, teaching methods, and learning.
- Facilitate public discussion about educational priorities by providing systematic, empirical evidence regarding a crucial aspect of educational quality—learning—to supplement subjective impressions.

- Make possible research on the factors (school and non-school) that influence student performance, and design interventions to address learning deficiencies.
- Make education more accountable by providing objective information regarding the efficacy and efficiency of spending on education, and the quality of results.
- Promote responsibility at all levels of the educational system, including individual schools.

Diverse kinds of assessments can be designed, depending on the goals being sought and the uses to which the results will be put.

A variety of global tests have also been developed that compare skills and knowledge of students from different countries. These often stimulate participating nations to examine the structure, practices, and curriculum of their educational systems and to rethink what is taught, and how.

THE SITUATION IN LATIN AMERICA

Latin America has taken part in this trend toward greater assessment. Various countries (particularly Chile, Argentina, Mexico, Costa Rica, Colombia, and Brazil) have accumulated considerable national experience. Only a few of the region’s countries have participated in global testing programs, however. The results of both national and global tests have been generally disappointing, with test scores significantly below those expected nationally, or those of countries in North America, Europe and Asia.

During the 1990s, almost every country in Latin America established national tests to measure student learning. But few programs are firmly institutionalized and well integrated with other parts of the educational system. Many of these systems have serious deficiencies:

- Because countries have not developed clear content and performance standards, there is no obvious benchmark to guide test design and sampling. This lack of standards makes it hard to assess the validity of test results and weakens the legitimacy of the test results.
- Because a culture of accountability is largely absent, those responsible for providing education—government officials and teachers—tend to distrust or even resist assessments, while those responsible for assessments tend to resist making their results, and the methodologies used to obtain them, public.
- Many of the assessment instruments continue to emphasize basic capabilities—data retention, formal definitions, and simple problem-solving—that have little to do with real life and with the complex competencies that most modern curricula seek to develop.
- In most cases, testing instruments do not permit monitoring learning results over time.
- Most countries have neither prepared nor committed themselves to preparing a long-term plan to develop their assessment capacity, nor have they committed themselves to periodically reviewing their assessment goals.
- Latin American participation in global tests is extremely limited.

RECOMMENDATIONS

Over the next several years, as countries continue on their efforts to establish quality assessments, each should consider the following recommendations:

1. Make explicit its strategy for ensuring that assessment systems contribute to improving learning, and for generating public consensus around that strategy.
2. Define and make explicit strategies for the use and dissemination of national and local test results.
3. Make the process of test construction and analysis fully transparent, and disseminate test results broadly, carefully, and intensively.
4. Improve the technical quality of testing instruments, data analysis, and reporting results, making them compatible with goals established in advance.
5. Document and disseminate international experience in developing criteria-based tests, emphasizing the measurement of complex capacities through performance assessments, reliability, and results-reporting strategies that are understandable and useful.
6. Document the impact of existing national tests of student performance on teaching practices and on classroom evaluation.
7. Consider establishing competent private organizations to manage testing system, with supervision by a small, specialized government agency.
8. Participate regularly in international tests of student achievement, and develop strategies for using the results to improve national education systems.

IV. Teacher Training and Development

Good teaching requires good teachers, who in turn require good training, good management and good pay. Unfortunately, teachers in Latin America tend to be poorly trained, poorly managed and poorly paid, making it very hard for them to do their jobs well.

Two problems—training and incentive systems—lie at the heart of deficiencies in the quality of teaching in the region. Many countries are working hard to improve training. But few are working to improve incentive systems—which are much more controversial, and require fundamental changes in how teachers are recruited and managed.

TRAINING

Latin American teachers, on average, have less education than do their counterparts in developed countries, and the education they receive is deficient. Primary school teachers have two years less education than do their counterparts in developed countries.

Pre-service training is generally of low quality. Short training schedules and highly theoretical curriculum often sacrifice the classroom practice and subject matter preparation that make for better teachers. Programs are plagued by low prestige, poorly qualified faculty, too much emphasis on the frontal lecture approach, and too little attention to teaching techniques appropriate for disadvantaged students. (Box 1 shows how one country is trying to improve pre-service training). These deficits are compounded by the poor quality of the elementary and high school education that many—if not most—aspiring teachers receive prior to entering training programs.

As a result, many Latin American countries are turning to in-service training as a way to make up for the inadequacies of traditional pre-service teacher preparation. These programs seek to:

- Upgrade the knowledge and pedagogical skills of poorly qualified teachers.

BOX 1

Regional Teachers' Centers: Pre-service Training in Uruguay

The Uruguayan Regional Teachers' Centers Programme (CERP) is a residential teacher training program, developed by the National Administration of Public Education (ANEP). It trains middle and high school teachers in a more intensive environment than do standard programs. Students meet 40 hours per week for 35 weeks over 3 years, compared with 20 hours per week over 4-5 years in standard programs).

CERPs help promote equity by attracting more qualified trainees to outlying areas and enhance teacher dignity by demanding high standards. Administrators give particular attention to selecting high quality teacher trainers. Because the program is residential, students are immersed in the culture and challenges specific to the region in which they will be teaching.

In order to attract talented youth to the program, CERPs offer full-fellowships to nearly half their students, provide food subsidies to an additional 20%, and guarantee a teaching position to graduates. Drop-out rates, which are usually about 40-50% in traditional programs, were below 5% during first year. The CERPs appear to be attracting some students from households with higher income and education levels. Although the program requires substantial resources up front, reduced drop-out rates make it cost-effective. Per-student costs are 20 times less than those associated with the old program (de Moura Castro, 1999 cited).

Source: Navarro and Verdisco 2000. Notes from conference in Costa Rica.

- Provide specialized knowledge in subject areas where a clear shortage is diagnosed.
- Facilitate the introduction of educational reforms, curriculum innovations, new techniques or new textbooks.
- Provide an essential component for career development.

Some countries use regular schools or teacher training institutions for in-service degree programs. Others use conventional, non-degree training schemes. Others have adopted decentralized training mechanisms that involve:

- Classroom-based training, creation of teacher centers, and teacher self-help;
- Continual training and follow-up rather than one-time courses;
- Group training and peer support networks;
- Intensive use of pedagogical support and mentoring;
- Integration of training into larger frameworks of teacher career regulations and incentives; and
- Keying training to local priorities.

Unfortunately, however, most in-service programs are short, isolated from the demands of classroom and community, not well monitored for quality and relevance, and have minimal impact on improving the skills of most teachers.

BOX 2

Rio Reinventing Education/Brazil

This grant project in Brazil uses a technological network to support the professional development of teachers in biology, physics, chemistry, and mathematics—academic areas in which there is a particular lack of teachers. Following a similar professional development model at other international sites, teachers participate in hands-on training and exchange their experiences via a virtual network (<http://www.reinventando.rj.gov.br>). Through this program, hundreds of teachers in the Rio metropolitan area have already been re-trained.

BOX 3

Innovations in In-Service Teacher Training

Program for the Continuing Education of Teachers (PFPD)-Colombia

The Programa de Formación Permanente de Docentes (PFPD) in Bogota, Colombia was developed as an in-service alternative to the proliferation of short, poor quality courses for teachers. The program aims to prepare teachers to meet the daily challenges of the classroom and to participate in school management, using a practice-based, rather than abstract theoretical approach. To stress the continuous nature of in-service teacher training, PFPD training programs last a minimum of one year and teachers must enroll in a new program every 3-4 years. Teacher receive up to six “points” toward their professional credentials for successful completion of PFPD projects that have been pre-approved for quality, relevance and incorporation into a larger school improvement plan (Proyecto Educativo Institucional-PEI) by the District Training Committee. Qualified private and public institutions deliver the training, allowing for diversity in subjects and methodology.

