Inter-American Development Bank

MAKING EDUCATION WORK

Latin American Ideas and Asian Results

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Table of Contents

Foreword

Education policies and practices throughout Asia remain quite unknown in Latin America. Although the correlation between rapid economic growth and high literacy rates in the "high performing" countries (HIP) of Asia is well documented, far less is known about the structure and features of the education systems in the region. In much the same vein, Asians have limited knowledge of education systems in Latin America. Despite their chronic limitations, these systems offer a wealth of innovative experiences.

In an effort to bridge this knowledge gap between Latin America and Asia, the Inter-American Development Bank, with the support of the Japan Special Trust Fund, organized a seminar for eminent educators from both regions in Okinawa, Japan. From the variety of issues debated and comparisons made, two trends emerged. First, despite the diverse systems and institutions characterizing education in the two regions, the "new economy" appears to have prompted governments to reform and reorient systems towards new skills and demands, many of which are similar in nature and scope. Second, there appears to be a tradeoff between the two regions between performance and innovation. The HIP Asian countries—Japan, South Korea, Taiwan, Singapore and Hong Kong—are educational superstars. The Latin American countries, by contrast, rank as mediocre to poor performers, yet they shine brightly where the high performers of Asia do not—in educational innovation. In other words, the best performing countries are not innovative and the most innovative countries are poor performers.

This book explores these issues in detail. In doing so, the emphasis is placed on factors conditioning the delivery of education. These factors reflect historical circumstance as well as current realities, and provide a basis upon which the diverse range of systems—including differences in performance and innovation—can be identified and understood.

It our hope that *Making Education Work: Latin American Ideas and Asian Results* will contribute to a more frequent and informed dialogue between the two regions.

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PART I

Performance vs. Innovation: Education in Asia and Latin America

Claudio de Moura Castro
Aimee Verdisco

Latin America and Asia are strikingly different in almost every way, usually falling on opposite ends of the scale regardless of the criteria being considered. Latin America is relatively homogenous in terms of language, culture and history; Asia is completely heterogeneous. Latin America generally looks north and west to solve its problems; Asia peers within. Such basic differences have tended to complicate and reduce the frequency of exchanges between the two regions. Yet a more informed dialogue between them could be useful to both.

Despite the clear differences, several similarities exist. Both regions face the challenges of promoting growth and equity, reducing poverty, and mitigating the effects of economic downturns and global recession. And in education, in particular, both have given considerable importance to education systems and reform, although their approaches and results have varied. Each is concerned with improving the quality of education services, often within the sluggish and sclerotic systems inherited from administrations past. Progress along many fronts has been made, although challenges, some serious, remain.

It was the opportunity to debate and share some of these experiences that brought together eminent educators from Asia and Latin America in Okinawa, Japan in June, 1999 for a seminar organized by the Inter-American Development Bank, with support from the Japan Special Trust Fund. Participants offered new insights into the direction and scope of education reform, much of which serves as the basis of this

book. Beyond that, simply holding the seminar at all was significant because exchanges between the two regions are so infrequent.

A common pattern emerged at the seminar: a contrast between performance and innovation. A number of East Asian countries, including Japan, South Korea, Taiwan, Singapore and Hong Kong, were recognized as educational superstars. The Latin American countries, by contrast, were ranked as mediocre to poor performers, yet they excel in one area where the high performers of Asia do not—education innovation. In other words, the best performing countries are not innovative, while the most innovative countries are poor performers.

The most convincing explanation for this paradox emphasized the nature of delivery mechanisms. Education tends to be delivered through traditional structures in Asia. The fact that these structures provide a quality product means that there is little pressure to overhaul the system. In short, the proverbial "if it isn't broken, don't fix it" syndrome prevails. The opposite holds true in Latin America. There, necessity is truly the mother of innovation. Dissatisfaction with the performance of conventional education systems is so widespread that innovation has become the key for improving results. Pressures to invent different and better solutions permeate all levels of education.

This book builds on the discussion that began at Okinawa. Time has provided the perspective necessary to contextualize the presentations and place each one within a format conducive to cross-regional comparison and generalization. Such hindsight has lent clarity to thought and vision, affording some issues a higher profile while taking others in different directions or adding new twists.

In setting the context, this introductory chapter highlights the differences as well as the similarities between the two regions. Of particular note is what appears to be a gradual convergence of ideas and approaches. Whereas Asia and Latin America may have differed, sometimes significantly, in the past, the "new economy" has prompted governments across the world to reform and reorient systems towards new skills and demands, many of which are similar in nature and scope. It is in this respect that each region may be able to learn something from the other.

Differences Within and Between Regions

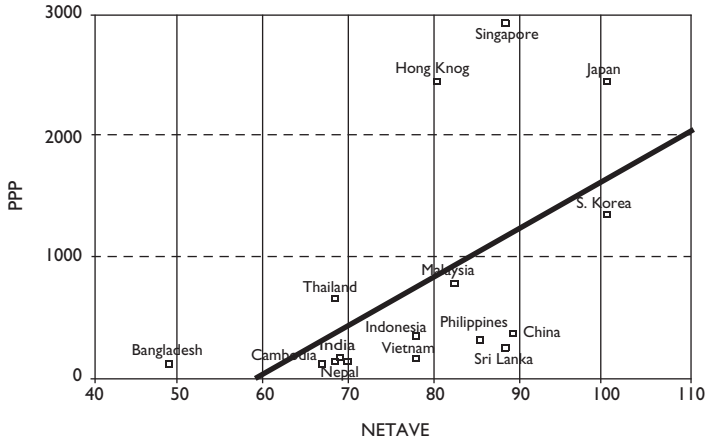
The range of both economic performance (measured by per capita income, purchasing power parity, 1997) and educational performance (measured by the average of net enrollment rates in primary and secondary school, 1997) varies more widely

within Asia than in Latin America (see Figures 1 and 2). In some cases, these differences are greater than those between some Asian countries and Latin America. Asia runs the gamut from fabulously rich to desperately poor, and from high performing education systems to those lacking access, quality and equity. Variations also exist in Latin America, although they are not as stark as in Asia, where high performers such as Singapore, Japan and Hong Kong are so dramatically different than countries on the other extreme, such as Bangladesh, Cambodia and India.

Given Asia's striking degree of heterogeneity, we can give some structure to our analysis by thinking in terms of several Asias and gauging their socioeconomic and educational performance against that of Latin America, our analytical equivalent of a baseline or average case study. Each "Asia" can be located along the regression line in Figure 1. In the first Asia, located in the lowest quadrant, poverty runs rampant. Concentrated largely in South Asia and represented here by Bangladesh, these countries tend to be poorer, more politically unstable and lower performing along most indicators than Latin America. Then there is emerging Asia, the young tigers of the Philippines, Malaysia, Indonesia and Thailand (located midway up on the regression line on Figure 1). These countries bear considerable resemblance to Latin America both in terms of the bottlenecks they face in developing and reforming their systems and the progress they have made to date. Lastly, there is high performing (HIP) Asia, a privileged and wealthy bloc of countries consisting of Japan and the four tigers: South Korea, Taiwan, Hong Kong and Singapore. These are the outliers of Figure 1. These countries are well ahead of Latin America by almost all measures.

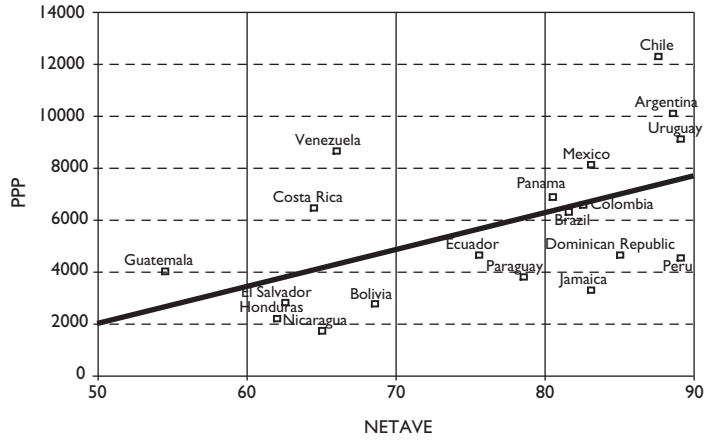
World Bank (1993) data show that the 23 economies of East and Southeast Asia had the highest rates of growth anywhere in the world between 1965 and 1990, with the bulk of this growth attributed to eight economies: Japan, Hong Kong, South Korea, Singapore, Taiwan, China, Indonesia, Malaysia and Thailand. Since the 1960s, these countries have grown more than twice as fast as the rest of the region, about three times as fast as Latin America and South Africa, and five times faster than sub-Saharan Africa. They have also outperformed the nations of the Organisation for Economic Co-operation and Development (OECD) and the oil-rich countries. Such a finding led the World Bank to suggest that these nations "share some economic characteristics that set them apart from other developing economies." The analysis in this volume considers this line of reasoning from a different angle: HIP Asia's enviable educational performance. By concentrating inquiry on the performance-innovation continuum, the cases presented explore the various characteristics that have contributed to building and maintaining highly efficient and effective systems of education.

Figure 1 **Asia: Socioeconomic vs. Educational Performance**



Note: PPP = per capita income, purchasing power parity, 1997; NETAVE = average net enrollment in primary and secondary schools, 1997.

Figure 2 **Latin America: Socioeconomic vs. Educational Performance**



Note: PPP = per capita income, purchasing power parity, 1997; NETAVE = average net enrollment in primary and secondary schools, 1997.

Economic Growth and Investments in Education

Conventional wisdom makes a direct and positive relation between wealth and development: the richer the country, the higher its level of socioeconomic development. In addition, education is universally accepted as key to increasing productivity and improving personal welfare.

Based on these considerations, the enviable performance of HIP Asia would come as little surprise. The correlation would be perfect: the richest countries in the world produce the best educational performance. Per capita income in Singapore ($29,230, measured as purchasing power parity for 1997) is the highest in the world; Japan and Hong Kong rank fourth and fifth, respectively (UNESCO, 2000). Yet what is perhaps more intriguing is that, merely 50 years ago, these countries were neither rich nor strongholds of academic excellence.

World War II ravished Japan. The country lost a significant portion of its physical capital and infrastructure. As the war ended, Japan remained under occupation by a foreign military force. South Korea suffered as well. Its war a decade later left the country partitioned in two, with industry concentrated in the Communist north and little that was inviting elsewhere. Singapore's future seemed equally bleak. To many contemporaries, the country offered little more than a model of economic and social backwardness.

Latin America stood in notable contrast. Coming off a post-war boom, the region seemed poised to enter a golden era. Economies were growing and overall welfare—from health to education, pensions and housing—was on the upswing. In some cases, Latin America's education systems performed better than those in Asia. Girls' enrollment at the primary level neared that of boys; student-teacher ratios were lower, often significantly; and several countries managed to enroll a higher percentage of primary cohorts than Asia's present top performers (see Table 1).

Over the course of the next 50 years, however, the tables turned. In facing the daunting task of rebuilding their societies from top to bottom, HIP Asia put a premium on the basics: sound macroeconomic management and public administration. The combination of these factors provided an essential framework for domestic investment (private and public) and investments in human capital. Sustained and rapid economic growth followed, flattening social hierarchies and improving overall welfare along the way. Indeed, the countries of HIP Asia have been remarkable—and quite unique—for their ability to increase growth while reducing inequality (UNESCO, 2000) and spreading the benefits of economic growth and development, broadly defined, throughout society.

Table 1a. Historical Basic Education Indicators

		Enrollment						
		Primary				Secondary		
Latin America	*Year*	*Enrollment*	*% Pri Cohort*	*Students/ Teacher*	*% Girls*	*Enrollment*	*% Sec Cohort*	*Students/ Teacher*
Argentina	1954	2,565,164	73.1	23	48	405,094	22.7	8
Bolivia	1953	234,000	32.1	26	37	28,061	…	11
Brazil	1950	4,496,048	32.5	32	49	752,823	13.0	10
Chile	1950	721,879	51.5	52	48	135,283	22.3	…
Colombia	1950	808,494	25.6	43	49	80,465	6.8	11
Costa Rica	1951	129,422	57.5	24	49	8,621	9.6	…
Dominican Republic	1952-53	248,283	72.3	15	49	16,171	6.7	18
Ecuador	1950-51	341,729	40.1	43	46	19,358	8.0	11
El Salvador	1954	196,928	38.7	34	48	14,449	6.8	…
Guatemala	1950	158,551	21.0	27	43	20,215	6.2	9
Haiti	1951-52	206,897	25.1	49	39	10,443	3.3	…
Honduras	1955	124,879	33.2	28	49	7,581	4.3	8
Jamaica (British)	1952	213,657	64.9	49	51	9,023	…	…
Mexico	1954	3,731,688	52.0	41	48	139,493	4.5	7
Panama	1951	110,059	62.6	32	49	19,969	23.5	22
Paraguay	1954-55	265,891	66.3	29	46	15,472	10.0	8
Peru	1954	1,039,455	44.1	39	41	106,398	12.6	13
Uruguay	1953	242,721	50.5	34	49	57,417	…	20
Venezuela	1954	610,000	46.0	35	47	37,253	6.7	14
Asia								
China	1952	16,180,000	52.0	36	26	1,091,086	2.1	17
Fiji (UK)	1951-52	52,902	70.5	34	44	1,943	…	26
Hong Kong (UK)	1951-52	150,171	52.2	27	41	42,791	…	…
India	1953-54	20,812,789	23.1	33	25	6,617,644	17.9	23
Indonesia	1951	5,318,014	…	60	…	279,806	3.3	21
Japan	1954-55	11,750,925	62.8	36	49	8,399,118	96.5	25
South Korea	1954	2,708,224	50.7	68	41	625,526	28.5	45
Pakistan	1951-52	3,212,312	33.9	36	9	1,174,137	…	27
Philippines	1951-2	3,932,150	…	49	47	611,611	25.1	28
Singapore (UK)	1951	134,908	70.7	34	34	21,805	…	42
Taiwan	1954-55	1,133,438	56.6	46	44	184,572	20.7	20
Thailand	1953-54	2,937,534	56.3	35	47	292,088	13.0	24
Vietnam	1954-55	490,251	…	46	37	46,341	3.6	37

Source: UNESCO, World Survey of Education, volumes I, II and III.

Table 1b. Current Basic Education Indicators

Income group	Country	Pupils reaching grade 5 (percent of cohort)				Repeaters as percent of total enrolled, primary				Progression to secondary school (percent)			
		1980	1985	1990	1995	1980	1985	1990	1995	1980	1985	1990	1993*
Asia													
Low	Bangladesh	20.5	..	..	..	17.8 (1981)	..	6.8 (1998)	..	..	..	56.0	..
Low	Bhutan	..	..	..	..	..	..	..	..	..	39.0	..	76.0
Low	Cambodia	..	..	..	..	..	..	..	27.0 (1996)	70.0 (1981)	49.0	..	53.0
Lower-middle	China	..	..	86.0	93.8	..	..	6.1	1.6 (1996)	65.0	65.0	70.0	74.0 (1992)
Lower-middle	Fiji	93.7	94.0	..	..	4.8	3.0	..	..	..	..	..	..
High	Hong Kong	98.9	100.0 (1984)	99.8	100.0 (1994)	3.6	1.6	1.3	1.1	90.3	..	..	..
Low	India	..	52.7	..	..	..	..	..	3.7 (1994)	88.0	83.0	..	96.0 (1992)
Lower-middle	Indonesia	75.5	84.6	83.6	..	8.3	10.9	9.7	7.6 (1994)	58.0	54.0	50.0	54.0 (1992)
High	Japan	99.9	99.9	100.0	..	..	..	..	..	100.0	100.0	100.0	..
Low	Laos	..	..	53.3 (1991)	..	..	..	30.7 (1991)	..	68.0 (1979)	79.0 (1984)	63.0 (1991)	69.0 (1992)
Upper-middle	Malaysia	96.8	99.8 (1984)	98.2	..	..	..	..	..	..	..	..	..
Low	Nepal	..	..	52.0 (1991)	..	..	..	..	..	74.0 (1979)	..	78.0 (1991)	..
Low	Pakistan	..	..	..	..	..	..	..	..	85.0	88.0 (1986)	..	..
Lower-middle	Papua New Guinea	..	69.0 (1986)	59.1	..	..	..	..	..	37.0 (1981)	..	36.0	38.0
Lower-middle	Philippines	70.5 (1981)	77.8 (1986)	..	..	2.4	1.8	2.0 (1989)	..	82.0	84.0	100.0 (1991)	93.0 (1993)
High	Singapore	97.2	..	..	..	6.6	1.1 (1984)	..	..	81.7	..	..	..