Teacher Training Program (PLANCLAD)-Peru

Peru’s Programa de Capacitación Docente, emphasizes follow-up and support activities that extend beyond formal in-service training. In order to help reinforce lessons learned in training and to encourage their implementation in the classroom, teachers receive at least four individual classroom visits in the six months immediately following graduation. They also participate in two additional follow-up meetings with peers who teach in similar classroom environments. These follow-up activities are expected to become permanent components of the teacher education system in near future.

Sources: Navarro and Verdisco, 2000, *Preal Best Practices* on-line database (www.preal.cl); and “Teacher training in Latin America: Innovations and Trends”. Inter-American Development Bank. Washington, D.C., 2000.

Recognizing these deficits in teacher preparation, many Latin American countries have made support for teacher training programs a routine component of education reforms. Often, however, the most innovative programs are still in the pilot stages or are limited to individual schools or states. Politics, rather than need or equity, often determines where innovations will be located. And costs can be high.

INCENTIVES

Aside from teacher training, few other efforts to strengthen the teaching profession exist. Incentive structures, including teacher compensation, remain largely unchanged, and do not encourage good professional performance. Crucial reforms such as performance evaluations, keying salaries to performance, and letting principals remove mediocre teachers are almost non-existent. There are very few efforts to recognize, support, and reward superior classroom teaching.

The issues surrounding teacher salaries are controversial and complex. On the one hand,

teachers in many countries appear to earn as much or more than professionals with similar amounts of education and experience, once the length of the working day and vacations have been taken into consideration.

On the other hand, compensation systems are clearly not producing the kind of teaching excellence needed. Specifically:

- Teaching does not pay enough to attract the best and brightest candidates.
- Teacher pay fails to reward good teaching.
- Pay structures work against recruiting top quality teachers to public schools in rural or other disadvantaged areas.

Inadequate financial compensation is only part of the problem. The absence of non-monetary incentives, such as regular performance evaluations, classroom support, and professional recognition and standards also works against good teaching. Teachers are rarely involved in designing reforms but are expected to implement wholeheartedly and with minimal resources what is handed down to them.

BOX 4

Subsidized School Assessment System Secondary School Academic Excellence Awards

The Subsidized School Assessment System is a teacher incentive program that was implemented by Chile's Ministry of Education in 1996. This is a merit-based program tying wage incentives to student performance and educator excellence. In order to be eligible, schools must earn an "Excellent" rating under a biannual evaluation process. To date, some 31,000 teachers have been awarded a bonus equivalent to the average public school teacher's monthly salary for two years.

Ninety (90) percent of the award amount is set aside by the school for teacher wage incentives and is allocated per number of teaching hours. Another ten (10) percent is reserved for teachers deemed "Outstanding" according to local school standards.

Eligible schools must obtain good results under the Quality of Education Assessment System (SIMCE). Additional points are earned for successful implementation of initiatives such as teacher councils, professional development days, improvement of working conditions, and joint work with parents and teachers.

Source: Mizala, A. and Romaguera, P. "Sistemas de Incentivos en Educación y la Experiencia del SNED en Chile." Unpublished, 1999.

Teaching is not really treated as a profession, and this misconception serves as a major part of the problem. By definition, professionals are well trained and expected to apply independent judgment to their work. They must meet professional standards, or else face serious penalties. If

policymakers were to hire adequately qualified teachers and treat them as professionals, there would be less need to supervise their job performance. Governments would also waste fewer resources trying to compensate for teaching deficiencies.

V. The Technological Revolution and Education

Globalization and new information and communication technologies (NICT) are transforming and significantly altering the context in which education functions. Change is greatest along the following five dimensions:

ACCESS TO INFORMATION

Although information has traditionally been scarce and hard to get, it has now become plentiful and readily available. The World Wide Web, for example, grows by some seven million web pages each day. Internet access, although still concentrated in the northern hemisphere, is expanding steadily and should reach 1 billion individuals worldwide—and 50 million in Latin America—within the next five years. As a result, the question of where to find information is giving way to two other questions: 1) how to provide access to all, and 2) how to select, evaluate, interpret, classify and use the information available.

THE USES OF KNOWLEDGE

Knowledge is no longer slow, scarce and stable. On the contrary, it grows and changes by leaps and bounds, and is daily becoming more important to economic and social activity. According to current estimates knowledge (discipline-based, published, internationally-recognized) doubles every five years, and by the year 2020 will double every 73 days. This represents a fundamental transformation. The idea of a uniform, inclusive curriculum, and of a basic intelligence common to all, no longer makes sense. In their place new questions arise about what should be taught, how curricula should adapt to changes in knowledge, how to build

permanent change into the school setting, and how to address the growing specialization of knowledge.

THE USE OF NEW TECHNOLOGIES IN EDUCATION

We are shifting from low-tech education to high-tech. Schools will have to adapt to this change, just as businesses, universities, governments and homes have done. Learning technologies are moving from analog to digital, from frontal transmission to interactive communication, and from exogenous control of the education process to student participation and control. A new kind of school—open to the world and connected to multiple networks—is emerging, just as linear text is giving way to hypertext. These changes raise important questions. Can traditional school and teaching roles remain unchanged? What teaching methods should we adopt and develop? How should governments and families respond to the globalization of education? How will schools adapt to a multi-channel world where children spend more time watching television than doing homework, and more energy on peers than on teachers? How can schools teach children to select and differentiate information? Are schools up to the challenge, or will they be buried under these changes? How will schools distinguish noise from useful information and help children learn to learn?

LABOR MARKETS

The workplace is undergoing profound change in its content and distribution across economic sectors. For example:

- Jobs in the service sector, where communication skills are a key requirement, are growing;
- Jobs require a growing amount of education and reward it with greater earnings, widening the gap between those who have different amounts of education;
- A growing number of jobs require people who can read and understand technical information, and use computers; and
- Individuals now need to train for careers that will change radically over time.

These changes in labor markets increase the importance of developing creativity, initiative, and flexibility; training students' multiple intelligence to solve the ambiguous, changing problems posed by the world of work; instilling the ability to work as a team and to communicate in increasingly technical workplaces; ensuring that all students learn to read, use computers, and master the English language; and ensuring that all can recognize and tolerate diversity.

Education cannot remain separate from the workplace. Nor can the workplace avoid learning and teaching. The society of learning is on the horizon. Yet we don't know when will it arrive and how it will affect the models of schooling we have inherited from the Industrial Revolution. Will it reach everyone, or just the advanced countries? Will it help narrow or broaden the invisible chasm of knowledge and skills that separates people and nations?

DAILY LIFE

We live in uncertain times. Instead of moral integration, we face ambiguity. Schools are being asked to assume new roles at a moment when the traditional social order has weakened. Crucial questions arise: How should education respond to changes in family structure? How do we confront a pluralistic culture where different values command the loyalty of different groups and individuals? How can education mitigate the effects of uncertainty, such as

drug use and youth crime? How can it help develop a democratic culture? Over time, science may provide answers to these issues. But education cannot wait.

Adaption Strategies

In responding to these changes, education—particularly in developed countries—is following three basic strategies:

1. LIFELONG LEARNING FOR ALL (LLA)

LLA is principally a response to major changes that have taken place in labor markets, knowledge and information. It is not only a strategy to expand the coverage and length of training, but also a new vision of education that will prompt a fundamental reorganization of schools and education processes. The leading implications of LLA include:

- Greater reliance on elementary and secondary education for providing the fundamental capacity for lifelong learning.
- Schooling that maintains its public character but is complemented by private and mixed-management institutions.
- Promoting widely the idea that “learning to learn” is crucial to success.
- A growing concern for under-performing schools, as well as for students from poorer homes or with special needs (minorities, the disabled, etc.).
- An emphasis on having all students complete secondary education as a minimum prerequisite for employment or further study.
- A growing emphasis on combining discipline-based education with hands-on training, community work, etc.
- Greater alternatives for individuals who seek to make career decisions at the post-secondary level.