Table 1b. Current Basic Education Indicators (cont.)

		Pupils reaching grade 5 (percent of cohort)				Repeaters as percent of total enrolled, primary				Progression to secondary school (percent)			
Income group	**Country**	**1980**	**1985**	**1990**	**1995**	**1980**	**1985**	**1990**	**1995**	**1980**	**1985**	**1990**	**1993***
Asia													
High	South Korea	93.9	99.2	99.5	99.8	..	..	..	..	97.0	99.0	99.0	99.0
Lower-middle	Sri Lanka	89.9 (1981)	92.8	94.4	83.3	10.4	8.2	8.0	2.3 (1996)	84.0	88.3	90.2	..
Lower-middle	Thailand	..	..	..	..	8.3	..	..	..	45.0	38.0 (1986)	48.0 (1989)	..
Low	Vietnam	..	..	..	..	..	..	..	..	93.0 (1979)	94.0 (1984)	..	..
Latin America													
Upper-middle	Argentina	..	..	..	..	..	.	..	5.6 (1996)	..	..	..	..
Lower-middle	Belize	..	..	67.4	..	..	..	7.0 (1991)	10.5 (1994)	56.0	57.0	70.0	..
Lower-middle	Bolivia	..	..	60.5 (1989)	..	..	..	3.1	..	..	..	91.0 (1989)	..
Upper-middle	Brazil	47.4 (1981)	..	..	..	20.2	19.7	..	18.4 (1994)	92.6	..	..	97.9 (1992)
Upper-middle	Chile	..	..	..	100.0	..	..	..	5.3 (1996)	64.0	91.0	..	55.0
Lower-middle	Colombia	37.1 (1981)	57.4	62.1	73.0	..	17.0	11.4	7.2 (1996)	84.0	60.0	..	..
Lower-middle	Costa Rica	79.8	85.6	82.4	87.6	7.9	10.6	11.3	11.4 (1996)	55.0	57.0	63.0	67.0
Lower-middle	Dominican Republic	70.4 (1981)	..	..	..	18.0	16.9	..	..	..	82.0 (1984)	..	87.0
Lower-middle	Ecuador	67.2	67.0 (1986)	..	85.2	9.7	6.7 (1986)	..	3.5 ('96)	86.5	..	..	..
Lower-middle	El Salvador	..	..	58.0 (1991)	76.7 (1981)	8.8 (1981)	8.4 (1984)	8.0 (1991)	4.3 (1996)	20.0 (1979)	..	20.0 (1991)	20.0 (1992)
Lower-middle	Guatemala	45.9	39.1	..	49.6	15.0	13.1	..	15.3 (1996)	80.9 (1979)	..	..	..

Lower-middle	Guyana	..	..	..	..	3.4	6.1 (1986)	..	4.1	97.1	..	..	..
Low	Haiti	33.4 (1981)	36.2 (1984)	46.7 (1989)	..	..	9.5	12.7	..	41.0	68.2	85.3 (1989)	..
Low	Honduras	..	.	..	..	16.2	15.5 (1984)	12.1 (1991)	12.0 (1994)	95.0 (1979)	76.0	..	..
Lower-middle	Jamaica	..	94.9	95.5 (1989)	..	3.9	3.5	4.0	..	..	98.4 (1984)	98.7	..
Upper-middle	Mexico	70.6	76.8	79.5	..	9.8	9.9	9.4	6.8	84.7	81.1	80.3	83.4 (1992)
Low	Nicaragua	..	41.2 (1986)	45.6	..	16.9	15.4	16.6	14.8	..	..	..	..
Lower-middle	Panama	76.6	83.8	..	..	12.7	13.1	10.0 (1989)	..	84.0 (1981)	84.0	92.0 (1989)	..
Lower-middle	Paraguay	58.4	61.3 (1986)	70.5	..	13.6	10.6	8.6	3.1 (1996)	72.0	62.0	69.0	87.0
Lower-middle	Peru	75.7	..	..	..	18.8	14.1	..	15.2	79.6	..	..	..
Lower-middle	Suriname	92.4	82.8 (1986)	..	.	22.3	23.1 (1986)	..	..	42.0	..	..	..
Upper-middle	Trinidad and Tobago	86.0	98.6 (1986)	96.1	.	..	4.8 (1984)	3.4	5.9	64.0	69.0	65.0	..
Upper-middle	Uruguay	..	89.8	94.5	97.8	14.9	11.3	9.2	9.5 (1996)	80.0 (1979)	85.0 (1986)	94.0	96.0
Upper-middle	Venezuela	74.4	80.0	86.1	89.1	10.7	10.2	11.1	10.3 (1996)	69.5	69.3	73.5	..

* Last year available.
Source: EdStats: Education Statistics Database. CD-ROM. World Bank, 1999.

Latin America failed to keep pace. As growth slowed and then stagnated, socioeconomic inequities became more pronounced and attention to the "basics" was lost to "emergency" responses to political unrest and economic turmoil.[1] Thus, unlike HIP Asia, Latin America neither expanded the quantity nor improved the quality of its education systems (see Table 1).[2] For example, in 1960, Brazil stood on a par with most of HIP Asia. Thirty years later, the Brazilian system had not expanded as much as one would have predicted, covering a much smaller share (given population growth) of the eligible population in relative terms. Access and quality varied between states and socioeconomic strata to a far greater degree than in HIP Asia (see Birdsall, Bruns and Sabot, 1996). In instances where access did expand, quality suffered, exacting an even higher toll as internal efficiencies (higher repetition and dropout rates) and external efficiencies (absorption in labor markets) dropped.

Brazil's predicament remains more the rule than the exception across Latin America today. Burdened by structures and institutions inherited from times past, Latin America has foundered in a tendency to replicate the elitist tendencies of the continent's traditional societies. A vicious cycle has been perpetuated: disparities in education opportunities and outcomes lead to inequalities in income, and full circle back again.

The failure of governments across Latin America to make use of public policies to compensate for or mitigate structural inequalities (as the high performers of Asia have done) appears to be a compelling explanation for why development has stagnated. In the aggregate, more than half the difference between secondary enrollment rates in Brazil and South Korea can be attributed to differences in income distribution (see Birdsall, Bruns and Sabot, 1996). This, in turn, bears a direct relation to

[1] There is a wide breath of literature on the crises of the state and economy in Latin America. See O'Donnell (1973); Collier and Collier (1991); Diamond, Linz and Lipset (1995); Grindle (1996); and Méndez, O'Donnell and Pinheiro (1999).

[2] It should be noted, however, that the state of education in the countries of emerging Asia looks much like that found in Latin America. In these cases, education tends to replicate existing socioeconomic divisions. Although access at the primary level is nearly universal and access at the secondary level is expanding rapidly in countries such as the Philippines, Malaysia and Thailand, socioeconomic differences continue to be stark. The rich do well and the poor do badly. The challenges that remain thus are formidable by all calculations. Quality is a cause for concern, as mastery of basic skills and core competencies is inadequate to meet the demands of society and the economy. Student flows continue to be an issue (see Table 1). While adult literacy has increased from 61 to 73 percent over the last two decades, it has been slow in coming to all social sectors. A significant share of women in countries throughout emerging and poor Asia—422 million out of 651 million—remains illiterate (Asian Development Bank, 2001). Nor do girls currently in school seem to be making the same strides as girls in Latin America. In contrast to the situation there, gender parity in Asia remains elusive. Boys outperform girls, and many more girls than boys do not have the opportunity to go to school (see Table 2).

public spending patterns. HIP Asia, even when in a period of incipient growth and "poor" when compared to its current situation, invested heavily in education, particularly at the lower levels. Regardless of whether measured in absolute or relative terms or spending per student, the commitment HIP Asia made to education was clear (see Table 2).

As economies across Latin America have grown, more money has been allocated to education. Indeed, over the last 50 years, investment as a percent of GDP has all but doubled (see Table 3). Recent figures suggest that the region spends an estimated $50 billion—or 4.3 percent of GDP—on education each year. About 4 million teachers are employed to teach over 130 million students (IDB, 1996: 276). Despite the volume of resources invested, however, the results remain less than satisfactory (see Tables 1 and 3). Growth in population has reduced the reach of investment, and biases in per student spending towards the tertiary level have weakened the potential of education to offset socioeconomic and geographical inequalities. For example, public expenditures per primary student in Peru fell by more than 50 percent between 1963 and 1997 (from $320 to $141 in constant 1997 dollars). The country's public universities, on the other hand, increased their share of spending from 10.3 percent of the education budget in 1990 to 15.6 percent in 1997, even while enrollment fell from 4.5 percent of enrollments at all levels in 1990 to 3.4 percent in 1997 (see Gorriti et al., 2000: 42-43; 65). In only a few countries, such as Chile and Panama, have two-thirds or more of the urban workforce completed the 12 years of schooling considered necessary by some to guarantee a decent standard of living and keep pace with the needs of the global economy. Worse, the average level of schooling of the entire regional workforce increased by less than 1 percent a year during the 1990s (PREAL, 2001).

These results are meager at best, particularly when seen against the backdrop of performance in HIP Asia. In 1960, both regions graduated about 18 million students from high school. Thirty years later, the Asian high performers graduated 1.5 times as many students as Latin America (70 million vs. 45 million) (IDB, 1996: 276).[3] The HIP countries had raised average levels of schooling by an estimated 3 percent a year and sustained this pace over the entire three decades (PREAL, 2001).

[3] The progress of HIP Asia is not diminished by demographics. The region's rate of population growth was less than Latin America's. According to the World Bank, the population in East Asia grew at a rate of 2.3 percent between 1965 and 1980, and 1.6 percent from 1980 to 1990. Latin America's rates were 2.5 percent and 2 percent, respectively.

Table 2 **Gender and Education**

	Girls as percent of total enrolled, primary				Girls as percent of total enrolled, secondary			
	1980	1985	1990	1995	1980	1985	1990	1995
Asia								
Bangladesh	37.0	40.0	44.8	..	24.1	28.0	33.0	..
Cambodia	..	..	..	..	..	37.4	..	36.7 (1996)
China	..	44.8	46.2	47.3	39.6	40.2	41.9	44.8
Fiji	48.8	48.6	48.7 (1991)	..	50.4	49.8	49.4 (1991)	..
Hong Kong	47.9	47.6 (1986)	..	..	50.5	51.3	..	49.6
India	38.6	40.2	..	..	31.7	33.4	35.7	37.7
Indonesia	46.2	47.9	48.7	..	36.5	42.6 (1984)	45.4	45.9 (1994)
Japan	48.7	48.8	48.8	..	49.8	49.7	49.7	49.8 (1994)
Laos	45.3	44.9	43.6 (1991)	..	38.4	42.2	38.9 (1991)	39.5 (1996)
Malaysia	48.6	48.6	48.6	..	47.9	49.4	50.9	51.2
Myanmar	..	..	..	..	44.7 ('81)	46.7	49.2	50.1 (1994)
Nepal	28.0	29.2 (1984)	37.2 (1991)	..	..	..	..	..
Pakistan	32.6	33.1 (1986)	33.5 (1989)	..	25.9	27.1	31.2	..
Papua New Guinea	..	43.9 (1986)	44.3	45.3	32.4	36.6 (1986)	38.5	40.2
Philippines	48.6	48.9	48.5 (1989)	..	53.2	50.0	49.9 (1989)	..
Singapore	47.7	47.1	47.4	..	51.5	50.7	50.1	52.5
South Korea	48.5	48.5	48.5	47.8	45.9	46.8	46.6	47.3
Sri Lanka	48.0	48.3	48.2	48.2	51.0	51.8	51.1	51.1
Thailand	48.2	..	48.6	..	45.8	..	49.2	..
Vietnam	47.3	47.6	..	..	47.0	47.3	..	..
Latin America								
Argentina	49.2	..	..	48.9 (1996)	63.6 (1981)	61.8	..	..
Barbados	49.8	48.4 (1984)	49.4 (1991)	..	49.8	50.3 (1984)	46.9 (1989)	..
Belize	..	48.2	48.4	..	55.0	54.7	53.5	..
Bolivia	46.7	46.9 (1986)	47.3	..	..	..	..	..
Brazil	..	..	50.9 (1989)	..	..	..	..	..
Chile	48.9	48.7	48.8	48.6 (1996)	55.5	52.1	53.4	54.1

Table 2 Gender and Education (cont.)

	Girls as percent of total enrolled, primary				Girls as percent of total enrolled, secondary			
	1980	1985	1990	1995	1980	1985	1990	1995
Colombia	50.0	50.0	52.6	48.9	50.3	49.8	51.2 (1991)	49.1 (1996)
Costa Rica	48.6	48.4	48.5	48.6	53.8	52.2	50.8	51.8 (1996)
Dominican Republic	..	49.0	49.4 (1989)	49.7 (1994)	..	54.9	..	57.5 (1994)
Ecuador	48.6	48.9 (1986)	..	49.0	47.7	47.2	..	49.4 (1994)
El Salvador	49.5	49.7 (1984)	49.6 (1991)	49.3	43.0	48.5 (1984)	50.1 (1991)	..
Guatemala	45.1	45.1	45.7 (1991)	45.7	42.8	..	..	..
Guyana	49.1	49.3 (1986)	49.2	49.1	51.1	52.3	51.8	51.4
Haiti	45.9	46.6	48.1	..	47.5	46.9	48.9	..
Honduras	49.6	49.6	50.3 (1991)	..	49.6	50.5 (1984)	53.0 (1991)	..
Jamaica	49.5	48.9 (1986)	49.7	..	52.4	52.4	..	..
Mexico	48.8	48.7	48.5	48.4	43.3	46.3	47.8	48.4
Nicaragua	50.8	51.9	51.0	50.1	52.3	64.6	57.9	53.7
Panama	48.1	47.8	47.9	..	51.4	51.2	50.7	..
Paraguay	47.6	47.8	48.3	48.5 (1996)	..	49.5	50.5	50.5 (1996)
Peru	47.9	48.2	..	48.6	45.7	46.8	47.6 (1991)	47.6
Suriname	..	48.5 (1986)	..	..	..	56.3	56.5	..
Trinidad and Tobago	50.0	49.7	49.3	49.2	50.4 (1981)	50.2 (1986)	50.5	50.9
Uruguay	48.2	48.7	48.7	48.6	57.7	..	..	55.1
Venezuela	..	49.9	49.8	49.7 (1996)	..	56.6	57.8	..

Source: EdStats: Education Statistics Database. CD-ROM. World Bank (1999).