- Growing demand for education throughout life that is not exclusively centered on jobs but also addresses personal needs.
- Universal post-secondary education along with expanded technical and vocational training options.
- An increasingly diversified market for post-secondary education.

2. DISTANCE LEARNING AND DISTRIBUTED EDUCATION

Distance learning and distributed education—made possible by network technology—represent the most important medium-term means for providing lifelong learning. NICTs make it possible to organize the teaching and learning process under the “anytime, anywhere, for anyone” principle. The rapid introduction of these technologies will be facilitated by declining cost and the growing power of technology and Internet access. Experts agree that new technologies will:

- Provide access and information that support learning processes (specialized web-sites and gateways, interactive CD-ROMs, hypermedia, electronic books, etc.).
- Facilitate collaborative, interactive, distributed learning (asynchronous and synchronous conferencing, distance learning, formation of learning communities and knowledge networks).
- Facilitate the presentation of complex events for analysis and manipulation (visualization instruments such as maps, graphic representation of large amounts of data, and model-based manipulation and simulation SimCity-style, etc.).

- Help identify substandard student performance through cognitive audit trails, and provide “smart” tutorial support to improve performance in specific areas. (Within 5 to 7 years: semi-intelligent computer agents installed in applications to support user-defined actions; within 7 to 10 years: “consciousness sensors” that use biofeedback to monitoring student activity).

3. TOWARD THE INSTITUTIONALIZATION OF NETWORKS

Developing lifelong learning and taking full advantage of NICRT will require an educational system that is different from the one we currently have—which is based on several centuries of centralism, bureaucratic control, top-down management, compartmentalized architecture, and exclusively public funding. A networked approach means exactly the opposite: open structures with boundaries that are change rather than being fixed; multiple connections and means of communication between units; intertwined, non-linear hierarchies; decentralization, flexibility and autonomy of base organizations and programs; and coordination provided more by the market than by government, and more through accreditation and assessment mechanisms than through direct control. The key elements of this approach are autonomy, diversity, and connection. Each school will be a self-governing microcosm with its own identity, and connected more closely to local communities. Responsibility for student performance will fall upon those who “produce” education, and teachers will be paid according to their performance.

Viewpoints

Educating for the Future: The Necessary Involvement of Teachers

Fernando Léniz

Recent results obtained by Chilean students under both the national Quality of Education Assessment System (SIMCE) and the Third International Mathematics and Science Study (TIMSS) are making some Chileans anxious about the state of their education system. Some have even concluded—wrongly—that education reform efforts underway are poorly focused and going in the wrong direction. While reform contents and methods can always be improved upon as well as assiduously debated—which I certainly hope is the case—I remain convinced that, overall, the reform is well-focused and in good hands. Having said that, it remains inadequate on a crucial issue: teacher involvement and school participation.

Education reform will simply not work without the enthusiastic participation of a vast majority of teachers—80 percent of them, at the very least. It's just not enough for a handful of highly committed, heroic teachers to become deeply and creatively involved in making reform a reality. For this major undertaking to succeed and its benefits to truly extend to all children—most notably the poor—the numbers of committed teachers must be such that the reluctant few have no choice but to join in or leave the system altogether.

Yet to spark such enthusiasm, we must first break out of the vicious circle that says no further funding should be given to a system where virtual job tenure makes teachers impervious to incentive schemes, and where on the other side are Teachers' Associations that fight tooth and nail for job security to compensate for low wages.

Experience shows that human beings do react to incentives and motivation, provided they are within a certain minimum range.

A change of attitude on the part of the teaching profession is a prerequisite for education reform to succeed. This means accepting responsibility for leadership positions as well as learning to manage meager resources, living with performance review systems, and managing and participating in continuing retraining and skills acquisition programs.

Yet a Chilean teacher earning on the order of US\$500 per month after five years of university training and ten years on the job can hardly be expected to accept responsibility, take risks, take time off for further training and skills acquisition, and deal with all the hassles and issues brought on by reform—all for a mere 10% wage raise in real terms (which is highly significant in macroeconomic terms).

Thus in the absence of a significant wage incentive it may be impossible to bring about the required attitudinal change. By significant I mean a chance for the US\$500 wage to grow rapidly—rather than over the period of a year—to US\$1,000 or US\$1,200 per month.

Absent such a basic salary incentive we cannot expect teacher associations to become more flexible, much less stimulate renewed interest among young people in joining the profession.

The cost of such a crucial wage increase is obviously high, and will have to be borne by the state. Critics of such initiatives argue that the economy could not possibly resist the inflationary pressures such an increase in fiscal spending—on the order of US\$2 billion a year—would create, and that government just doesn't have the money in the first place.

First, this fiscal spending—fiscal investment, in actual fact—would not happen in one fell swoop. Rather, it would be phased in as schools become proven, efficient participants in education reform. Second, there is hardly a more profitable investment than educating young people—significantly more so than government investment in oil, copper mining, television networks or other such areas. If after selling off government assets in these sectors additional resources should still be needed, there is no better argument for raising taxes.

I shudder to imagine Chile 20 years down the road should we fail to implement education reform now. The adult population would be less educated—at least in relative terms—and more frustrated than the current generation by their inability to understand the world of the year 2020, let alone successfully compete in it. Unless an efficient education reform is applied now, proclaiming that Chile will have joined the developed world by the time its bicentennial rolls around will only raise false expectations today and guarantee frustration tomorrow.

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The Business Commitment to Education

Nicanor Restrepo

For the business community in Latin America, supporting education is not just important—it's indispensable. Supporting education is mandatory if we want to improve living conditions and ensure competitiveness. Education is a necessary vehicle for fair, equitable national development.

Competition among nations now extends into the realm of knowledge, making the gap between developing countries and industrialized regions deeper and more dramatic. For developing countries, moving ahead is becoming increasingly difficult. Staying competitive requires ever more effort and time.

Business involvement in education should extend beyond simply the financial support it might provide to government and public schools. Business should become directly involved in education quality and planning, contributing its human resources, knowledge, experience and technology.

Our countries need to strengthen primary education—and especially public primary education—so as to guarantee the great majority of the school-age population access to primary education, and to primary education that is of good quality. Top priority should be given to making public education the best—most widely available—option. Private education should only be an alternative for those who want their children to receive specialized or religious training and can pay for these benefits.

In addition to teaching science, math, arts, language and literature—universal components of a classic curriculum—primary education should also focus on the comprehensive development of

individuals as biological, psychological, social and historical beings. It should also help develop a critical, investigative spirit—which is essential for producing competent citizens.

We must all recognize that the critical issue is primary education. We business leaders sometimes forget this key point. When business wants to support education it tends to head for higher education (universities, technical schools), for the simple reason that these institutions are its direct providers of highly trained personnel. We need to realize that the quality of the knowledge our workforce possesses depends, to a large extent, on the quality of the primary education they have received—that insofar as most people have a good basic education, they will be able to enroll more easily and in greater numbers in universities. Quality primary education has been shown to provide better decision-making tools, increase worker flexibility, and improve the ability to learn on the job¹. In order for any education system to function well, the base must be firm, deep, extensive, and of good quality.

Increasingly, the demand for competency and skills in business is linked to knowledge. We business leaders must commit ourselves to establishing an education system with the necessary quality to enable us to compete on an equal footing with industrialized nations.

It is an accepted premise that quality education contributes to economic development, social equality, and democracy. No country has achieved significant economic progress without expanding and improving primary education. Some studies have concluded that up to 40 percent of the growth differential between East Asia and Latin America can be attributed to education. The leading factor behind such differences is the expansion of high quality primary education throughout this part of Asia².

The commitment to and participation of business leaders in improving basic education in our countries is not only a social responsibility to the community but also a matter of vital interest for improving and guaranteeing business competitiveness.

Business should contribute much more than economic resources in order to solve problems in education. The specialized knowledge of firms with regard to administration, finance, and technology would be an invaluable contribution to the modernization and betterment of school management.

Educating teachers so as to expand their knowledge and increase their teaching capacity is critically important to improving education. Private companies can do a great deal by supporting teachers in such areas as information technology and other sciences that are generally dominated by business and unfamiliar to teachers.

Firms can also finance, lead, and support pilot programs in primary education that, if implemented on a large scale, could have an enormous impact on the education system.

Another possibility is to take advantage of the relationships already established between private companies and higher education institutions to improve the quality of teachers and of basic education in general. An interesting example is University Student Social Service,³ an initiative

¹ *The Future at Stake*. PREAL's International Task Force on Education, Equity, and Economic Competitiveness, April 1988, p. 10.

² *Ibid.*

³ Antioquia Center for Science and Technology. **La Universidad y la Escuela Aprender Enseñando**, Reflexiones desde la experiencia del Servicio Social Educativo Universitario—sSSEU, Medellín, Colombia, December 2000.

designed and directed by the Antioquian Center for Science and Technology in Medellín, Colombia with technical and pedagogical support from local universities and private firms. In this program, top university students work with public primary schoolteachers and administrators to improve the science and computer learning environment at the primary level, based on innovative educational methods developed by university researchers.

Among other things, the program seeks to:

- Promote communication among the different sectors that comprise the education community—higher education and primary education in this case—in order to improve the flow and dissemination of knowledge, establishing new ties between universities and schools.
- Link theory and practice, with elementary schools representing the theoretical side, and business and technical schools embodying the practical and the application side.
- Commit socially the university, future professionals, and private business to improving the quality of primary education in the region.
- Enable students and teachers of participating institutions to explore, discover and create new and productive ways of teaching and learning.

Another interesting Colombian initiative is 21st Century Leaders, to which the private sector has given much more than economic support⁴. In this program, noted business leaders work directly with schools and make their expertise and that of their companies available to help implement quality improvement programs.

But perhaps the greatest contribution that Latin American business leaders can make to improving education is to support governments, politicians and officials committed to the immense and monumental task of modernizing and optimizing the education system in each country. We should meet with them, help them and, insofar as possible, give them the support they need. Business leaders can also play a role in convening unions and business associations to consider working to improve education. These responsibilities are incumbent upon each and every business leader, regardless of company size or financial condition. If we are to increase the competitiveness of our firms, promote economic growth and social equity, and strengthen democracy in our countries, we must all do our part to improve primary education in Latin America.

Nicanor Restrepo is president of Suramericana de Inversiones S.A. in Colombia.

⁴Manrique de Llinas, Hortensia. **Líderes Siglo XXI/Foro de Presidentes**. In: *Socios para el Progreso, La Educación y el Sector Privado en América Latina y el Caribe*, a project of the Chairman's International Advisory Council of the Americas Society with Inter-American Dialogue and the Latin American Business Council (CEAL). Jeffrey M. Puryear, ed., January 1996, pp. 34-36.

Reforms that Don't Reform

León Trahtemberg

International indicators state that the education gap between Latin America and the industrialized world stands at 20 to 50 years. If we accept this, then we must wonder whether the gap can in fact be narrowed by the reforms attempted thus far. **Not one “successful” education reform implemented in Latin America has brought student performance any closer to world-class standards. We wonder now if those reforms were on the right track, and whether the goal can ever be reached.** In my opinion, reform efforts failed to go far because they pointlessly attempted to imitate the reforms implemented by Asians and Europeans. Most Latin American students have a number of built-in handicaps to cope with: education budgets are less than 10% of industrialized country counterparts, teachers have social and cultural background that place them among the lower third of the population, and management systems are highly centralized, bureaucratic, and rigid. Under such conditions, narrowing the gap is all but impossible.

If conventional prescriptions are not viable in Latin America, can we reinvent them? The only way to do this is to reconfigure the system by reviewing the factors that most affect student learning, and hope that this helps overcome weaknesses and shortcomings. Some of the critical issues facing educational systems in the region are discussed below.

1) Teachers as Clients

Although the system was created to serve students, most administrative and legal strategies are oriented toward serving teachers. The conventional wisdom is that young people who wish to become teachers should first get a degree and then practice the profession for the rest of their lives. This would not be so if we stop to think about what's best for our children. How do primary students taught by 30-year-olds who relate to them like their parents compare with other students taught by out-of-date, often burned-out 50-year-olds who relate to them like their grandparents? Secondary school children would do better if taught by inspiring engineering, biology or psychology students who could be role models and promoters of better learning habits if allowed to teach school. Perhaps it's time to think about institutionalizing a blend of “career” and “temporary” teachers.

2) Primary Education as the Heart of the System

When does primary education start? Normally, in Grade 1. Some throw in an extra year of initial education. But to those who think of children in terms of their growth and development, this is absurd. Every piece of health, psychological, nutritional, and sociological research available shows that the first five years in the life of an individual are crucial for shaping his/her personality as well as all subsequent physical and mental development (which in fact begins during pregnancy). Yet we allow children to fend for themselves through the first five or six years of life, then we take them to school and expect them to perform the same as Swiss, Japanese or French students who enter school with a significantly better grounding. This is madness. From the point of view of return on investment, it would make much more sense for the 11 or 12 years of free schooling offered by most states to begin at birth, with sequential programs and curricula that have covered most of the ground by the time a 6-year-old enters Grade 1.

3) The Monopoly of Intellect Clashes with the Challenge of Self-Esteem

One of the leading issues in today's schools are the children who underperform—not because they have less intellectual ability, but because of their apathy and lack of motivation, affection,

and a sense of belonging. All polls reviewing the larger issues faced by young people mention unemployment and lack of future prospects; loneliness and depression; lack of a life plan, goals, ideals and values; social violence and promiscuity, and alcohol, tobacco and drug use. These issues go increasingly unattended due to the lack of fluid, constructive bonds between them and parents and teachers. How do schools deal with that? Instead of facing these social and personal challenges with the support of teachers, counselors and psychologists, they remain doggedly focused on the three R's. They behave as if Gardner's Multiple Intelligence Theory, Goleman's Emotional Intelligence Theory and creativity research over the past decade did not exist.

4) The Promise of Technology

Advocates of technology-based education claim that all students will be able to learn at their own pace and according to their own age level and interests. Students will be able to log on and take the best course with the best instructor and work both individually and as part of a group. School curricula will be modular and diversified, and subject matter will be cross-integrated and interdisciplinary. There will be fewer subjects covered in more detail in order to "teach how to think". Barriers dividing schools, homes, businesses, recreation centers, research institutes and databases will disappear. What will it take to achieve all this? All distance, virtual learning (i.e., with no teachers present) requires motivated students capable of independent work. But most students are not like that, and if left to their own devices, many will use their computers to play games. Teachers, on the other hand, will have to be pretty nimble computer users. In contrast to their students, they weren't born with computers and are often less able users than their charges. They will have to take time to do teamwork, retrain, log on, monitor developments, provide feedback—at quadruple the time investment required by more conventional methods. They will also have to move from single-discipline evaluation to multidisciplinary review as members of specialist teams working collectively to prepare subjects, teach class, and evaluate performance. How will they deal with all of this and with their often decisive extracurricular role as personal, group, and social mentors? Where are you going to find principals capable of rallying the entire school behind meeting the administrative, curricular and teaching requirements demanded by technology? We still do not have answers to these questions.