Table 3a. Historical Expenditures on Education

		Public expenditure			Percent expenditure by level			Cost/Student in US$ (public)		
	Year	*Amount In US$*	*National income*	*National income*	*Primary*	*Secondary*	*Tertiary*	*Primary*	*Secondary*	*Tertiary*
Latin America										
Argentina	1954	186,260,000	5,829,048,400	3.2	50.0	1.6	16.0	40	1,244	2,106
Bolivia	1953	6,051,010	…	…	52.3	25.9	…	14	62	…
Brazil	1950	237,470,999	9,188,500,000	2.6	75.0	19.0	6.0	47	87	279
Chile	1950	193,715,760	5,709,142,140	3.4	52.8	28.0	11.0	211	505	
Colombia	1950	42,340,165	2,841,814,000	1.5	49.0	24.5	13.3	27	281	530
Costa Rica	1951	3,783,291	…	…	84.1	9.3	1.2	26	54	291
Dominican Republic	1952-53	4,776,338	325,000,000	1.5	37.9	8.0	10.9	8	26	213
Ecuador	1950-51	5,467,963	390,568,788	1.4	52.0	25.0	21.4	10	64	284
El Salvador	1950	7,460,000	338,400,000	1.9	55.0	8.0	4.0	37	158	497
Guatemala	1950	6,674,354	…	…	44.1	18.6	…	15	61	…
Haiti	1951-52	2,688,880	209,000,000	1.3	58.4	20.0	12.8	9	68	412
Honduras	1955	2,755,080	294,000,000	0.9	68.8	8.2	8.5	12	30	282
Jamaica (British)	1952	6,867,650	253,680,000	2.7	41.8	14.4	6.8	13	110	4,578
Mexico	1954	48,536,000	4,734,400,000	1.0	46.7	15.5	…	7	54	…
Panama	1951	8,126,300	…	…	49.7	23.7	7.2	39	131	347
Paraguay	1954-55	2,929,980	174,360,000	1.7	59.2	18.0	12.8	7	34	178
Peru	1954	11,551,408	934,500,000	1.2	69.4	30.6	…	9	52	…
Uruguay	1953	39,326,000	…	…	60.0	26.0	14.0	97	178	484
Venezuela	1954	77,229,851	3,312,600,000	2.3	29.5	14.6	14.5	46	441	492
Asia				1.9						
China	1952	22,332,500	189,278,100	11.8	…	…	…	…	…	…
Fiji (UK)	1951-52	1,267,179	8,129,626	15.6	37.5	6.8	5.3	12	76	318
Hong Kong (UK)	1951-52	4,092,544	50,883,385	8.0	38.4	28.2	5.6	27	76	155
India	1953-54	193,473,000	20,811,000,000	0.9	35.0	16.1	6.2	4	10	22
Indonesia	1951	498,067,500	3,401,537,528	14.6	57.7	12.2	2.5	58	365	2,320
Japan	1954-55	102,534,880,000	1,902,600,000,000	5.4	32.7	30.3	9.2	2,862	4,083	41,437
South Korea	1954	33,763,744	1,641,000,000	2.1	63.8	5.9	25.6	797	2,318	26,362
Pakistan	1951-52	26,651,473	1,713,493,000	1.6	39.7	25.1	15.3	3	6	59
Philippines	1951-52	70,115,154	2,334,000,000	3.0	90.8	1.8	3.1	17	6	160
Singapore (UK)	1951	5,189,649	65,400,000	7.9	57.4	13.9	2.0	31	46	69
Taiwan	1954-55	58,010,380	2,248,600,000	2.6	50.8	27.8	9.8	26	91	459
Thailand	1953-54	66,160,000	2,446,720,000	2.7	72.8	15.1	3.8	16	61	257
Vietnam	1954-55	9,323,617	129,494,681	7.2	49.3	29.0	1.7	13	125	62

Source: UNESCO, World Survey of Education, volumes I, II and III.

Table 3b. Current Expenditures on Education

Country		Teacher salaries as percent of total current expenditure, 1996	Public current expenditure on education: Percent distribution of current expenditure by level, 1990: Pre-pri. + Pri.	1990: Sec.	1990: Tert.	1996: Pre-pri. + Pri.	1996: Sec.	1996: Tert.	Current expenditure per pupil as a percent of GNP per capita, 1990: Pre-pri. + Pri.	1990: Sec.	1990: Tert.	1996: Pre-pri. + Pri.	1996: Sec.	1996: Tert.
Latin America														
Argentina		67.8	50.5	26.1	17.6	45.7	34.8	19.5	9	12	18	8	15	18
Barbados		...	37.5	37.6	19.2	...	...	...	20	26	47	...	...	...
Belize		...	61.0	20.2	8.1	62.8	25.8	6.9	10	22	300	11	25	35
Bolivia	•	74.3	...	...	...	50.7	9.8	27.7	...	...	...	10	14	57
Brazil	•	84.5	...	...	...	53.5	20.3	26.2	...	...	...	10	30	98
Chile		...	56.4	15.3	21.6	60.4	18.9	16.4	9	8	29	11	12	21
Colombia		80.8	39.3	30.9	20.7	40.5	31.5	19.2	7	11	35	9	12	37
Costa Rica	•	90.9	38.2	21.6	36.1	40.2	24.3	28.3	10	21	61	13	25	50
Cuba	•	56.7	25.7	39.0	14.4	31.9	33.0	14.9	16	25	39	18	33	88
Dominican Republic	•	91.6	49.4	14.8	13.7	49.5	12.5	13.0	2	4	6	4	5	10
Ecuador		...	34.4	34.2	18.3	38.4	36.0	21.3	5	13	26	6	17	26
El Salvador		...	...	...	...	63.5	6.5	7.2	...	...	...	7	6	8
Guatemala		62.8	...	...	...	63.0	12.1	15.2	...	...	...	6	5	29
Guyana		...	...	...	...	71.3	...	7.7	...	...	...	10	...	28
Haiti		...	53.1	19.0	9.1	...	...	...	7	10	126	...	...	...
Honduras		67.8	49.1	17.2	18.2	52.5	21.5	16.6	10	18	82	10	20	54
Jamaica		64.1	37.4	33.2	21.1	31.3	37.4	22.4	9	15	145	10	23	16
Mexico	•	89.7	...	...	...	50.3	32.5	17.2	...	...	...	12	18	47
Nicaragua		...	...	...	...	...	...	...	...	...	...	13	8	...
Panama		...	37.0	23.3	21.3	29.8	19.2	24.5	11	14	46	9	12	40
Paraguay		...	43.9	22.6	25.8	50.0	18.1	19.7	3	7	37	10	12	82
Peru		40.1	...	...	...	35.2	21.2	16.0	...	...	...	5	7	15
Suriname			...	60.5	14.5	8.8	...	...	...	26	14	65	...	... ...

Table 3b. Current Expenditures on Education (cont.)

			Public current expenditure on education												
			Percent distribution of current expenditure by level						Current expenditure per pupil as a percent of GNP per capita						
			1990			1996			1990			1996			
Country		Teacher salaries as percent of total current expenditure, 1996	Pre-pri. + Pri.	Sec.	Tert.	Pre-pri. + Pri.	Sec.	Tert.	Pre-pri. + Pri.	Sec.	Tert.	Pre-pri. + Pri.	Sec.	Tert.	
Latin America															
Trinidad and Tobago	•	66.7	42.5	36.8	11.9	40.5	33.1	13.3	9	17	73	10	16	73	
Uruguay		41.5	37.5	30.3	22.6	32.6	29.0	19.6	8	10	28	8	11	24	
Asia															
Bangladesh		...	45.6	42.2	8.7	44.8	43.8	7.9	4	15	26	5	16	17	
China		...	32.7	34.4	18.6	37.4	32.2	15.6	5	14	101	6	12	67	
Hong Kong		...	26.6	38.8	30.8	21.9	35.0	37.1	6	13	59	6	13	54	
India		...	38.9	27	14.9	39.5	26.5	13.7	13	16	99	11	18	100	
Indonesia	•	84.0	...	...	...	73.5	...	24.4	...	...	...	...	...	...	
Japan	•	79.3	40.4	43.1	10.2	39.3	41.8	12.1	17	19	15	17	19	14	
Laos		75.0	42.2	43.5	3.9	54.9	26.4	7.9	5	26	53	7	14	63	
Malaysia	•	72.7	34.3	34.4	19.9	37.3	35.5	20.2	9	18	123	10	17	85	
Maldives		...	...	...	...	...	...	...	...	...	...	...	...	...	
Pakistan		...	45.4	28.1	16.6	47.7	29.6	13.2	10	17	123	9	15	94	
Philippines	•	84.9	...	...	...	54.7	23.5	17.8	...	...	...	9	9	14	
Republic of Korea	•	77.0	44.4	34.1	7.4	45.3	36.6	8.0	11	10	6	17	13	6	
Singapore		...	29.6	36.5	29.3	25.7	34.6	34.8	8	13	42	7	12	31	
Sri Lanka		...	84.3	...	13.4	74.8	...	9.3	6	...	59	9	...	54	
Thailand		61.6	56.2	21.6	14.6	50.4	20	16.4	11	16	24	14	11	26	
Turkey	•		85.9	...	...	...	43.3	22	34.7	...	...	...	9	6	36

• All staff (administrative, teaching and other).

Source: UNESCO, World Education Report, 2000, Table 11. On the web at: http://www.unesco.org/education/information/wer/PDFeng/wholewer.PDF

Comparing Human Development and Educational Performance

Enviable rates of economic growth and educational achievement bear a close relationship to the quality of life. Rich countries with an educated population tend to provide for better social welfare and a higher standard of living. But the correlation is not always perfect. Singapore, a rich and educated country, is not the world's most democratic nation; other HIP Asia countries have had limited political and civic rights in the recent past (see Freedom House, 2001). That said, education indicators tend to be more revealing if they are considered in conjunction with indicators of the overall quality of life, not just economic growth. This section uses the indicators of school enrollment, literacy, life expectancy and GDP per capita from the United Nations' Development Programme's Human Development Index (HDI) as a framework for further comment on educational performance.

In the richer and more forward-moving countries of HIP Asia, education is serious business, and the achievements have been impressive (see Table 4, which incorporates data from the HDI and from the Third International Math and Science Study—TIMSS). The first finding that merits attention is how high the scores are for Japan and the "tigers," particularly in math.[4] A second finding is how such stellar performance does not necessarily guarantee an equally stellar quality of life, with the exception of Japan (which ranks third out of 174 countries worldwide on the 1995 HDI). Although HIP Asia leads the world in mathematics, it does not lead the world in terms of human development. The "tigers" are ranked between 22nd and 30th on this HDI.

By contrast, Latin America ranks low on the TIMSS, but not so low on the HDI. Colombia, which in 1995 occupied the second-to-last place on the math portion of TIMSS, was ranked 57th on the HDI. Similar results appeared with the repeat

[4] The weaknesses of standardized testing are recognized here. The tests evaluate a limited range of skills, and other skills that are not evaluated on standard and/or international tests influence subsequent productivity and life achievement. That said, however, the fact that the HIP countries perform well on international tests, particularly in math and science, suggests that these systems do a better job in developing "higher order" skills in their students. In addition to the TIMSS results, assessments carried out by the Educational Testing Service (ETS) in 1991 and by the International Association for the Evaluation of Student Achievement (IEA) in 1989 can be cited. On the IEA exam, Venezuela ranked last (below Indonesia); and on the ETS exam, the Brazilian cities of Fortaleza and São Paulo scored below all other participants with the exception of Mozambique. HIP Asia performed well on both occasions. Korea ranked first in each of the five categories of math on the ETS test. On the IEA algebra exam, Japan ranked first, and students from Hong Kong fell in the upper half of the distribution. For a more detailed discussion see Wolff (1998) and World Bank (1993).

Table 4 | Correlating Human Development with Education

1995	HDI	TIMSS							
		4th grade				8th grade			
		Math		Science		Math		Science	
Japan	3	Singapore	1	Korea	1	Singapore	1	Singapore	1
Hong Kong	24	Korea	2	Japan	2	Korea	2	Japan	3
Korea	31	Japan	3	Singapore	10	Japan	3	Korea	4
Chile	33	Hong Kong	4	Hong Kong	14	Hong Kong	4	Thailand	22
Singapore	35	Thailand	22	Thailand	24	Thailand	21	Hong Kong	24
Colombia	57	Malaysia		Malaysia		Colombia	40	Colombia	40
Thailand	58	Philippines		Philippines		Malaysia		Malaysia	
Malaysia	59	Colombia		Colombia		Philippines		Philippines	
Philippines	100	Chile		Chile		Chile		Chile	
Bangladesh	146	Bangladesh		Bangladesh		Bangladesh		Bangladesh	

Notes: HDI: N=174. 1-63 considered high; 64-127, medium; 128-174, low. TIMSS: averages for 4th grade: math, 529; science, 524; N=26. Averages for 8th grade: match, 513; science, 516; N=41.

1999	HDI	TIMSS-R 8th grade			
		Math		Science	
Japan	4	Singapore	1	Taiwan	1
Singapore	22	Korea	2	Singapore	2
Hong Kong	24	Taiwan	3	Japan	4
Korea	30	Hong Kong	4	Korea	5
Chile	34	Japan	5	Hong Kong	15
Malaysia	56	Malaysia	16	Malaysia	22
Colombia	57	Thailand	27	Thailand	24
Thailand	67	Indonesia	34	Indonesia	32
Philippines	77	Chile	35	Chile	35
Indonesia	105	Philippines	36	Philippines	36
Bangladesh	150	Bangladesh		Bangladesh	
Taiwan		Colombia		Colombia	

Notes: HDI: N=174. 1-45 considered high; 46-139, medium. 140-174, low. TIMSS: N=38. Average math: 487; science, 488.

of the TIMSS (TIMSS-R)[5] in 1999. Here, Chile displays the same pattern, scoring well on the HDI but poorly on the real learning of math.

[5] TIMSS-R collected data at the eighth-grade level in 38 countries about change in the mathematics and science achievements of students over the four years since TIMSS was applied. The students tested as part of TIMSS-R were those tested at the fourth grade level during TIMSS. For more information, see the TIMMS/TIMSS-R website at http://nces.ed.gov/timss/

While these are limited results from a limited sample, other sets of tests suggest that they mirror a broader pattern of educational performance that fails to correspond to socioeconomic status and quality of life indicators. When measured against other countries of the region in terms of educational performance, Chile and Colombia tend to do relatively well. For example, they scored in the top 50 percent on the *Laboratorio*, the first comparative study of math and language performance at the third and fourth grade levels across 13 Latin American countries.[6] However, when educational achievement is associated with the HDI, Chile's rankings are not so impressive. Whereas the country ranks first in the region on the HDI, it falls to third and fourth places when achievement in language (third grade; second place in fourth grade) and math (third and fourth grades), respectively, are considered across the region. The flip side is perhaps even more illuminating. Cuba, with an HDI of 58, ranks far above the rest of the region—nearly a full standard deviation—in achievement in math and language at the third and fourth grade levels (see UNESCO, 1998).

Such results ultimately suggest that the better-off countries in Latin America do relatively well in generating income, improving life expectancy and enrolling students. Yet when it comes down to real learning, their performance lags. Education systems throughout the region are more successful in putting and keeping youth in school than in truly teaching requisite skills. Indeed, learning goals often are compromised by factors and conditions—e.g., inadequate teaching, too little time on task, lack of teaching materials, and inadequate management and incentives—that bear, at best, an imperfect relationship to the HDI.

It is our contention that this state of affairs has fostered general frustration with the inability of schools and education systems to deliver quality education. This in turn has led governments and societies across Latin America to search for new solutions, with a greater tolerance for innovation than can be found in Asia. Compared to Latin America, systems across Asia appear conventional and even old-fashioned. Perhaps the fact that these systems have been able to guarantee access, equity and quality, particularly those in HIP Asia, has meant that there has been little need for innovation and system-wide change.

[6] Conducted in 1996, the *Laboratorio* study entailed achievement testing of more than 500,000 third and fourth graders in language and math. The study also administered comprehensive questionnaires to students and their parents, teachers and school administrators. Participating countries were Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Chile, the Dominican Republic, Honduras, Mexico, Paraguay, Peru and Venezuela.

Why Do Some Asian Countries Perform so Well?

Education systems across Asia are known for their rigidity and conservatism. Yet, as illustrated by TIMSS and other data, the systems produce impressive results. These countries perform vastly better than Latin America in all dimensions, from enrollment to achievement on tests, so it is not surprising that they have been reluctant to change. In the past, systems across Latin America also have been conservative and slow to change. But contrary to HIP Asia, the results have left much to be desired. In fact, the level of performance falls short of what would otherwise be expected given the level of investment in education.

This section presents a brief discussion of the factors conditioning the delivery of education in both regions. These factors, many of which will be discussed in fuller detail in the case studies, reflect historical circumstances as well as current situations. They go a good distance in accounting for differences in performance and innovation between HIP Asia and Latin America.

Effective centralization. Does the type of political regime influence educational performance? Or is it the impact of centralized policy-making and administration? To a large extent, policy across Asia is centralized and implemented top-down. In Latin America, at least on paper, the situation is much the same. In most countries, education policies, decisions and implementation are often just as centralized as in Asia. As much as decentralization might be a buzzword for contemporary sector reforms, it has by no means become the norm across the region.

Despite these similarities, real differences exist, particularly in what can be termed the effectiveness of the state in implementing policies. If this capacity is strong, policies are likely to be enacted across a given nation with near uniformity. And if these policies are wise, centralization serves to compensate for prevailing structural inequalities, rather than simply squashing localisms in the name of maintaining uniform standards.

This is the general situation found in HIP Asia. Policy, past and present, has been and continues to be used to smooth inequities related to resource endowment and other factors. In fact, if one were to visit any primary or secondary school in these countries, chances are that it would be hard to guess the socioeconomic status of its students. Classrooms look much the same and have access to equal resources. Most importantly, results vary minimally, if at all.

In Latin America, on the other hand, state capacities always have been weak. Centralized systems have long proved incapable of implementing education policies that ensure equity and quality for all schools and students. What has come from the center has been either unwise—and, hence, harmful—or not enforced. As a result,

inequities run rampant. Witness the gaps in performance between the rich and poor: in the richest strata, 60 percent of young people aged 15-19 reach, at a minimum, ninth grade; this compares to only 20 percent from the poorest strata (IDB, 2000). Performance in indigenous populations has been even more alarming. In Guatemala, indigenous boys receive a mere 1.8 years of education; indigenous girls receive half as much (IDB, 1996: 279).

It has been the failure of centralization that has led reformers across Latin America to explore different ways to implement policy. Indeed, although there has been more rhetoric than action in matters related to decentralization, successful reforms of late have involved some degree of devolution or delegation of power and resources to lower echelons of education bureaucracies. Of course, not all reforms have been successful. Some have been spectacularly disastrous, characterized by states of siege, nationwide strikes and a litany of unmet demands and expectations.

Morality and discipline. Effective centralization seems to be only part of the story. The level of educational achievement found across HIP Asia also appears to bear some relation to the moral side of education, which has generally been absent in schools across Latin America. In HIP Asia, a trinity of values related to mind, body and soul is inculcated in students from the first day they step into a classroom. Although a greater emphasis on civic and moral education is starting to take hold across Latin America, it is nowhere near as widespread as in HIP Asia. For example, in Singapore, education is mandated to serve a dual purpose: to develop the individual and educate the citizen. Curricula stem from a vision of "thinking school, learning nation," and values are integrated throughout (see Box 1).[7] Such an approach has gone hand in hand with strong discipline and order in classrooms, a situation which, in turn, has meant that enviable results can be achieved even with comparatively high student-teacher ratios often exceeding 30:1 (World Bank, 1999).

Differences in pedagogy. Other factors associated with the success of HIP Asia have to do with an emphasis on group work and time-on-task. Simply put, the longer students spend in school, the more they are likely to learn. Although obligatory cycles are being extended in Latin America (e.g., from the sixth to the ninth grade), they remain shorter than the 10-year norm throughout HIP Asia, and the lack of effective enforcement mechanisms is endemic. The stark reality is that a high percentage of children drop out long before finishing the compulsory cycle (see Table 1).

[7] Some authors find the strong emphasis on values in education to be a reflection of the Confucian and Buddhist teachings dominant in societies across Asia. See White (1987).

BOX 1 **Intermediate Outcomes of Education: Ministry of Education, Singapore**

Primary
At the end of primary school, pupils should:

- Be able to distinguish right from wrong
- Have learned to share and put others first
- Be able to build friendships with others
- Have a lively intellectual curiosity
- Be able to think for and express themselves
- Take pride in their work
- Have cultivated healthy habits
- Love Singapore

Secondary
At the end of secondary school, pupils should:

- Have moral integrity
- Have care and concern for others
- Be able to work in teams and value every contribution
- Be enterprising and innovative
- Possess a broad-based foundation for further education
- Believe in their ability
- Have an appreciation for aesthetics
- Know and believe in Singapore

Junior College (age 16-18)
At the end of junior college, pupils should:

- Be resilient and resolute
- Have a sound sense of social responsibility
- Understand what it takes to inspire and motivate others
- Have an entrepreneurial and creative spirit
- Be able to think independently and creatively
- Strive for excellence
- Have a zest for life
- Understand what it takes to lead Singapore

Once in school, considerably less time-on-task is spent in Latin America than in HIP Asia. Public schools across Latin America offer, on average, 500-800 hours of instruction a year, but an average of 10-40 days a year are lost to strikes (OAS, 1998). Students across HIP Asia can spend up to 1,200 hours a year in school, and their days are jam-packed. In Japanese schools, for example, the pace and rigor of study are intense, particularly at the secondary level: six to seven 45-minute classes a day, followed by cram courses and other extracurricular activities (e.g., judo, karate, swimming, baseball, volleyball) sanctioned by the school. Participation in these activities is all but mandatory[8] and is taken seriously by instructors as well as students. By some accounts, students train and are drilled with a near professional-like discipline and regimen.

[8] Singapore's curricula require participation in at least one extracurricular activity; in Japan, an estimated 50 percent of all students participate in these activities.

High stakes and aspirations. Student lifestyles across HIP Asia are largely determined by their academic aspirations. If they aspire to university study, their preparation starts early on—and it can become all consuming. In Japan, for example, many of the best high schools compress three-year curricula into two years, so that the final year can be devoted to preparing for college exams. A "good" school thus not only has a high percentage of students going on to university, but also a large percentage able to enter prestigious schools. As a result, education, particularly at the secondary level, is a high-stakes affair.

Whereas parents everywhere want their children to excel and take whatever reasonable steps they can to encourage them along these lines, parental participation in Japan—as well as in South Korea and Taiwan—borders on the obsessive. Parents go beyond simply expecting their children to do well. They enroll their children—and themselves—in cram courses and spend enormous sums doing so. In South Korea, about 15.5 percent of parents had extra part-time jobs in 1997 to help defray the costs of their children's education, including cram courses. As a whole, South Korean families spend as much on cram courses as the state spends on education. The justification is simple: the family's reputation will be affected if the child does not do well.

In Japan, educational achievement is the number one topic for families with school-age children. An estimated 86 percent of these children take cram courses, or *juku*. This figure rises to 90 percent in urban areas. By the Ministry of Education's own calculation, 1.5 million children at the elementary level and 2 million at the secondary level are enrolled in *juku*. Such widespread demand has created an enormous supply. There are between 35,000 and 200,000 *jukus*, ranging from one-room schools run by housewives to giant corporations (hence the lack of precise statistics). Together, *juku* soak up about 490 billion yen ($4.6 billion). As of 1997, nine *juku* firms were listed on the Japanese stock exchanges (Russell, cited in Bray, 1999: 23). In some cases, parents attend *juku* to better coach their children at home. The scope and reach of *juku* is so impressive that it is, for all intents and purposes, a "shadow" system of education (Bray, 1999).

Juku generally offer course work at levels well beyond standard curricula for each grade. As a result, it often is said that students have to know high school math to pass entrance exams for top-notch junior high schools. Some of the best juku even have their own entrance exams—these can be harder to pass than the ones the *juku* help students study for. Many *juku* have databases with old exam questions and other information to help children along once they are enrolled.

The *juku*/cram course machinery sucks in the good students—the ones who aspire to university study tend to perform well in school and lead active academic

and extracurricular lives—and frequently adds stress where little more can be tolerated. Nearly 18 percent of children in South Korea had been to a psychiatrist to deal with the stress of studying for university entrance exams. On the more positive side, the ubiquity of *juku* puts education front and center in a child's social life. In Japan, for example, *juku* are so common that children who do not attend often feel left out. For those who do attend, much of their social life revolves around the courses. On the downside, some observers consider the pressures induced by these exams to be precipitating factors in high rates of suicide among youth aged 15-21. Others question the very basis of a system in which regular and "shadow" education can consume nine or more hours of a child's day when parents work, on average, a seven-hour day (Mauritius, cited in Bray, 1999).

Once children enter the university, the pressures and competition all but disappear. Gaining entrance is the hard part; graduating is relatively easy. Japanese universities "are not perceived as truly educating students. For their part, students treat universities as places to rest for four years after the pressure of the entrance examinations" (Ogawa, 1999: 22). Nor are good grades that necessary to land a good job. In many instances, employers place more emphasis on which university a given applicant attended rather than on actual academic performance.

Although by no means as exaggerated as the *juku* system, the advent of high-stakes testing in Latin America has ushered in a type of cram-course culture. In Brazil, for example, students wishing to pursue a university degree must sit for the *vestibular*. This test, administered by university faculties, determines which students will enter which fields of study at which universities. Colloquially referred to as "the funnel," the *vestibular* is ferociously competitive. *Cursinhos*, akin to *juku*, have mushroomed to prepare students to take the exam. Many of these courses are private and, of late, offered online, in addition to the more traditional face-to-face formats.[9]

Peru, too, has seen a flourishing *juku*-like industry of private *academias* aimed at helping students pass university entrance exams. Yet, in notable contrast to experiences elsewhere in Latin America, reforms currently under way in Peru are a direct

[9] Since its creation in 1998, the National Exam of Secondary Education (ENEM) has also been used to select students for university study. This test, administered by the Ministry of Education, evaluates the ability of students to apply general knowledge and skills gained through secondary education. The *vestibular*, however, remains the screening mechanism of choice for most universities. In addition, graduate studies are evaluated by the *provão*. Also administered by the Ministry of Education, the *provão* analyzes factors associated with the quality and efficiency of given courses of graduate study, including research activities.

response to the proliferation of these courses (see Navarro, undated).[10] Insofar as the "education" delivered through these "schools" is not necessarily an ideal way to solidify basic skills and competencies—focusing instead on tricks and skills useful for passing exams—their rapid growth speaks clearly to deficiencies in quality and spending at the secondary level of education. Because they cater to middle- and higher-income clienteles, the *academias*, moreover, have reinforced structural biases long prevalent throughout the nation's education system. Reforms in progress seek to improve the quality and equity of secondary education, thus removing the *academias* from the educational limelight.

Differences in funding issues. Considering the striking differences in performance previously mentioned, one would expect to find correspondingly large discrepancies in current funding patterns between Latin America and Asia. Surprisingly, this is not so. Considering HIP Asia's success in education, it has not allocated excessive public funds to education. Given the poor results in Latin America, these governments do not appear as thrifty as would be expected.

Table 3 shows no clear pattern in spending on education. Per student spending reveals some variation between Asia, HIP Asia and Latin America, yet this difference does not appear to be significant. In some cases, per student spending is higher in Latin America than in the high-performing countries of Asia. Clearly, faster rates of growth in HIP Asia allowed these countries to devote more public resources to education without increasing the share of GNP allocated to the sector. Still, however, there is no clear trend in per student expenditures. Spending tends to be more evenly distributed across the different levels of education in Asia, and particularly in HIP Asia, than in Latin America. Whereas spending in Latin America is skewed towards the tertiary level, its distribution in Asia is flatter across levels of education—even inverse (e.g., in Japan and South Korea). Such trends merit consideration in that it is generally accepted that rates of return for primary education are greater than those for higher levels.

The data in Table 3 fail to capture another difference: family expenditures for education. Although these data are incomplete, it seems that family contributions are higher in HIP Asia, where parents tend to spend sizable sums on cram courses. Considerably less is known about private expenditures for education in Latin

[10] A parallel can be drawn here to HIP Asia, where some debate surrounding the public-private split in education revolves around how public resources can be mobilized and public systems reformed to decrease the demand for and pressures of private education (e.g., *juku*).

America. Data capturing this type of behavior are scarce, as are estimates of the volume of resources currently consumed by private *cursinhos* and *academias*.

Statistics that do exist suggest that family expenditures on public education in Latin America mostly include transportation, uniforms, books and "voluntary" contributions to schools through parent organizations. At the secondary level, families may incur additional expenses if their children are required to move away from home to continue studying. In Peru, for example, statistics from 1997 indicate that families spent an estimated $41 for each child attending a public primary school and $92 for each child at the secondary level (Gorriti et al., 2000: 95-100).[11]

Higher internal and external efficiencies in HIP Asia. Although few data are available, literature on HIP Asia points out that children are promoted through the system with considerable efficiency (see Table 1). This happens despite the presence of demanding examinations at multiple levels. One partial explanation is that parents exert considerable pressure on children to do well. The high levels of private spending on education are evidence of this devotion to school achievement. Another related explanation seems to revolve around discipline in the classroom. Although few data on the subject exist, anecdotal evidence suggests that far less time is spent on disciplining students or dealing with disruptive situations in classrooms in HIP Asia than in Latin America.

Role of parents. In both regions, parental participation has been a key component of the political equation. But participation is defined in different ways. In HIP Asia, participation is closer to home. Parents get deeply involved in the education of their children, pressuring them to do well, enrolling them in cram courses, and stressing that the family's reputation will be affected if they do not do well. Parents also are the schools' most ardent supporters, often resisting change in how schools are administered or how their children are taught out of fear that any such change might affect their success. In Latin America, contrarily, parents openly push for change. Recent trends granting some degree of autonomy to schools have empowered parents to exercise a type of social control, rendering decisions on how school funds should be allocated, how schools should be maintained, and, in some cases, which teachers should be hired and fired.

[11] It should be noted that these figures are a fraction of per-student expenditures made by the state: $205 per child at the pre-primary level, $133 at the primary level, $220 at the secondary level, $185 at the tertiary (non-university) level and $182 for university fees. Of the 5.4 percent of GNP spent on education, an estimated 3 percent comes from public coffers and the remainder from family contributions.

Different locus of reform. The very success of education systems throughout HIP Asia in meeting the needs of their most critical constituencies—parents and employers—has largely removed education from political agendas. These systems have served their societies well, producing loyal and obedient workers who have helped marshal in periods of economic growth and expansion. Pressures for change have been subdued. As result, the ministries of education not only developed a reputation for conservatism in the content and administration of education, but they also became the most zealous proselytizers of their systems. Parents, too, have been a conservative force. Their preoccupation with examinations and their satisfaction with the present system make innovations seem disruptive and unnecessary. Even the use of computers and more innovative teaching methods has met with strong parental opposition. If and when change has occurred, it has followed a simple trajectory: top-down.

In Latin America, at least in successful cases, reform has tended to be bottom-up.[12] This represents a notable break from the past, when good public schools catered to the elites and the derelict schools—or no schools—were offered to the passive masses. Cries for reform, especially at the secondary level, are coming from all corners of society. Particularly telling is that businesses, particularly in the higher income countries, have become quite vocal in expressing their dissatisfaction with the skills and competency profiles of secondary graduates.