5) Marketing Over Research

Meanwhile, scarce resources will continue to be squandered on buying the latest craze without much input from education research. Such research is often slow and outdated, which in times of rapid technological innovation leaves researchers and educators simply out of the game. Technological products will remain popular as a result of good marketing rather than thorough assessment of educational benefits and limitations. We know that many people—parents and schools included—first buy computers and then try to figure out what to do with them, often staying at the basic user level.

Conclusion

It may be inevitable that social exclusion and the education-equity gap in Latin America will continue to grow apace with economic hardship, which will effectively prevent most of the region from making significant education spending inroads. The teaching profession may continue to deteriorate, which will limit the economic and cultural background of aspiring teachers, as well as their chances for becoming key players in promoting better education and new technology. This will compromise student achievement and performance potential. Most previous reforms have dissociated administrative from educational needs and have honed in on the latest method, manual, book, benchmark or other reform paradigm. A major contradiction has ensued: reforms

that seek to introduce a participatory, active, thoughtful, creative education model leave teachers out of the process of formulating the reform in the first place.

If we fail to act we will repeat the mistakes of the past. In the 1990s governments gave students textbooks and trained teachers to teach how to think based on constructivist principles. In actual practice, students continued to learn by rote. In the coming decade, students and teachers will continue to get computers in hopes that technology will change education. The result may very well be perfunctory instruction in computer and Internet use, the way any other conventional subject is taught. This may familiarize students with the technology, but will not teach them to think or to take full advantage of it.

Bureaucratic, benchmark-centered reforms are not very creative and do not encourage creativity or quick, innovative problem solving in schools. In addition, the habit of imitating others, the—“if it’s foreign it’s better” or “the solution will come from abroad” way of thinking—has produced an inferiority complex of sorts among many Latin Americans. Most of them don’t think they can do things better, faster, and cheaper than developed countries. **Latin America must give itself a chance to deploy its own educational skills in order to find out what works and what doesn’t, and to identify the associated cost and time requirements.** This will require encouraging multiple, diverse new experiences in a wide range of schools—which application of system-wide standards might otherwise prevent—so that the entire region becomes a living laboratory where local ideas and experiences are tested and the most successful selected for replication with government support. Lastly, the institutions that make up the system require further freedom. Schools must be given autonomy and incentives to resolve their own problems the best way they know how. Then we’ll judge the results.

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Technology’s Role in Basic Education Reform

Robert A. Spielvogel

There are a number of pilot programs and innovations throughout the Latin American region now using information and communications technologies (ICT). Some are isolated programs and others are the first stages of broader plans to build capacity as part of a comprehensive strategy. These projects build on a strong history of using various forms of technology such as television, radio, videocassettes and computers to address some of the chronic education needs within the region.

At the same time, public interest in obtaining and using technology within schools is strong. For countries in the region, it is no longer a question of whether ICT should be introduced into public educational programs but rather how such efforts might be financed and where to begin. The challenge facing education policy makers at all levels is how to temper this widespread enthusiasm for technology with a practical understanding of where and how to apply resources and energy for maximum benefit, especially given the inevitable situation that resources will always be less than optimal.

First, it is becoming clear that technology alone rarely brings about substantial changes in schools. In order to be successful, the introduction of technologies must be accompanied by a num-

ber of other significant changes—for example, a willingness to try new forms of pedagogy, a commitment to changing curriculum, or the participation in extended teacher professional development. While technologies can be used as catalysts or levers, they are not the sole mechanism for educational improvement or even the primary factor in many areas.

Second, while technologies are not the entire solution, they can serve as a critical component whose presence in a comprehensive program of education improvement is vital—perhaps even necessary—to make significant progress. Part of this capacity lies in the inherent ability of technologies to perform educational functions that would otherwise be cost prohibitive without the added efficiencies offered by these technologies. An example of this is the capacity made possible by distance learning—via radio or through more recent hybrids of television and the Internet or other technologies—to bring educational programs to rural populations. In other cases, entirely new forms of learning without precedent in traditional schooling are now possible. Young students might be engaged, for example, in analyzing data sets or satellite imagery delivered via CD-ROM or the Internet when just a few years ago such sophisticated learning could only be found at the most advanced graduate school levels.

Part of what technologies can contribute comes in a less tangible form but is equally powerful. There is willingness among many stakeholders involved in the complex and seemingly insurmountable problems of education in the region to try solutions that involve technology, while other reform efforts that do not have technology involved remain deadlocked in debates among individuals with fixed, entrenched positions. People accept that the introduction of technology requires some change and will proceed with experimentation at least on some level. This is not to say that one does not encounter considerable anxiety about technology and the new learning requirements it imposes on all levels of the educational system. Rather, there is interest on the part of enough participants—be they teachers, administrators, students, or members of the community—in utilizing technology in such a way that new opportunities for change become possible.

How can this opportunity be used to support basic education reform in the region?

The single most important action is to align technology investments with explicit goals for achieving improved performance in teaching and learning. For some countries this means taking a more strategic view in sponsoring test programs and pilots. Instead of isolated trials driven by serendipitous opportunities, experimentation should be used to contribute to a more comprehensive planning process. This requires active consideration of what can be learned from such investments within a well-articulated framework of education improvement and can be accomplished regardless of the project's source of funding or management.

For other countries, which are at the point of implementing more systemic programs of technology-introduction into schools, direct management is required to ensure that these efforts are not ends unto themselves. Indeed, technology should not be added to schools as a new area or new curriculum but should instead be incorporated as one aspect of a larger reform program. Technologies need to be introduced within a general context of change that extends to various aspects of teaching and learning and has as its goal very explicit educational outcomes.

In either case, the strategy in moving ahead with technology investments must be within a coherent plan for educational improvement. It is imperative to remember that the benefits derived from these tools are not inherent in the tools themselves but rather in how they are used.

There are three areas in which technology can facilitate educational improvement:

1. Changes in Student Learning Outcomes

This is obviously the most critical area and the one that all other efforts should ultimately target. In the near term, most efforts should focus on targeted areas of student achievement that are part of a broader initiative to improve performance. Experimentation should help identify and validate techniques and programs that are effective in situations where the ratio of students to computers and other technology-based learning aids is high. This is a key point since technology can have immediate contributions even while longer-term efforts to build more universal access to technology in schools are started. While the situation is being improved by rapidly declining costs and better technologies, it doesn't make sense to wait to begin systemic efforts to build infrastructure and, most importantly, the human capacity in the system to work with technology.

It is important to focus the use of technologies on core curriculum areas to ensure that they serve the greatest possible range of educational needs. There is a temptation to make technology and its use a curriculum subject on to itself. This segmentation reduces concentration on technology's role in basic education reform and it allows most of the educational enterprise to ignore technology, thinking about how to harness the attributes of technology to improve their work. In order for it to have direct impact on education, technology's introduction to schooling cannot be additive—as something new and distinct from what is going on now in schools. Rather it needs to be introduced directly into curriculum areas whenever possible. Therefore, regional experimentation should have as its dominant purpose the production of models for this type of infusion.

Having stated the primary need to center technology use within existing curriculum areas, it should be acknowledged there are two additional areas that technology use needs to address. First, students must be given the opportunity to develop technical skills critical to ICT. There are several compelling reasons for this:

- a) Schools themselves will ultimately have to rely on students to help build and operate the technical infrastructure that will emerge in educational systems. Even the wealthiest school systems in Europe and North America have found it necessary to cultivate their own capacity to provide support and maintenance of increasingly complex infrastructures required by ICT.
- b) ICT skills are in extremely high demand within the communities and businesses surrounding the schools. The foundations for these skills needs to be established as part of a system-wide plan that acknowledges the continuity between programs of higher education and vocational education in technical fields and preparatory experiences for those skills in K-12 programs of study.
- c) For a growing percentage of students, the increased need in society for those with ICT skills presents a considerable economic opportunity not previously available.