Reforms from the bottom up have translated into a more results-oriented approach than in the past. Assessment, although still incipient in some countries, is starting to take hold. Testing in Brazil, for example, has developed into both a science and an industry. The National System of Evaluation for Basic Education (SAEB) measures achievement in the fourth and eighth grades of the basic cycle and in the third grade of the secondary cycle. The test is structured to provide a basis for comparing education quality throughout the country. Another approach has been public-private partnerships, which have sprung up in efforts to guide occupational training programs and ensure that the supply of trained workers responds to the demand for skilled labor. In terms of the design and delivery of workforce training and retraining programs, the region has witnessed a number of reforms (e.g., in Chile, Argentina, Brazil and Peru). The golden rule of "no demand, no training" applies, as observers and policymakers alike find that, absent demand for a given skill set, any investment in training is hard to justify.

[12] Recently, however, there have been examples of change propelled from the top, such as from the Federal Ministry of Education in Brazil.

Notably, a bottom-up or school-up approach to reform is not simply the inverse of a top-down or ministry-down approach. Implementing reform from the bottom up requires significant efforts in social marketing and mobilization. Participation does not happen automatically. Parents, teachers and civil society usually need to be propelled into action, particularly if there is little or no history of mobilizing for change. As the Colombian case included in this volume clearly illustrates, social marketing and mobilization campaigns are therefore needed to "sell" a given reform—that is, to generate broad-based support for reform and create a platform from which the reform can be launched and sustained.

The Key Role of Innovation and Performance in Reform

In some ways, Latin America and Asia remain worlds apart in terms of education policy and its results. But a rapidly globalizing world may eventually bring them closer together. Latin America lags behind its global economic competitors and is in a hurry to catch up—a challenge that will require well-educated populations. Since time is of the essence, pursuing reform with the same institutions and strategies as in the past is not likely to produce results different than the status quo. The flourishing of innovations at the sub-national level thus comes as little surprise.

In HIP Asia, while enviable achievements in education have offered little incentive for reform, the new economy is ushering in many jobs that depend more on innovation and creativity than on blind loyalty or the ability to tow the company line. The change-adverse systems of HIP Asia are showing signs of fray. Reforms will have to be designed to replace rote learning with pedagogy better able to bring out creative and critical thinking. This is easier said than done, given the prickly nature of discussions about reform in the past.

In framing their strategies to meet the demands of a more global economy, both regions have given priority to education. In doing so, the challenge seems to be one of striking a balance between performance and innovation. Through innovation, Latin America is enhancing its performance—its most urgent task. In trying to maintain its enviable performance, HIP Asia may be faced with the need to embark on some degree of innovation. Together these two regions, once so different, may in the end discover areas of common ground.

Case Studies

The cases studies included in this volume speak to many of the issues introduced above. The first set focuses on Asia, touching on the diverse levels of educational performance and socioeconomic development that characterize the region. In the initial overview for Part II, "The Role of Education in Asia," William Loxley classifies the region by patterns of growth and analyzes the challenges each category will face in improving the quality and equity of education.

Shamse Ara Hasan then presents a case study on a low performer. In "Access to Quality Education in Rural Bangladesh," Hasan argues that despite programs to increase access to schools, improve teacher training and revise the primary school curricula, high dropout rates and other inefficiencies persist. The quality of education remains a main concern. The next two studies discuss education in transitional countries. "Linking Education and Skill Development to Employment in Malaysia," by Anuwar Ali, examines the educational implications emerging from Malaysia's human resource development strategy for industrialization. The study analyzes issues ranging from the participation of the private sector in higher-education to the training of indigenous people, particularly the *bumiputera.*

The study by Edilberto C. de Jesus concentrates on issues of governance related to education in the Philippines, particularly public-private arrangements. The public sector handles most responsibilities at the primary and secondary levels, and the private sector dominates at the tertiary level. While there is better access to education in general, quality improvements do not justify the government expenditure involved.

The final case studies on Asia focus on the HIP countries. In "The Challenges of Japanese Education: From Uniform Arrangement to Diversity," Anne Emig and Ikuko Shimizo trace the evolution of this system, emphasizing the factors that have given rise to Japan's strong performance and how these factors currently are playing themselves out. In "Education Reform in Japan: Fostering a 'Zest for Living' Through Informatics," Takashi Sakamoto explores the human resource skills needed for Japan to sustain growth and competitiveness and examines how computer education can help in developing these skills. "Private Education in South Korea," by Eun Mee Kim and Inpyo Lee, looks at various attempts to reform the public education system in order to ease the demand for private education.

Part III of the book presents case studies from Latin America that trace how innovations have flourished in response to lagging progress in education across the region. The studies describe innovations that have responded to concrete prob-

lems in specific social contexts. They are intentionally sequenced, moving from general philosophies of education and locally implemented innovations to larger scale reform.

Following a broad overview of the region, "Latin America: Common Roots, Inequality and the Weight of History," by Claudio de Moura Castro and Aimee Verdisco, two case studies illustrate how ideas and philosophies can orient education reform. In "Crossing Borders: Freirean Method and Experiences," Moacir Gadotti describes how ideas from this acclaimed Brazilian educator have spread throughout the world. Freire's innovative thinking on how to teach the poor and dispossessed has attracted much attention, as have the links he formalized between teaching literacy and politics. In much the same vein, the experience of the Escuela Nueva in Colombia has inspired reform across the region. In "Improving the Quality of Education for the Rural Poor: Escuela Nueva in Colombia," Vicki Colbert describes a system that has revolutionized rural education by creating a highly successful model that improves the quality of single-classroom teaching.

The book then presents four examples of successful approaches to a perennial challenge to education reform—bringing education to the masses. The first study, "Communication, Social Mobilization and Changes in Education," by Bernardo Toro, delves into the issues of social marketing. It details how social marketing campaigns have been used to mobilize parental involvement in schools across Colombia.

The next study, "Three Decades of Testing in Latin America: From Ghost Repeaters to Quality Gaps," by Ernesto and Paulina Schiefelbein, discusses how student evaluation has gained currency throughout Latin America. Whereas any evaluation was seen as taboo 30 years ago, most countries now test students from the early years of schooling through the end of university study.

The next study investigates the use of television to close gaps in access and increase enrollment statistics. In "Is Education by Television Just an Old Technology?" Claudio de Moura Castro examines Brazilian and Mexican experiences with televised education programs. The Mexican central government operates Telesecundaria, a public endeavor using television to offer high quality instruction to rural schools. The Brazilian Telecurso 2000 is operated by a private television network and beams educational programming to almost a billion viewers.

Viola Espínola and Claudio de Moura Castro then discuss how economic thinking and discourse entered the realm of education policy in Chile. In "Economic Principles in Education Management in Chile," they examine how economists, by playing with incentive structures rather than with rules and laws, brought new and indirect styles of management to the field of education.

The final study, "Education Reform in Minas Gerais" by Walfrido Silvino dos Mares Guia, details the course of reform in this Brazilian state. While Brazil has been somewhat of a latecomer to education reform (Costa Rica and Chile have led the way), it has produced some impressive results, particularly in Minas Gerais. Guia's chapter describes the path of reform and the various elements—many of which are common to the other case studies—that have contributed to its success.

The book concludes with a discussion of the main lessons learned. These lessons pull together the key findings from each of the case studies and place them within the context of trends likely to be seen in the future.

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PART II

THE ROLE OF EDUCATION IN ASIA

William Loxley

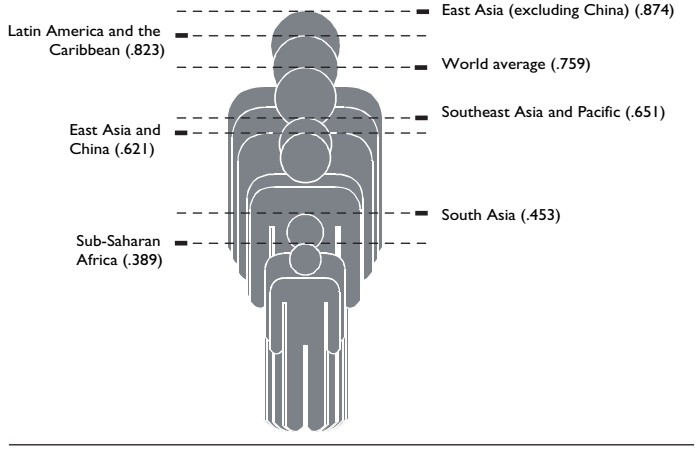
National development poses a universal challenge for both Asia and Latin America but, at the same time, demands unique solutions for each region and country. As neither economic nor social change is likely to occur without a literate and healthy population, education is a major determinant of development everywhere. Yet few close comparisons of the state of education in the two regions have been made, primarily because of their geographic distance from each other.

Both regions are diverse; Asian countries, however, represent a vast array of levels of development, from the highest to the lowest, in their economic and education systems. Hence, the region constitutes a natural laboratory for investigating development issues, including the role of education in enhancing employment skills, and the educational technologies that will support the region's global competitiveness and enrich the lives of its people.

The Human Development Index, a broad index of social development devised by the United Nations Development Programme (UNDP, 1995), allows a comparison between Asia and Latin America. Figure 1 shows the rankings of Latin America and the various subregions of Asia on a scale of 0 (least developed) to 1 (most highly developed).

With over 3 billion people, Asia contains both the world's most populous countries and some of its smallest. The region's population growth rate during the last 10 years was less than Latin America's, but, because of the large population base, it accounted for half of the yearly increase in the world's population in terms of numbers. Asia has a relatively young population (40 percent under age 15), but also rapidly growing numbers of people aged 65 and older (nearly 700 million, or 85 percent

Figure 1 **Ranking of Regions According to the Human Development Index**



of the world total). Despite economic growth, Asia has more than half of the world's poor people, who live on less than a dollar a day, as well as nearly three-quarters of the world's illiterate population (about 880 million). Demographics will continue to shape the size of education systems in Asia, as well as their structure and costs.

Table 1 gives key indicators for the major countries in the region ranked according to per capita income. China and India have a total of over 2 billion people, or one-third of the world's population. The ancient but inward-looking civilizations of these countries inhabited large landmasses and gave rise to dense populations in the course of thousands of years. Today, China and India are finding it difficult to raise their level of national productivity because their peoples have not invested enough in themselves and taken advantage of opportunities for migration, occupational mobility, and innovative behavior. Low human development and subsistence levels have precluded a constant rise in income and, hence, a self-sustaining improvement in living standards. Moreover, given these countries' large populations, there simply isn't enough to go around.

The countries shown in Table 1 vary widely in population and in natural and human resources. Of the three subgroups shown, the top subgroup represents advanced or mature economies that must constantly innovate and intensify their human capital investments in high-value services to retain their competitive advan-

Table 1 **Social and Economic Indicators for Selected Asian Countries, 1995**

Country	GNP per capita (US$)	Population (millions)	Illiteracy rate (%)	Primary school		Secondary school	
				Age group population (millions)	Gross enrollment (%)	Age group population (millions)	Gross enrollment (%)
Japan	40,000	125	na	9	102	10	98
Singapore	26,700	4	7	0	110	0	60
Hong Kong	22,000	6	7	1	96	1	75
Australia	18,700	18	na	2	108	2	117
New Zealand	14,300	4	7	0	110	0	60
Korea	9,700	45	2	5	101	5	101
Malaysia	3,900	20	16	3	110	3	57
Thailand	2,700	60	6	7	87	7	55
Kazakhstan	1,300	17	na	1	96	2	83
Philippines	1,050	70	5	10	116	6	79
Maldives	990	0	7	0	na	0	49
Indonesia	980	200	16	26	114	25	48
Kyrgystan	700	5	na	0	107	1	81
Sri Lanka	700	18	9	2	113	3	75
China	620	5	na	0	107	1	81
Pakistan	460	17	na	1	96	2	83
Bhutan	420	125	na	9	102	10	98
Lao	350	200	16	26	114	25	48
India	340	6	7	1	96	1	75
Tajikistan	340	60	na	1	89	1	82
Mongolia	310	3	17	0	102	0	59
Myanmar	280	45	17	5	103	6	30
Cambodia	140	270	38	1	120	1	27
Afghanistan	250	20	68	3	64	2	22
Bangladesh	240	120	62	20	65	18	20
Vietnam	250	240	6	9	114	12	47
Nepal	220	200	72	3	110	2	37

na = not available
Source: UNESCO (1998).

tage. These countries, which have per capita incomes above $10,000, will play a diminishing role over time in the economic growth of Asia.

The second subgroup represents countries on the rise. They need to expand and intensify opportunities for educational and occupational mobility so as to generate efficiencies and greater productivity, and thus promote their national well-being as well as the growth of the region.

Table 2 **Worldwide School Enrollment, 1995**
(In millions)

Region	Population/ Percent of world total		Preschool students		Primary school students		Secondary school students		Tertiary school students		Teachers (all grades)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Asia	1,800	30	35	37	206	32	101	27	14	17	16	28
South Asia	1,200	20	6	6	155	24	89	24	8	10	7	12
Latin America	660	11	14	15	82	13	26	7	8	10	7	11
More developed regions	1,100	19	22	23	63	10	75	20	34	41	13	23
All others	1,200	20	18	19	144	21	81	22	18	22	14	25
World total	5,960	100	95	100	650	100	372	100	82	100	57	100

Source: UNESCO (1995).

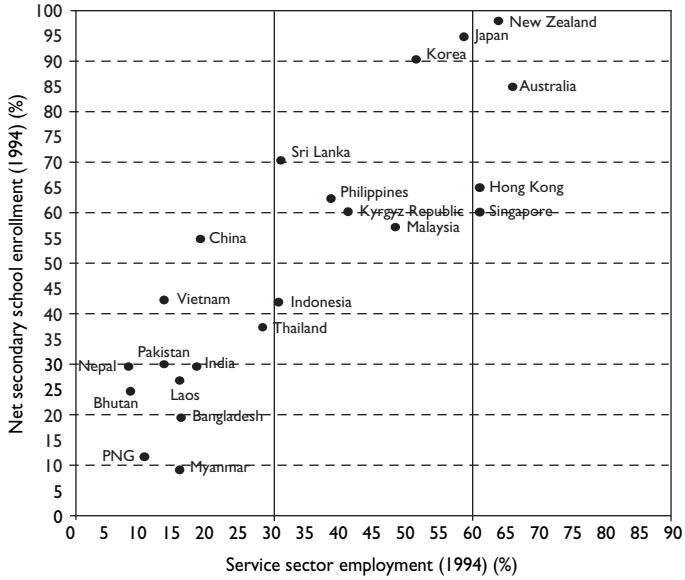
Finally, the third subgroup, with per capita incomes of less than $600, represents countries that have yet to "take off" and prosper. However, once these nations develop the critical human resource skills needed to generate economic growth, their peoples will benefit greatly, as will regional growth.

These three stages suggest that many different economies will serve as engines of growth for Asia over the next 50 years.

While GDP indicates the level of resources available to meet economic development needs, population size indicates the magnitude of the task of allocating resources to educate each new generation. Measures of literacy and primary and secondary school enrollments show how far countries have gone or need to go to enroll all children in school and provide useful education for all. Judging by these indicators, favorable levels of resources are widely distributed in wealthy countries such as Japan, Korea, Singapore, Hong Kong, Australia and New Zealand. On the other hand, poorer countries such as Bangladesh, India, Myanmar, Nepal and Vietnam show low levels of resource inputs. These countries are usually hard-pressed to provide quality schooling for all children.

Table 2 aggregates these national comparisons into regional means and compares them with other regions of the world. Partly because Asia is home to the two most populous nations in the world—China with 1.2 billion and India with 900 million; together they have 35 percent of the world's population—the region dominates education systems worldwide in terms of numbers of children and classroom teachers.

Figure 2 **Secondary Schooling and Service Sector Jobs in Asia**



Fifty-six percent of all children in primary school, 51 percent of all secondary school students, and over 40 percent of all teachers are found in Asia. The comparable percentages for Latin America are 13 percent, 7 percent, and 11 percent, respectively.

To get a better understanding of the role of education in national development in Asia, two indicators can be plotted. First, the percentage of service sector jobs in the economy indicates how far employment options have widened from a narrow range of low-value work in agriculture to a diversified set of service occupations. Second, the percentage of school enrollment in secondary education shows how far skills have deepened, from basic literacy and numeracy to more advanced problem solving and language expression needed for inclusion in the workforce. Enrollment in secondary school approximates the levels of learning needed to run a modern economy. The relationship between educational level and occupational requirements among Asian countries is plotted in Figure 2.

The indicators in Figure 2 can be divided roughly into three parts to show this relationship in developed and developing countries. Generally, countries where

few students are enrolled in high school or where the service economy represents less than a third of all occupations will find it difficult to quickly move up the continuum of development sketched earlier. Asian countries must acquire skills efficiently to compete globally and to bridge the cultural gap within and between countries. Secondary schooling goes hand in hand with the development of work skills in diversifying occupations.

Figure 2 suggests several directions for the pattern of educational development in the region. First, countries need to develop basic education to ensure access for all segments of society, including males and females and urban and rural dwellers. Over time, this will help reduce poverty and equalize opportunities for future generations.

The second step is to ensure that children stay in school and do not drop out by improving the quality of schooling, especially at the secondary level. Simply put, children provided with quality schooling will want to finish grade school and go on to high school and beyond. The quality dimension implies providing in-service training for teachers, developing better instructional materials, and looking for new educational technologies to supplement classroom teaching. Decentralizing control to the community is also key to providing a quality education and keeping children in school.

Third, once education at the basic and secondary levels has been established, post-secondary schooling must be emphasized to develop employment skills. A demand-driven approach closely linked to employer needs is required, as is coordination to prevent oversupply in certain occupations.

Finally, once the education system is functioning well across all subsectors, school outputs must be monitored and evaluated to measure efficiency in raising national levels of learning to international standards. What children learn in school greatly determines the value of education and provides a cognitive measure of average national output.

The sections that follow review key findings and programs aimed at fine-tuning schooling in Asia by (i) increasing access; (ii) improving quality through learning technologies and other means; (iii) developing employment skills; and (iv) monitoring school performance against international standards.

Basic Education and the Reduction of Poverty

Education is much like farming: once the fields are planted, yield can be increased only through better crop-producing nutrients and cultivation techniques. In education,

once the goal of getting children in school is achieved, they must be provided with good teachers and a good-quality education to increase their learning and raise education standards. Education systems must keep up with changes in the technology base and in demographics in order to resupply society's stocks of knowledge and enable each successive young cohort to survive into the next century.

At least eight years of schooling are needed to improve national literacy and knowledge and produce related changes in behavior. Many Asian countries now have universal primary education and have increased net enrollments close to 100 percent. In South Asia, however, much work remains to be done, partly because there are so many children of school age. In these areas, about 300 million children are still out of school. Without the economic and social resources to educate all children, countries will fall short of the goal of national development and are unlikely to reduce poverty and achieve social progress in the long run.

Table 2 indicates that preschool education is still not widespread in South Asia and Latin America. East Asia leads the way in investing in young children, most likely because parents in that region see child play and social development as key to improved learning at an early age. But again, the cost of formal preschool education pushes it beyond the reach of most communities worldwide.

Even as India, Pakistan, Bangladesh, Nepal, Myanmar, Cambodia and Laos continue to draw millions of first-time students into the education system, China, the Philippines, Vietnam, Papua New Guinea and Indonesia are striving to create better opportunities for hard-to-reach groups such as those in remote areas, tribal and ethnic minorities, the poor, the rural disadvantaged, and females. In remote areas, schools are often small and qualified teachers unavailable. Appropriate monitoring and support systems become even more necessary in this context.

Providing primary education for all requires constant effort in Asia, which is home to half the world's children of primary school age. Particularly during the Asian economic downturn, countries like Indonesia, the Philippines and Thailand are intent on keeping targeted groups from dropping out and enrollment gains from eroding. The education system must attract and retain students, especially among otherwise disenfranchised rural and poor children, for whom there are often not enough classrooms. In this regard, certain aspects of the Escuela Nueva program in Latin America may be applicable in Asia.

Improving Learning Through Print and Electronic Media

Once they are in school, children will stay there only if they are kept interested in learning. Dropout rates are still high in many Asian countries, especially in rural and poor areas. Females and the poor are often the first to leave school, reducing the efficiency of the education system as a whole.

To return to the farming analogy, just as cultivation becomes important once the fields have been planted, quality learning materials and good teachers will help children learn better. Asia has over 23 million teachers, or about 40 percent of all teachers worldwide. Many of these teachers try to improve their qualifications through experience, in-service training, and higher degrees. However, the poor salary structure discourages many others from improving themselves and keeping abreast of new teaching methods, while still others may be hampered by lack of access to information and skill development programs. The result is reduced internal efficiency, as students, without capable teachers, may not find school intellectually challenging enough and drop out.

Mentoring and distance education networks are providing teachers in Asia with new skills, but this in-service training is time- and labor-intensive. Few efforts are being made to tackle the politically difficult task of regulating professional standards. On the other hand, New Zealand and Singapore have successfully reformed their education systems, including teaching standards. Others may profit from examining the successes achieved by these small systems.

In the classroom, electronic media can supplement printed learning materials. Computers, television and digital satellite technology can link classrooms to a central site for distance education. This setup is especially useful in upgrading teacher qualifications, but can also be used selectively to train science teachers and other target groups of teachers and students. China makes extensive use of TV broadcasts, while Japan, Indonesia and many other large Asian countries direct satellite broadcasts to specific geographic regions.

Another broadcast medium, interactive radio instruction (IRI), supplements teaching in science, language, mathematics and civics education. Students in the classroom can interact with the radio announcer while the teacher looks on and helps students follow instructions. This method supplements regular classroom lessons and is particularly valuable when teachers are poorly trained or have limited knowledge. IRI is being tried for English language learning in Pakistan and Thailand, and for science study in Papua New Guinea. But the technology has not yet been effectively introduced on a nationwide scale anywhere in Asia.

Computer technology, on the other hand, is well advanced, and efforts to link schools to computer networks and to the Internet are underway in Asia. Singapore is preparing to wire all schools and make computer study mandatory for all students, while high schools in Sri Lanka are being equipped with computer laboratories. Despite its small size, Singapore has invested the most in the new technologies in order to keep its future generations competitive. Pilot programs have also begun in Japan (100 schools), Korea (Kidsnet), and Malaysia (Smart Schools).

In distance education, India and other South Asian countries have led in developing flexible programs to provide individual instruction to people living in remote areas. These distance programs could be expanded into community centers, which could make a wide range of enrichment programs available to their respective communities.

Digital instructional and library CD-ROM materials represent an improvement over the print media in tropical climates where paper is expensive or in short supply. This relatively unexplored education technology is beginning to show potential with the latest computer technologies. Asian educators are challenged to respond quickly with innovative pilot programs and efficient approaches.

The Asian Development Bank Institute (ADBI) in Tokyo has been examining the possible use of alternative learning technologies in and outside the classroom. These include stand-alone laptop computers and electronic "blackboards" linking the computers of the students and the teacher. As ADBI pointed out in recent workshops on learning for development in Tokyo, linking high schools around the region to the Internet for studies in civics education could improve cooperation and understanding of cultural differences throughout the region.

But electronic learning technology represents a potential that is still largely unexplored. Its use in schools depends on financial and other support from the private sector for the necessary hardware, software and satellite hookups. The Foundation for the Support of the United Nations, which plans to link Asia to other parts of the world through broad-band Internet in the English language, has begun a pilot program in the Philippines. The Space Communications Corporation in Japan is connecting remote areas of Asia through satellite-linked desktop receiving stations for distance education. All of these efforts are meant to disseminate knowledge more widely and to provide an in-depth knowledge base for integrating the Asian region.

Developing Employment Skills

Growth is the most effective way of improving the labor market. It creates demand for labor, raises incomes, and makes more and better jobs available to all citizens, especially the poor. As growth leads populations to migrate from rural to urban areas and from agriculture to the service sectors, post-secondary education can help the young respond to changes in employment patterns. However, although university education in Asia is often private, university enrollments must be closely monitored to prevent an oversupply of future degree holders in some professions, especially in Japan, Korea, Malaysia and the Philippines. Over time, supply inefficiencies can be avoided by disseminating information on market demand for jobs.

Employment generation requires education systems to respond by providing: (i) stronger curricula and more varied education programs to accommodate the stream of students seeking employable skills; (ii) educational opportunities within and outside the formal employment sector; (iii) training in a mix of skills needed for a changing but high value-added labor market; and (iv) educational flexibility in a market where wages can determine supply and demand for skilled labor. To succeed, investments in vocational and technical education must be demand-driven and must use a modern applied curriculum tied closely to employment and on-the-job training opportunities. Generally, gaps in labor supply and demand narrow as economic development proceeds. Although education levels only roughly approximate the skills required for employment, the importance of language, math and reasoning skills in various jobs makes it more than likely that modern economies will substantially improve their mix of skills over the next ten years. Asian countries will have to monitor their skill development carefully to capitalize on their comparative advantage in the global economy.

National Academic Achievement Levels

Like grain production in agriculture, cognitive yield, or what is learned in school, is a measure of educational productivity. Instead of the production of rice or other grain, academic achievement or school academic performance is the output. Academic performance in schools can be improved if all children have access to opportunities for quality education, and if students, parents and teachers want only the best. Quality instruction also requires research and the use of the latest technologies in the classroom. Only then, and assuming that quality-yield resources are provided on a wide scale, can the national learning average gradually increase.

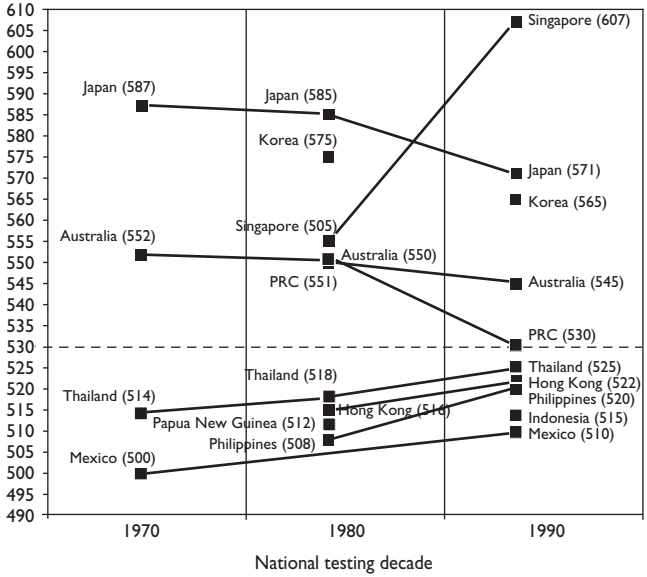
Student assessment has advanced greatly over the past ten years. Today, it is possible to accurately measure success in implementing the intended curriculum across education systems, compare the actual with the planned curriculum, and compare and contrast student learning on the basis of tests that measure the common parts of the curriculum for a given grade level. The output of national education systems in terms of a specific subject taught in a given grade can be compared by carefully evaluating the curriculum content to gauge the extent of national overlap, designing a core test reflecting the common elements of learning, and then deriving internationally standardized scores to represent the average national performance of countries. The tests should be used not to reward individual students for good performance or to punish teachers for poor performance, but to evaluate system performance or student achievement. From the results, strengths and weaknesses in subject content learning can be diagnosed and the findings correlated with school resources to measure the impact of the resources on learning.

For example, a review of science education for 14-year olds might reveal that photosynthesis was a common theme of study in biology, but that it was poorly learned in Malaysia compared with the Philippines. Closer inspection might show a high correlation between Filipino students' ability to understand photosynthesis and practice in the science laboratory, a teaching method not used for this study area in Malaysia. Laboratory drills could therefore be introduced in Malaysia to help overcome the learning deficiency. Thus, international comparisons reveal different patterns of learning across education systems and provide empirical explanations for these differences, which can be manipulated to improve results.

Figure 3 shows how 14-year-old students from different countries scored on common science tests. Dramatic improvements in testing technology have reduced measurement errors, allowing international comparisons to yield patterns and trends over time. Science and math scores are relatively culture-free measures of learning. They usually depend heavily on good teaching and adequate instructional materials and facilities, without which the scores remain low.

Since the 1970s, the education systems of Australia and Japan, both OECD countries, have been turning out students who have mastered science skills at a relatively high level. Korea and Singapore have improved rapidly in more recent years. Even when all children of a particular age or school grade cohort are in school, most have to perform well for the national mean to rise appreciably. Hence, the important point to remember here is not so much national ranking as the fact that countries where most students get relatively good schooling will also produce a cognitive yield above some international threshold mean score (about 525 for 13 and 14-year olds).

Figure 3 **National Science Performance Trends, 1970s-90s**



Sources: IEA (1992,1998); ECIEL (1976); IAEP (1992).

In other words, until countries provide enough resources and invest enough in education, their education systems are unlikely to produce graduates who can compete on the basis of some international standard. Countries like Thailand, for which data over several decades are available, indicate a gradual rise over time to this threshold level. Other countries such as the Philippines and Mexico are moving in the same direction. However, unless all children are enrolled in the education system, the national mean is inflated and overestimates the true cognitive yield of a country. Thailand must exert more efforts to get all 14-year olds into school, but most Asian countries, aside from South Asia, have already achieved universal basic education, so national averages are not inflated.

The data for the Philippines in the 1980s and 1990s illustrate the problem facing educators, who have done a good job of getting all the children in school but have not succeeded in maintaining a high quality of teaching and student learning. Other Asian countries in a similar situation are Papua New Guinea, Indonesia and, to

some extent, China. These countries are still striving to provide quality education for all, in spite of low budgetary support for instructional materials and staff. South Asia especially needs to improve its schools to meet international standards of academic excellence.

Academic achievement can raise the national average only when all children are in school and learning efficiently, with ample instructional materials and qualified teachers. Most Asian countries still have a long way to go before measures of academic achievement for student cohorts reach the internationally recognized levels of classroom learning found in Japan, Korea, Singapore, Hong Kong, Australia and New Zealand. The low levels of learning found in the Philippines and Papua New Guinea seem to mirror the academic experience of several Latin American countries in the 1970s. It would be interesting to examine nationwide scores on international tests in Latin America to see the progress made over two decades.

All countries must examine their learning outcomes to be able to equate cost with outcomes and eventually to monitor educational efficiency across countries. Educational testing units within ministries of education are the logical choice to provide efficient and practical monitoring on a regular basis.

Summary

Asian countries differ widely in degree of educational development. Countries at an advanced stage of educational development should provide support and advice to those other countries that are still searching for educational development strategies suited to their strengths and comparative advantages. Higher levels of education and an expanded service sector will make countries more competitive globally. Combined with an education system that promotes human development, this competitiveness will help to ensure that future generations are better able to master their school lessons, graduate, find employment, and contribute to world knowledge. Just as countries need to be globally competitive, so, too, do children need encouragement and opportunities to learn, as measured by international standards. Many of these points are discussed in the case studies that follow.

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CHAPTER 1

Access to Quality Education in Rural Bangladesh

Shamse Ara Hasan

Since Bangladesh became an independent sovereign state in 1971, all primary schools have been nationalized, many new schools have been built in remote areas, existing schools have added new classrooms, and satellite schools have opened for small children (grades 1 and 2). Grant programs for registered nongovernmental schools have been created, relaxed entry qualifications for teacher training programs have widened the scope of teacher recruitment, and a food for education program has been introduced. Finally, school management committees consisting of local leaders, local education committees (ward committees), and parent-teacher associations have been formed to get the communities more involved in planning and administration.

To manage the system of primary education, the government in 1981 set up an independent Directorate of Primary Education (DPE), which became a separate ministry-level division (the Primary and Mass Education Division, or PMED) in 1992. The government also strengthened the National Curriculum and Textbook Board (NCTB) and the National Academy for Primary Education (NAPE). The Facility Department has assumed a more prominent role in the construction, repair and supply of school furnishings, a new post of Assistant Teacher Education Officer has been created, and a national Education Management Information System (EMIS) has been established at the DPE.