Second, while preparation for technically oriented opportunities at the higher education and vocational levels might be relevant to only a percentage of students, it is arguable that all students must be equipped with a basic technological literacy. Indeed it is this sense that today's students need to be able to use information and communications tools in the future that underlies the popular pressure to bring technology into schools. The specific skills associated with

using a particular software application or computer tool will change as those applications and tools evolve. While these skills need to be mastered in order to use what's available now, they are not so important educationally and should not become ends onto themselves.

While both of these additional areas are important, the challenge for schools is how to introduce programs that address these needs without having them become the dominant use of technology and overlooking the far more crucial role as a agent of change in basic education. The ideal program would introduce these skills as a secondary component of a program that concentrates on building higher student performance within a basic discipline. In this sense, the higher order skills associated with technical literacy, such as the ability to read, interpret, research, and communicate effectively, are also the higher level skills associated with improved performance in core areas of reading, mathematics, and the sciences.

2. Teacher Professional Development

This area is one in which technologies can have a profound and more immediate impact. This is true both in the preparation of new teachers and in the continual training of professionals already working in schools. In educational systems, it can provide cost-effective ways to provide support services and learning opportunities directly to teachers in their classrooms and schools. For teachers, technologies like the Internet can serve to eliminate the professional isolation that has been the hallmark of teaching. There are numerous examples within the region and from around the world in which technologies have helped develop a new professionalism that has tangible benefits for both the educational institutions and for teachers as individuals.

3. Educational Administration

The very real and pragmatic benefits that technology can bring with respect to efficient organization within educational institutions are often not taken into consideration when considering technology's impact on teaching and learning. Yet it is in this area that significant gains can be made since the needed solutions are so similar to those already being realized in other sectors. This is also an area in which expertise from other sectors can often be used directly. The goal here is to make improvements in cost effectiveness and to provide better information for decision-making.

As efforts and experiments proceed in the region, specific and realistic indicators of change and benefit in these three areas need to be articulated. Projects within countries need to keep the goal of producing evidence of impact in these three categories in the forefront throughout the planning and implementation stages. At the regional level, there is a need to communicate works in progress involving technology in education and to focus on sharing results in these outcome areas so that knowledge of what works under what conditions can be gleaned.

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*The Teaching Profession: Beyond Training**

Juan Carlos Navarro

Suppose one hires a human resource management consultant and asks them to take a look at the way the teaching profession functions in a large ministry of education in a developing country. The consultant's report would probably conclude, after a thorough review of the rules and practices that govern the teaching profession, the following:

- New entrants to the profession come largely from the ranks of the less qualified secondary education graduates. As a matter of fact, for a substantial majority, teaching is not their preferred career choice, and they tend to think that their abilities do not match particularly well the tasks and skills characteristic of the profession.
- With a few exceptions, they enter post-secondary programs of poor quality and often with no admission standards at all.
- The process is not selective in recruiting teachers. No certification system is in place and the recruiting process is plagued with lack of transparency and extensive application of non-professional criteria—including political patronage.
- Once teachers are hired, there is no way for administrators either to fire notoriously poor performers or to reward outstanding service. Teachers are never evaluated, and they advance only by seniority.
- Teachers work with little human or material support.
- Teachers enjoy an early and relatively generous retirement, yet it is not clear that their particular pension scheme is financially sustainable for the government in the near future.
- Those who are most qualified tend to become frustrated and abandon the profession early in their careers.

Indeed, a survey of teachers' opinions has shown that they suffer from poor motivation, many work at second jobs in order to make a decent living, and they feel under-appreciated and swamped in paperwork unrelated to their teaching activities. Although they declare in principle a considerable degree of commitment to the profession and the children they serve, they very much dislike the environment they work in on a daily basis, probably for very good reasons. Any consultant would note too that teacher unions have extensive control of critical human resource decisions in Latin American ministries of education, to such a degree that administrators have only very limited influence regarding decisions such as who teaches, where, to whom, and how. In conclusion, the education system is doing a poor job of attracting the right people due to a combination of poor salaries, low professional standards, few opportunities for career development, deficient training, and a lack of in-service support.

Common Situation

With regard to a situation like this, there is little surprise that learning in many school systems in developing countries leaves much to be desired. True, several of the characteristics singled out by the consultant could no doubt also be found in the education systems in developed countries. What is distinctive about the teaching profession in developing countries, however, is not the

presence of these characteristics, but the lack of mechanisms that would allow educational institutions to remedy the situation created by all of the factors mentioned above. Strong and professional school principals are extremely scarce. Vocal and demanding parent associations or surrounding communities are the exception rather than the rule, and the institutional arrangement that could give them a real influence in school affairs is even more exceptional. Public information about the performance of the system is non-existent or poorly collected and disseminated. Effective pedagogical support is absent, and strong training institutions are rare. Basic resources, materials, and infrastructure are highly deficient.

How did the ministries of education manage to get into a situation like this? A consultant's survey might raise this question but would not provide answers other than to assert that there is much work to be done if countries want to ensure that their teacher forces are productive, motivated, qualified, and up to the task of providing good quality education. Where does one start?

Organizing the Task Ahead

If the above description of the current condition of the teaching profession is accurate, bettering education through the improvement of teaching is a daunting task. Dealing with teacher issues entails facing some of the most difficult problems involved in governments and societies alike. Such issues are politically and ideologically charged; their financial implications—in almost any scenario—are huge; and technical definition has for the most part remained weak, loose, and anything but convincingly conceptualized.

As a matter of fact, policy interventions aimed directly at influencing teacher careers and quality, with the exception of training, constitute a relatively underdeveloped aspect of education administration. Indeed, many education projects and policies can be read as deliberate attempts to fix a long list of problems in education systems—from issues of infrastructure to information technology—with the exclusion of those themes dealing directly with the way teachers work and behave within the system. Important reforms in several developing countries explicitly seek to improve the quality of the teaching force through interventions promoting parental involvement in the schools, assessment testing, or better school management. It is hoped that accountability will be enhanced, stakeholders will be mobilized and the day to day functioning of the education institutions will be made more responsive and efficient. Yet, more often than not, administrators avoid tackling head-on the distorted rules and practices governing who becomes a teacher and how, ways of assessing that teacher's performance, and a system of reward or sanctions based on such evaluations. All of these elements are critical to the quality of education delivered.

Training—the most common and uncontroversial policy aimed at dealing with the quality of teaching—has produced relatively little impact in most developing countries, particularly in light of the substantial investments made. Fortunately, there is now a widespread understanding of the problems of conventional teacher training practices, and plenty of innovations flourish in this field. An unbalanced focus, however, on the potential for improvement in teacher quality through training practices alone leaves considerable incentive and management issues untouched.

Teacher-Related Policies

Clearly, a multi-pronged approach is needed. One way to start is by organizing teacher-related policies into two sub-groups aimed at influencing a corresponding pair of general and mutually reinforcing objectives:

- The first group would contemplate actions directed at improving the composition of the future teaching force. It involves establishing stronger and radically reorganized pre-service training programs, setting up transparent and highly professional selection processes, putting in place certification mechanisms, and making the teacher career attractive through better salaries, clearly structured opportunities for advancement, and explicit recognition of achievement.