A competency-based curriculum and a new textbook series and instructional materials, all provided for free, have been introduced to raise the quality of education. In-service training for some 200,000 teachers is ongoing, along with a revised one-year teacher education course and training in the new curriculum. About 2,000 teacher education officers have been trained as resource persons to help train teachers.

Such achievements, according to the government, have helped reduce the dropout rate from 80 percent in 1980 to 40 percent in 1995, improve completion

rates from 20 percent to 60 percent, and increase enrollment from 66 percent to 92 percent. The large increase in enrollment, in particular, is largely attributed to the Food for Education Program.

Despite these advances, a constitutional commitment to education as a basic human right, and repeated pronouncements to that effect at home and abroad by successive governments and donors,[1] serious issues of access, quality and equity remain. Primary education in Bangladesh continues to be plagued by a low literacy rate (37 percent). The system is characterized by low mean years of schooling (an average of two years), a high dropout rate (40 percent), irregular attendance, and repetition due to poor academic performance (up to 10 percent). These indicators clearly point to inefficiencies throughout the primary education system.

Structure of the Education System: Numbers and Coverage

The formal education system is vernacular-based, a carryover from the colonial period. Religious education from the pre-primary to the higher levels has mushroomed in the past two decades, and English middle school and pre-cadet five-year primary schools have emerged in the metropolitan areas. Most recently, non-governmental organizations have pioneered a non-formal primary education program (NFPE) to provide a safety net for 6 to 14-year old dropouts and children outside the formal system in rural areas.

At the pre-primary level, there are about 1,500 preschools for 225,000 children, 3,000 kindergarten schools for another 225,000 preschoolers, over 58,000 mosque schools providing non-formal preschool education with a religious orientation to nearly 900,000 children, and about 8,000 NFPE schools for 250,000 children in rural areas predominantly run by NGOs. This suggests that about 1.65 million pre-primary school children (10 percent of the total) have access to preschool and some nonformal education.

At the primary level, one of every three villages has a government-run primary school; there are about 38,000 of these schools in all. In addition, there were

[1] Including the World Conference on Education for All in Jomtien, Thailand, in March 1990, at which all countries were urged to adopt policies to ensure universal basic education by the year 2000; and the Education for All Summit in the Nine High Population Countries in New Delhi, India in December 1993. The declaration pledged to consolidate efforts to make basic education universal, reduce all disparities, and improve the quality and relevance of basic education.

reportedly over 17,500 rural private schools in 1994 (up from only 8,000 in 1990), housed mostly in low-cost buildings, staffed with low-paid teachers, and using sub-standard instructional materials. But many of these schools may not actually exist or be operational. There are over 30,000 NFPE centers run mostly by the Bangladesh Rural Advancement Committee (BRAC), a large NGO, and some 450 new three-room schools run in two shifts by the Gana Sahajaya Sangstha (GSS), an NGO widely known for delivering quality education programs.

About 15.2 million students were enrolled in primary schools in 1994, over 70 percent of these in government schools. Girls make up about 47 percent of the children in mainstream government primary schools, largely because of government grants in support of female enrollment, especially through the Food for Education Program. About 850,000 children attend the big NGO schools.

The teacher-student ratio stands at 1:67, with 70 percent of government schools having fewer teachers than the minimum required number. Private schools also lack adequate teachers. Contact hours at all schools are at a low level, fewer than 400 hours compared with a norm of 855 hours. Only about half of the children enrolled have textbooks, the basic tool of learning. Group teaching, activity-based learning, and individual child-centered learning are not practiced, and support materials and teaching aids are frequently unavailable. Lesson planning, time management, and monitoring and assessment are also virtually nonexistent. In short, the primary schools in the country are sadly lacking in quality.

Why Has the Situation Not Worked Out Better?

Many possible reasons can be put forth as to why Bangladesh has not developed a quality system of primary education. For one, education planners lacked a proper appreciation of literacy and an adequate understanding of the quality required in the learning environment. As a result, implementers were unable to translate quality inputs into quality programs and results. Seen in a different light, the failure was due to insufficient experience and know-how to nurture quality instruction. Those who understood the requirements lacked the capacity or the opportunity to influence the decision-makers, or did not have enough interest and commitment to influence the decision-making process.

Poor supervision could also have been to blame. In the absence of supervisory mechanisms, there was limited support to ensure that (i) teacher trainees in fact learned the required skills during pre-service training; (ii) they knew how to use these

skills; (iii) both learners and teachers were regularly assessed; and (iv) progress was systematically monitored so that weaknesses could be corrected and the objectives of universal primary education realized. In this case, lack of quality can be traced to flaws in the design of on-the-job training, which should otherwise have allowed the newly trained teachers not only to apply their new skills and understanding, but also to see the benefits to the individual learner.

Finally, indecisiveness, intellectual pretense, corruption and the inability to monitor and sustain the program have also kept the country from implementing a quality primary education program. Strategies implemented simply were not robust enough to withstand the debilitating effects of certain cultural beliefs and assumptions.

Beliefs and Assumptions

Traditional practices have been perpetuated at the expense of new methods because of certain beliefs and assumptions about learning and development. Many believe that literacy means learning the alphabet (in Bangla, English or Arabic), counting from 1 to 100, reciting nursery rhymes, and reading the Qur'an in the original Arabic. To be first in class is a common goal, and parents and schools alike exercise strict discipline to achieve this. Teachers assign homework every day regardless of its usefulness, and parents hire private tutors for their children in the belief that the success of the latter depends solely on the quality of the teaching.

It is commonly assumed that children are absent from school or drop out because of poverty, which is believed to create problems in enrollment, retention and completion, and therefore hinder the achievement of sustainable literacy. Very young children, many also say, cannot cope with more than one book at a time. Besides, books are often perceived to be a burden, and foreign methodologies to be inappropriate for Bangladesh, especially for the provincial towns and villages. People argue that if the traditional method of teaching was so bad it could not have produced so many brilliant intellectuals.

Some educators, professionals and policymakers likewise assume that the traditional teacher-centered method of rote learning presents too formidable a barrier to new methods, especially following the failure to implement child-centered interactive learning in primary schools in African and Asian countries. However, without such a change, quality education cannot be introduced rapidly in any country.

How Quality Can Be Improved

Recent developments have showed Bangladesh to be capable of putting in place a child-centered, active learning pedagogy and bringing it up to scale, clearly demonstrating that many of the limitations imposed by cultural practices can be overcome, and some mistaken beliefs and assumptions can be discarded. NGOs have succeeded in implementing this approach in some 750 three-room primary schools in rural areas and five-room primary schools in urban areas, with over 200,000 students attending. All in all, nearly 1.2 million children in Bangladesh are receiving primary education organized by NGOs.

This approach integrates key assumptions of educational quality. To start with, it assumes that learning is instinctive. In contrast to traditional approaches where literacy was taken literally and thought to be synonymous with learning, and where prevailing pedagogy remained rote, the active learning approach emphasizes an environment of continuous activity. Students not only learn from one person (the teacher) but also from one another, and not only from what they hear (as they would in the lecture method) but also from what they see and do. Such interaction allows much space for creative thinking and new activities and knowledge. This learning environment is child-centered, interactive learning and teaching at its best. Its creation is the key to quality education in Bangladesh and elsewhere around the world.

Quality Inputs for Quality Output: Materials and Training

In the NGO schools, a new premium has been placed on inputs, particularly learning materials and teacher training. Learning materials and tools optimize the learning experience and help in the systematic acquisition of skills and competencies. They may take the form of books, reading games, flash cards, math games, charts, and other supplementary materials. Some NGOs pioneered the use of a large variety of books in the classroom, while others prepared instructional materials. The mainstream government schools, however, continue to use a single primer produced by the government and do not acquire supplementary learning materials because of budget constraints.

Responding to community demand for more classes in more schools remains a key challenge faced by the NGOs. To meet this demand, teachers need to be recruited and trained. The level of education, especially knowledge of the subject and comprehension of English, has proven to be a key indicator of a good teacher, in

that command of the English language constitutes a particularly important skill for teaching at grades 3 and above. In most areas it is possible to recruit women with adequate qualifications, but most of them have a very weak knowledge of their subject or comprehension of the English language.

Major NGOs conduct initial teacher training for two weeks. However, a high school graduate is not likely to understand and internalize the child-centered approach to pedagogy in two weeks, especially when the methodology involves a complete departure from the trainee's previous knowledge and experience. Therefore, although some conceptual points may be discussed and shared with the trainees during this initial training, the focus should be on showing the trainees how to conduct classroom lessons for about three hours a day in the village schools. The trainees learn to follow a guideline and to prepare lesson plans. They also learn how to manage their time and how the school supervisor supports the teacher in the classroom. They see for themselves how children start the day by exchanging information with the teacher about the previous day's activities. They are taught how to share a story with the children, how to divide them into groups or assign them individual work on math, reading and writing projects. They learn that children begin to draw and write without having to learn the alphabet; use sticks and seeds to count, subtract, multiply and divide; or naturally sing and stage plays. The training teaches the trainees to use learning materials, introduce projects, and make simple scientific experiments. The trainees are not always expected to understand why or how such an array of activities will lead to the acquisition of learning skills. But they do see for themselves that 6 and 7-year olds, after nine to 15 months of schooling, can read and write independently, understand arithmetic, and do creative writing on virtually any topic within their experience.

The theory of learning at this stage is not so important. The trainees return to their villages with their instructional materials, join schools, and practice their new learning almost mechanically. They are supported by their supervisor every day during the entire class. As they interact with students and respond to them in the classroom, they learn along with them within a creative learning environment.

Managing Results at All Levels

Finally, there has been much attention placed on issues of management. There may be any number of ways of looking at management. For every level of management at the school, community, program or project level, there is a coordination issue that

needs to be assessed in a quantitative as well as a qualitative way by involving the beneficiaries. This implies the setting of local strategies leading up to an overall strategy, including a vision and mission statement with clearly defined objectives and activities for a set period of time; precise, objectively verifiable indicators; and means of verifying and monitoring progress.

Turning from the conventional way of managing that focuses on the central authority, a decentralized and simple but effective procedure would be to divide the management tasks between setting up schools, which has a more administrative dimension, and running schools, which requires more hands-on involvement with people. To set up schools, there would have to be surveys to determine such information as the number of children in the village who are not yet of school age, community characteristics, the expected level of local participation, and the availability of land. Building the proper schools not only creates a common ground for participation, but also inspires those who have dreamed of having a school in the community. It is important to know the number of non-school-going children in the community to ensure that all children of school age, regardless of socioeconomic status, will be able to attend the school. Moreover, because only one school is usually provided in each village, the entire community needs to be involved in determining where the school should be placed. School management becomes even more important when children must attend in shifts. During construction, management is needed to ensure that building schedules are followed.

At the operational level, schools must be maintained, teachers recruited and trained, and supplies provided, including books and learning materials. Having a supervisory structure in place to monitor school resources and outcomes is also important. Regular meetings between parents and teachers give parents an opportunity to raise questions and share the joy of seeing their children develop socially and academically.

Supervision is a key variable in the quality of education. It must support teacher initiatives in the classroom and give the teacher space to create and improvise. While the quality indicators can guide a teacher, ultimately the classroom environment and continuous supervision will determine the extent of his or her effectiveness. Supervision must be carried out through an efficient line management structure with a clearly defined distribution of responsibilities at the school, subdistrict, district, regional and national levels.

At the school level, child-centered active learning, according to the NGO model, must have a head teacher (i) to help the teachers in the school acquire the skills and competencies necessary to put child-centered learning theories into prac-

tice and to become creative teachers over time; (ii) to make the teachers accountable for their performance, as measured by student achievement tests; and (iii) to help reduce the cost of education. What the head teacher does for the school, the district supervisor does for several schools—working closely with classroom teachers, monitoring entire class periods, and following the progress of newly trained teachers over extended periods of up to six months.

Similarly, the head teacher must ensure full implementation of the recommended methodology in each school, especially in terms of classroom organization and management, activity-based learning in the elementary classes (grades 1 to 3), and knowledge-based learning in the upper grades (4 to 5). Obviously, the supervisor must have clearly defined guidelines regarding the number of schools to cover, the frequency and the extent of visits to be made to each school, and the length of time to be spent with each teacher in the classroom. Time must also set aside for working with the community and with local NGOs, as well as with district-level officials.

At the district level, besides attending to problems in learner performance or community participation at the school level, supervisory responsibilities would include coordinating within the district, assessing the need for a new school in the area, conducting follow-up teacher training, running a decentralized management information system linked to the central office, performing staff appraisal, and maintaining contacts with government officials and NGOs.

Remaining Challenges

There is a genuine need for Bangladesh to arrive at a consensus on the issue of quality education and to overcome perceptions, beliefs and practices that hinder its achievement, particularly in the area of primary education. This is a precondition to making a meaningful transition from the traditional method of teaching and learning to creative approaches to the acquisition of skills. Such an undertaking takes more than the combined efforts of government, donors and NGOs; the people must be involved.

On a limited scale, the NGO approach has shown that it is possible to transform traditional rote learning into a more child-centered interactive learning style. The bigger challenge is to demonstrate that this can be replicated nationally without having to add more teachers.

For a more meaningful discussion of quality improvements in primary education, it must be assumed that as long as a good case can be made for doing so, the government will agree to replace the traditional teaching system centered on rote learning with a quality education system, and will commit itself to dealing with the financial and political consequences. These consequences may include agreeing with the teacher unions and moving toward a single-stream, vernacular-based system with a focus on vocational education.

The biggest task in taking any successful program to scale is probably its management. Here the question of who takes responsibility for implementation is important. The goal of providing a primary school in every village faces two major problems: (i) the poor quality of education in existing schools; and (ii) the need to build an additional 25,000 larger primary schools (as opposed to one-room schools). A World Bank primary education project underway suggests that the government should opt to privatize schooling instead of building more schools. Since private entrepreneurs are unlikely to find it profitable to build and operate rural schools, such schools will have to be built by the community or the government. NGOs are therefore likely to emerge as the key force in taking quality education to scale. Exactly how the 50,000 mainstream schools now existing will adopt quality improvements remains unclear.

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CHAPTER 2

Linking Education and Skill Development to Employment in Malaysia

Anuwar Ali

Malaysia's human resource development strategy is linked to its objective of increasing its manufacturing and technological capabilities for industrialization. This chapter examines that strategy and its implications for the country's education system and skill development needs. The chapter first reviews the Malaysian government's human resource development planning process and major strategies of the last few years, then examines the role of Majlis Amanah Rakyat (MARA), an important government statutory body responsible for the education and skill development of the *bumiputera*, the nation's indigenous people.

The Malaysian government's human resource development strategy is contained in its policy statement for "Vision 2020," which looks forward to a developed status for the country by that year, and in its five-year development plans that have guided the development process in Malaysia since the country's independence in 1957 and have become the basis for determining the country's manpower needs. Of particular importance are the Sixth (1991–1995) and Seventh (1996–2000) Development Plans. The plans are carried out through comprehensive macro-planning, which includes all levels of education, from basic primary to tertiary.

Education planning ensures that the country's manpower requirements are met. The Ministry of Education and other related agencies of the government therefore play an important role in determining the supply of skilled manpower at all technical and professional levels. According to the Seventh Malaysia Plan:

> The education and skill delivery system will be upgraded and reoriented to meet the expanded skill requirements of the economy. Alongside the improvements in the delivery system, more education and training opportunities will be provided in order to increase the

> supply of educated and skilled manpower required by the rapidly expanding economy.