- The second group would include actions directed at enhancing the qualifications and performance of the existing teaching force. Aside from improving pre-service training programs or implementing any of the other long-term measures mentioned above, countries must continue to work with teachers once they have entered the system; this includes re-training and updating the skills of current teachers. Actions should include revamped in-service training programs, evaluation of teacher performance, definition of standards for good teaching, performance incentives, and adequate pedagogical support provided on a continuous basis along with better management at the school level. All of this requires improving the recruiting and training of school principals.

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*This document represents the personal views of Juan Carlos Navarro and does not represent the position of the Inter-American Development Bank.

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Education: An Investment in the Global Community

Donn B. Atkins

There are a host of reasons for the private sector to pay attention to public education. Some businesses have immediate needs to hire skilled entry-level employees. Others are anxious to attract experienced staff to work in a new community—staff who will care and ask about the schools their children would attend if they moved. And many are seeking new markets that are fueled by the purchases of better-educated consumers.

At IBM, we recognize that all of these issues plus others are important. To be sure, IBM must have a highly skilled workforce in order to remain successful in an increasingly competitive and global marketplace. We also must have a well-educated base of customers who ultimately create demand for our products and services.

But we also recognize that no company can succeed if it is part of an unsuccessful community, and no community can be successful if it lacks an educated population. Our business depends upon strong communities—communities with a solid civic foundation and a vibrant citizenry. In the long term, it is not only a matter of having young people who are trained for specific jobs in our industry but rather ensuring that they are prepared to participate completely in the global society and to reach their full potential both at home and in the workplace.

In order to realize this, our schools must serve ALL children, from every community and from

every background, regardless of their challenges and needs and respectful of their unique gifts and talents. In the current global economy, our community now consists of the entire world and all its children.

This is a goal we share with every parent and every public official yet it sometimes seems much too distant. As a business, we have a pragmatic view on how to approach a challenge of such breadth and complexity. The first step is to establish *high academic standards* so that everyone is absolutely clear on the goals and objectives for all students. Second, *assessments* must follow, not as a punitive measure, but as a diagnostic step to assure that no school or child is left behind. Third, *benchmarking*—still rare in education—should become standard procedure. It is a common practice in the business world, where competition and efficiency require companies to identify the most effective methods to be shared and replicated. And finally, ongoing *public accountability* will ensure that the first three measures are performed equitably and rigorously to reform and improve schools. Effective accountability systems include rewards and sanctions that are implemented fairly in a way that drive continuous improvement.

Standards-based reform is sometimes misunderstood because it is not viewed in its entirety. As with any other successful process, it is essential that all of the components be in place. For example, without intervention to help students and schools improve their standings, even the most effective assessments are of little purpose. Benchmarking that does not lead to technical assistance and broad dissemination of best practices becomes wasted effort. And academic standards, absent teaching and learning improvements, can be an empty promise.

Businesses have a tremendous stake in the success of public education, and thus we have a responsibility to be involved as true partners. This involvement begins with time and attention—time to understand the unique needs of schools and educators. It requires that businesses use their public stature and relationships to bring visibility, attention to, and action on this important issue. Businesses also must work collaboratively with government and education institutions to understand how best to apply private sector approaches appropriately and effectively. Finally, businesses must invest their resources and expertise, encouraging employee volunteerism and finding opportunities to support schools.

There is no magic bullet to improve public education. But there are ways to make a difference and to accelerate change. Deliberate and active private-public collaboration is the best first step to enrich each and every community and enable all young people to achieve success. The cost of doing nothing or even too little is a price we cannot afford to pay.

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How Technology Can Help Broaden Education

Rafael Rangel

The present times are shaped by science and technology and by the greater importance of knowledge and information to the growth of all businesses and institutions in an increasingly competitive world. In such a context, education takes on paramount importance as the pillar of efforts to create human capital and generate wealth.

A nation's strength lies in the quality of education it provides its people. Education is the key to acquiring knowledge, the skills required to keep up with the growth of technology, and the values that forge responsible citizens who stand committed to national development.

Faced with this challenge, Latin America must work to close the long-standing education gap and overhaul its teaching methods in order to impart new skills and ethical values. I am convinced that telecommunications and information technology hold the key to the leap forward required to catch up to—or at least narrow—the educational gap between developing and developed countries.

Such a gap is evident in all areas of the education system, as illustrated by the following example.

In 1987, only 35 percent of instructors in the Monterrey Technological System held a graduate degree. In order for the Institute to renew its accreditation with SACS it had to match faculty standards to those at other member universities. Raising qualifications became a key issue.

This prompted the administration at Monterrey Tech to explore the potential of telecommunications and information technology to facilitate the necessary leap forward.

Technology eventually made it possible for almost all instructors to obtain at least a master's degree, and some even a Ph.D. This experience gave us a first glimpse into the tremendous potential of telecommunications and information technology to make quality education available to large numbers of people.

The point of this article is precisely to share our experience in using technology for standard classroom instruction and in virtual and distance learning systems.

Introducing technology in standard classroom instruction was key both to the successful implementation of important changes in teaching methods and to the addition of significant value to the teaching process.

The Institute has also launched a “Virtual College” initiative that has been instrumental in making educational services available to new and broader segments of society.

The mission statement of the Monterrey Technological Institute requires that neither teaching nor learning be restricted to the mere transmission of knowledge. Indeed, we hold that these processes should help develop the intellectual and communication skills required for successful professional practice as well as instill ethical values.

The requirements of our mission statement prompted us to review and redesign the classroom learning process in order to ensure greater student participation and a collaborative effort.

In redesigning courses we ascribed great importance to specific teaching techniques including PBL, POL, and case methodology. We also encouraged students to work collaboratively within their classrooms and with others taking the same subject, including students in other campuses within the System.

The redesigned program led to the adoption of a technological platform capable of allowing students to conduct independent research, to review and summarize such research with other team members, and to communicate with their instructors and amongst themselves both synchronously and asynchronously.

The results were encouraging. Students are gradually beginning to recognize that while knowledge is important, the new skills imparted by technology-based teaching methods can be just as significant.

Working in collaboration with counterparts within Mexico and abroad—including the U.S. and Central and South America—helps students develop a much broader understanding of the international environment in which they will work in the future.

The Virtual College started out as a satellite-linked educational system designed to help instructors located in towns where no graduate studies were available work toward a master's degree by satellite, and then complete on-campus requirements during school breaks.

In time, the satellite-based interactive education system became the Monterrey Technological Institute's Virtual College, which currently offers a Ph.D. in Educational Innovation and Technology and nineteen Master's degrees in fields ranging from engineering to administration, education, and computer science.

These graduate courses are taken by college instructors as well as elementary schoolteachers from Mexico and elsewhere in Latin America. Our student body includes individuals who teach both in large urban centers and remote areas.

The Virtual Business College also offers a number of programs designed to help develop corporate human resources in areas such as finance, productivity, marketing, organizational culture, sustainable development, computer use, and languages.

The Virtual Business College has 625 admission offices throughout Mexico and twelve other Latin American countries.

In the year 2000, over 28,000 students were enrolled in courses offered by the Virtual Business College.

With support from the World Bank, which provided some teaching materials, the Virtual College offers courses for public officials—notably new mayors who require training in order to properly carry out their duties. This program trained over 2,000 new mayors in 2000 and is now available in ten countries.

In addition, the Virtual College offers programs designed to help train a new kind of Latin American journalist. These programs focus on information analysis and support for individuals who operate non-governmental organizations.

In closing, I should mention the new Community Learning Center program now being implemented by the Virtual College.

Community Learning Centers are designed to contribute to the social, economic, and political development of remote areas of Mexico. Centers provide quality education supported by a variety of technologies.

Community Learning Centers are set up in areas meeting the following requirements:

- Population ranging from 5,000 to 30,000;
- Seat of municipal government;
- Isolated from larger urban centers;
- In need of educational services; and
- Served by the electrical power grid.

Community Learning Center users include children, youths, teachers, professionals, parents, and public officials. In other words, Centers are open to all members of the public.

Community Learning Centers are equipped with the following technological resources:

- Bidirectional Internet services by satellite uplink;
- Networked computer rooms connected to the Internet; and
- Satellite-based video signal.

Current plans call for Centers to have a computer room student-to-teacher ratio of 10-to-1 and a classroom student-to-teacher ratio of 20-to-1. Centers are open eight hours a day, seven days a week.

Community Learning Center programs include:

- 1. Literacy (both functional and technological);**
- 2. Conferences;**
- 3. Short courses, diploma programs, and seminars;**
- 4. Junior high school;**
- 5. Senior high school; and**
- 6. Online degrees.**

Experience shows that equipment upgrades or dissemination of teaching resources through modern means will not in themselves be effective—or make sense—if they are merely grafted onto traditional teaching formats based on teachers who lecture to passive students.

Telecommunication systems help build interactive skills, while information technology opens up entirely new possibilities for knowledge acquisition.

It has been a long time since education technology got its first start, yet only recently is it being recognized as one of the sciences that gives education meaning and future.

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The New Debate on the Use of Standards in Education

Maria Helena

Guimarães de Castro The development of standards in education is relatively new. For this reason, it has aroused a growing interest and generated an intense debate among specialists and education system managers. This debate is focused on two main themes: questions of equity and impact on student achievement.

Underlying the arguments presented by participants in the debate, there are different opinions about what standards really are and the role they can play as a tool for quality improvement in education.

The theme of equity is now a central problem in public policy, especially in the field of education. Brazil's education system has a great deficit in terms of ensuring minimum conditions of equity, both from the point of view of access as well as in terms of teacher quality offered by public schools. This aspect has been strongly emphasized since national evaluations were first started, and their results showed the enormous disparities that exist among states and teaching systems. Therefore, the mere thought of establishing minimum standards—which would act as a reference for teaching systems performance—leads to an inevitable discussion of the problem of equity.

Two opposing points of view stand out in this debate. The first maintains that standards do not favor equity, for they discriminate negatively both in socioeconomic and in cultural terms. It is also said that such differences hinder the use of common evaluation tests, and that the adoption of standards will lead to a tendency toward homogeneity rather than diversity. The second view, on the other hand, defends the validity of setting standards precisely because standards address the problem of inequity through increased information and educational policies that spread this information more evenly. It is also argued that the social factor cannot be used as a justification for failing to attain quality standards, as that would doom the socially excluded to a second-rate education.

These controversial views intensify the present international debate about the development of standards in education thus bringing about the acknowledgement of a need to define what all students are expected to develop in terms of abilities, basic skills, and knowledge of contents throughout school. The idea of standards gains strength precisely because it is based on the premise that it is possible to define the desired levels of proficiency to be reached by the end of each stage in schooling. Those would be the patterns of quality to be sought by education systems.

Paradoxically, although education has been identified as one of the major mechanisms for social mobility, education systems continue to reinforce disparity, as they fail to promote access of the underprivileged to higher levels of education. In allowing cross-references of socio-economic and cultural variables by means of test results, evaluation systems show quite clearly in which subjects and content areas the major differences lie, thus guiding the design of specific actions. For this reason, it is also important that results be widely disseminated so that schools, teachers, and parents may know which shortcomings were identified and, from that knowledge, may develop the actions needed for improvements.

The Role of Standards in Equity Policies

The introduction of standards in education necessarily requires an emphasis on equity policies that may lead to an ideal situation in which all students have access to the same learning opportunities. However, as these conditions do not exist, it is necessary that the definition of standards

bear in mind regional differences and the socioeconomic and educational factors that affect students' performance. It is necessary, as well, to develop methods to evaluate performance in relation to the standards that allow a measure of the value added by the school, which assumes knowledge of the pupil's level at the beginning. Thus, instead of discriminating, standards can become a powerful tool to bring about improvements in educational quality and to fulfill their most important function.

The second theme that has been outstanding in this debate is the effect of standards on learning. Criticism runs on a similar level as that of equity. In short, it is feared that establishing patterns will tend to concentrate the educational process exclusively on those subjects for which they were designed. This way, curriculum might be reduced, for schools would be encouraged to give priority only to those contents identified as the objects of standards and evaluation. It is also questioned whether adopting minimum standards might lower even further the average attainment levels of pupils. In other words, adopting desired standards of excellence will tend to generate frustration among those who do not manage to reach them—thus encouraging repetition or even dropout.

This criticism needs to be duly considered when designing standards and when using them together with evaluation procedures. What may be drawn from recent experience is that standards exert a favorable influence insofar as they establish references for the development of curricula, textbooks, teaching materials, and teaching methods. In this way, standards guide actions for equity of opportunity and come to be used as a basis for the school's pedagogical program. Finally, they encourage social control and the participation of individuals and groups interested in education.

The role assigned to standards is that of clearly showing the results that may be expected from the teaching-learning process, in which education systems and schools are involved. The process offers parameters of comparability and, what is more important, provides the necessary elements to demand accountability from the various educational agents. Casassus (1997), on examining the scope of standards as a means of raising the quality of education, identified four dimensions to be considered in their establishmentⁱ :

1. the *prescribed*—the pedagogical goals that are the basic element of standards;
2. the *desirable*—indicating levels of excellence in relation to what is expected of education;
3. the *observable*—what has actually been achieved and is assessed in evaluations; and
4. the *feasible*—the conditions and production factors needed in order to attain the desired standards.

The first step in standards formulation is to answer a recurring question in the educational debate: what do we expect students to learn and what do we expect teachers to teach? The challenge, then, is to establish “in a clear and public manner which are the conceptual and practical skills that we expect pupils to achieve”ⁱⁱ and the indicators that will permit their measurement. On a more general level, standards must relate to curriculum objectives and to the results all students are required to attain. They are, therefore, *basic* standards. The emergence

ⁱ Casassus, J. Estándares en Educación: Conceptos Fundamentales. UNESCO, 1997

ⁱⁱ Idem

of the question of quality has raised general expectations about the role of education thus leading to discussion on desirable profiles, the goals of the different levels of education, and the demands to which schools should submit in order to achieve those goals. This debate takes place on the level of the *desirable*, which may be translated in terms of ‘standards of excellence’. That is, ideal standards “attainable by some, although not necessarily by all, as is the case with basic standards”. Their function is to establish the goals to be achieved.

In both interpretations of standards—basic or of excellence—we must be absolutely clear in defining the skills to be attained. Moreover, in order for these standards to be effective, they must be expressed in such a way as to be observable, measured, and evaluated. Therefore, in order to have any meaning, standards must be feasible, allowing for the development of indicators by which the progress in acquired skills and abilities may be evaluated. In this way, standards fulfil their role of providing information that accounts for the responsibility of education systems and the schools themselves, concerning the results of the teaching-learning process.

However, in order for *feasible* standards to be established, it is also necessary to define strategies to ensure the conditions that will enable schools to achieve them. To this end, we must establish minimum standards concerning physical infrastructure, facilities, and inputs—both material (textbooks, equipment, etc.) and managerial (administrative autonomy, learning opportunity, etc.).

These are the substantive aspects involved in the international debate on standards. When applied to the situation of the Brazilian national education system, with its well-known discrepancies, this debate brings in other equally relevant questions: how can we think about national standards when it is known that in public schools not even basic infrastructure is always present? How can we link standards to teacher training policies? What should be the desirable level of performance among students by the end of basic education? What are the necessary skills for citizenship and entry into the labor market?

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