This statement underlies the government's Vision 2020 program. The developed status hoped for in Vision 2020 will encompass the economic, political, social, spiritual, psychological and cultural spheres of development. To attain such developed status, the nation will have to overcome various challenges. It must create a united nation and form a society that is at once psychologically free, secure and developed; democratic; fully moral and ethical; liberal and tolerant; scientific and progressive; fully caring and just; and prosperous.

To meet these challenges, the education system, particularly higher education (including skill development programs), must help develop the necessary qualities in all Malaysians.

The Second Outline Perspective Plan (1991–2000)

The Second Outline Perspective Plan (SOPP) sets national development planning within a 10-year framework. It is based on the New Development Policy (NDP), which makes human resource development a fundamental requirement for achieving economic growth and income distribution. Developing human resources, according to the policy, will shape a productive and disciplined labor force equipped with the necessary skills for industrialization, without jeopardizing the country's social restructuring objectives. The emphasis on human resources has several implications for the higher education system, namely:

- Malaysians with ability must be trained to be competitive, productive, innovative and highly capable in managing new technologies.
- Malaysians must be educated and trained well in various types of skills, including the ability to communicate in a second language, such as English, which is the international language of commerce.
- The higher education system must be able to improve the education and training curricula continuously to meet changing skill requirements.
- There must be greater access to higher education in local institutions in order to meet the country's manpower needs.
- Private sector employers must bear a greater responsibility for training the skilled workers they need.

- More high-level manpower must be developed to answer the shortage of specialized skills in science and technology and in research and development.

The Seventh Development Plan (1996–2000)

The seventh plan, under the SOPP, is the latest economic development plan of the Malaysian government. It attempts to meet the goals set by the Perspective Plan and also provides the basis for the simultaneous implementation of the rolling annual plan. Like other planning documents before it, the plan is an important source for setting the national agenda for higher education and skill development.

A number of important development goals are stated in the Seventh Development Plan, ranging from the need for macroeconomic stability to the need to make administrative improvements. Human resource development continues to be a major strategy, and has been directed during the period at preparing a strong human resource base for long-term economic growth and global competitiveness. The emphasis is therefore on achieving a productivity-driven economy that requires higher levels of professional and skilled manpower as well as managerial expertise.

The implication for the higher education system is very clear: the government will continue to play a major role in human resource development. Education and skill training institutions will be expanded, upgraded and restructured where necessary to make training more responsive to industry needs. The education system, particularly higher education, will be reformed, and enrollment in the engineering and science fields will increase significantly to produce more engineers and scientists. In addition, postgraduate and specialized training will be emphasized to provide the manpower needed to speed up industrialization.

To complement the government's human resource efforts, the private sector is encouraged to work with the public sector in tertiary education and skills training. This will necessitate changes in the legal framework to allow a greater role for the private sector in higher education.

In summary, the various national plans clearly indicate a continuing emphasis on improving human resources for economic development. The higher education sector, then, must continuously improve to meet those manpower needs.

Human Resource Development Strategies

To carry out the national agenda, the Ministry of Education and other relevant ministries have formulated various human resource development strategies, some of which are discussed below.

Expansion of Public Universities

Public universities must expand to increase the number of places of study in higher education. According to the mid-term review of the Seventh Development Plan, enrollment at all levels of education increased during the first half of the period, with the tertiary level recording the highest increase of 42 percent. The output of trained and skilled manpower increased by 13.5 percent.

However, in physical terms, there is still ample room for expansion, and all the universities are thus being encouraged to expand their capacity to about 20,000 students each at the undergraduate level by the year 2000. Education and training will also be made more accessible with the introduction of the National Higher Education Fund (RM 1.5 billion) and the Skill Training Loan Fund (RM 500 million). The latter fund is complemented by a special training fund of RM 40 million to encourage companies to continue training their workforce.

The Role of the Private Sector

The expansion of public universities, however, has its limits. These institutions alone will certainly be unable to meet all of the country's manpower requirements and the increasing demand for university places. Involvement of the private sector in higher education is therefore being encouraged. New laws are being introduced to allow the establishment of private universities at the invitation of the minister of education. The selective establishment of private universities is intended to guarantee quality education as well as to protect the society's interests.

In this regard, public corporations are expected to increase the capacity of science and engineering courses at the degree level in their training institutions. These corporations include Petroleum Nasional Berhad (PETRONAS), the national oil producer; Tenaga Nasional Berhad (TNB), the nation's largest electricity producer; and Telekom Malaysia Berhad (TMB), the nation's largest telecommunications provider. The combined efforts of public and private training institutions are expected to substantially increase the participation of the 19-24 age group in degree-level courses.

Economic restructuring in favor of capital-intensive and high value-added activities will require more knowledgeable workers as well as skilled workers. Knowledge and information technology workers would be needed to man the industries that set up operations in the Multimedia Super Corridor (MSC). Efforts will accordingly focus on improving the quality of the workforce through retraining and skill upgrading. The private sector is expected to complement public sector initiatives aimed at meeting the changing skill needs of local industries.

Ensuring Quality Education

The expanding role of private education providers demands stronger quality assurance and greater public accountability. The 1996 law establishing private higher education institutions provides mechanisms for controlling the quality of academic curricula as well as infrastructure. In addition, a National Accreditation Board will accredit and recognize qualifications issued by private higher education institutions. The board, which will have the status of a statutory body, will advise the minister of education on the quality of private higher education institutions. Those that fail to meet these quality standards may be required to close down.

Each university has also instituted its own quality assurance mechanisms consisting of a board of studies and a senate. New courses are examined by the board of studies, members of which include professionals from the public and private sectors. This ensures the relevance and appropriateness of the courses taught. The senate has the final approval of courses at the university level.

The quality control mechanism also includes the coordination and supervision of courses offered at the various universities to ensure uniformity of standards. The Subcommittee on Higher Education at the Ministry of Education was created for this purpose. The subcommittee submits recommendations to the minister for final approval.

Increasing the Capacity for Science, Engineering and Technical Courses

The requirement for professionals as forecasted in the SOPP and the Seventh Development Plan is substantially greater than in the previous plans. Table 2.1 shows the manpower that was required up to the year 2000. To meet the estimated requirement of 56,000 engineers, for instance, the government gave special emphasis to increasing the capacity for science, engineering and related technical courses. A 60:40 science-arts enrollment ratio was targeted. Each university must monitor its enroll-

Table 2.1. Manpower Requirement for Selected Professional and Technical Occupations, 1991–2000

Occupation	Stock (1990)	Employment (2000)	Manpower requirement (1991–2000)
Engineers	**26,500**	**56,600**	**30,100**
Civil	11,100	19,500	8,400
Electrical and electronic	6,200	14,600	8,400
Mechanical	5,200	10,800	5,600
Chemical	800	2,000	1,200
Others	3,200	9,700	6,500
Engineering assistants	**72,400**	**195,300**	**122,900**
Civil	27,100	58,500	31,400
Electrical and electronic	32,300	75,900	43,600
Mechanical	6,400	32,400	26,000
Chemical	600	6,000	5,400
Others	6,000	22,500	16,500
Medical and health	**11,600**	**17,600**	**6,000**
Physicians and surgeons	7,900	12,300	4,400
Dental surgeons	1,700	2,200	500
Pharmacists	2,000	3,100	1,100
Medical and health assistants	**47,300**	**57,400**	**10,100**
Medical and laboratory med. assts.	9,500	13,000	3,500
Dentists and dental nurses	2,000	2,700	700
Pharmaceutical assistants	1,500	2,400	900
Professional nurses	34,300	39,300	5,000
School teachers	**177,600**	**252,500**	**74,900**

Source: Second Outline Perspective Plan (1991–2000).

ment to meet the target consistently.

Several initiatives were undertaken at the school level to supply the universities with a significantly higher number of science students. More schools focused on the pure sciences were established, and the quality of teaching of mathematics and science subjects was improved to spur continuing interest in them among students.

Encouragement of Research and Development

To sustain the development goals of Vision 2020, SOPP and the Seventh Development plan are relying on strengthened research and development capabili-

ties at research institutes and universities. Sixty percent of each university lecturer's time is expected to be spent on teaching, and 40 percent on research and consulting. Monetary incentives are part of the compensation package to encourage research and development.

Special sponsorship programs allow students to do graduate and postgraduate work in biotechnology, information technology and other critical areas. In view of the financial crisis that has beset the country since mid-1997, the Malaysian government has encouraged enrollment at local universities for graduate and postgraduate students, many of whom used to be sent overseas. Postdoctoral work in the critical areas is also encouraged, even among foreign students with the required expertise.

Distance Education

The move to expand higher education is further helped along by a policy allowing universities to provide distance learning programs. Such programs will mean more flexible entry into universities, allowing mature students to further their education and university facilities to be put to fuller use. The universities are nevertheless reminded of the need to ensure that the quality of their academic programs is not compromised.

MARA: Objectives and Strategies

One of the most important instruments for achieving the objectives of the New Economic Policy (1971-90) that aimed to eradicate poverty and restructure Malaysian society was the Majlis Amanah Rakyat (MARA), or the Council of Trust for the Indigenous People. Established in 1966, MARA encourages, guides, trains and assists the *bumiputera*, the name given to indigenous people, to enable them to participate in both commercial and industrial enterprises, in the process creating a strong and viable business community. MARA has adopted strategies to:

- Create and increase the number of *bumiputera* entrepreneurs and increase their participation in small and medium-sized commercial and industrial enterprises;
- Participate in specific commercial and industrial enterprises through investments and management of companies as a means of nurturing and promoting *bumiputera* participation in commerce and industry;

- Increase the number of trained *bumiputera* at all levels and in various fields for the needs of the nation's commercial and industrial sectors; and
- Provide other facilities and services where appropriate and act as a trustee in areas that can help raise the social and economic status of the *bumiputera* community directly or indirectly.

To carry out these strategies, MARA has initiated a number of programs that are described in the following sections.

Entrepreneur Evaluation and Counseling Program

The program was initiated to strengthen *bumiputera* entrepreneurial initiatives and businesses through guidance, training courses, support and incentives aimed at enhancing entrepreneurial skills. In 1997, 452 programs and courses were conducted for 11,231 participants. The various services provided under the program include the following:

- *Entrepreneurial training.* This program provides training and management services to existing and potential entrepreneurs. It also provides information on business opportunities, and helps to identify and establish networking between the entrepreneurs and business experts from the government and private sectors. A total of 7,508 entrepreneurs participated in 148 such training programs in 1997.
- *Consulting services.* This program provides registered consulting services from the private sector, research organizations and institutions of higher learning. The aim is to identify problems and propose plans of action for entrepreneurs in production, manufacturing and product quality. In 1997, 95 consultants were appointed to assist 1,922 entrepreneurs in 82 sessions.
- *Apprentice training.* MARA makes equipment and training facilities available to assist potential *bumiputera* entrepreneurs, especially those in the manufacturing and services sectors in small and medium-scale industries. This program works on a mentoring basis with the cooperation of research institutions such as SIRIM Berhad (formerly the Standards and Industrial Research Institute of Malaysia), the Malaysia Agricultural Research and Development Institute (MARDI), local universities, and industries. In 1997, 173 entrepreneurs participated in eight such programs.

- *Marketing promotion.* MARA offers counseling, guidance and training in packaging and labeling technology to enable entrepreneurs to create domestic and international markets for their products. Eleven promotional programs were carried out for 487 entrepreneurs in 1997.
- *Furniture Technology Resource Center (FITEC).* This center provides training courses, research and information on the production technology, management and marketing of furniture available to *bumiputera* manufacturers to improve the quality of their products. A total of 193 activities were undertaken for 1,066 entrepreneurs in 1997.

Education Sponsorship Program

This program aims to increase the number of trained *bumiputera* workers in the professional, technical and management fields. The goal is to create a Bumiputera Commercial and Industrial Community (BCIC). The program provides study loans to help students pursue higher education at established institutions nationally and abroad. The fields of study emphasized are engineering, accounting, management and information technology.

In 1997, MARA sponsored 14,207 students: 13,878 (98 percent) for studies at national institutions and 329 (2 percent) for studies abroad. This was in addition to its ongoing sponsorship of 32,783 students (25,358 at local institutions and 7,425 overseas). Since the program was launched in 1966, MARA has sponsored 113,153 students. Of these, 65,938 have successfully completed their studies.

The Secondary Education Program was set up to educate *bumiputera* students in science and technology and thus create a high-quality workforce to serve national development needs. This program manages 19 MARA Junior Science Colleges (MRSM) and four fully residential MARA colleges offering programs in lower and upper secondary and pre-university education.

Commerce Education Program

The objective of this program is to increase the number of *bumiputera* workers and enhance their level of skill in commerce, accounting, management and information technology. The program offers professional full-time and short courses at the two MARA Institutes of Commerce (IPM) main campuses, at six IPM branch campuses, and at the MARA Infotech Academy (AIM).

From 1970 to 1977, 80,007 students successfully completed their studies under the Commerce Education Program. This total included 74,264 for the short courses and 5,743 for full-time courses.

The Information Technology Program admitted 179 new students in 1997. This was a 44.4 percent increase over the 124 new students admitted the previous year. The graduates of the Information Technology Program are classified as knowledge workers, as defined by the Multimedia Development Corporation (MDC).

Vocational Training Program

This program aims to increase the *bumiputera* workforce in various fields and to improve technical skills to meet the demands of the manufacturing and industrial sectors, as well as to create potential entrepreneurs in technical fields. Two main programs are offered:

- *In-house training* provides theoretical (classroom) and practical (workshop) training in a 40:60 ratio at the Giatmara Centers, and MARA Vocational Training (IKMs) and Advanced Vocational (IKTMs) Institutes.
- *The joint venture or twinning program* operates in cooperation with industries, institutes and specific training agencies, both in-country and abroad. Offerings include certification programs with Jabatan Bekalan Elektrik dan Gas; joint-venture programs with the Universiti Teknologi Malaysia, Petronas, Esso, Toyota, OISCA, and Mattel Tools; and practical training programs with other agencies or with the private sector.

Institut Kemahiran MARA

This institute conducts formal two- to three-year training programs to meet the nation's manpower requirements. From 1968, when IKMs were first established, up to 1997, 59,459 students went through their training programs. Of this total, 53,898 successfully completed their training.

Institut Kemahiran Teknologi MARA

IKTMs increase the number of skilled *bumiputera* workers in advanced technology. They are set up as joint ventures with developed countries or foreign training agencies in order to help participants acquire technical expertise through the transfer of

technology. The diploma and advanced diploma training programs admit participants who have completed programs at IKM or who have completed studies up to the SPM level. The first IKTM was the German Malaysian Institute, set up in 1992, followed by the British Malaysian Institute in 1993 and the Malaysia France Institute in 1996.

IKTM training is both theoretical (30-40 percent) and practical (60-70 percent). This ensures that the graduates are competitive in a challenging industrial working environment where they can apply their newly acquired skills in the assembly, maintenance and operation of highly technical systems or equipment.

Giatmara

The Giatmara (Malaysian for "moving forward") centers conduct six month to one year skill training programs to meet local development needs. There are now 120 Giatmara centers in the country with a capacity to handle 10,100 students at any one time. The courses provided include building technology, furniture making, and electrical, electronic, automotive, tailoring and printing skills. Since they began in 1986, the centers have successfully trained 50,455 students in 25 types of skills. In 1997, 8,574 full-time trainees successfully completed training.

Besides its full-time programs, Giatmara also provides technical training during school breaks, takes charge of the Bumiputera Technology Club, and offers a variety of specialized courses. These include night classes, joint-venture courses, the ASEAN/Japan technical skills training program in Cambodia, skills training for Islamic countries, and a special training program for ex-combatants in Namibia sponsored by the Malaysian Prime Minister's Department.

Conclusions

In its push for industrialization, Malaysia has initiated a number of important human resource development strategies that aim to better match education and skill development programs with the country's employment needs. The hope is that these strategies will provide the highly trained manpower that Malaysia needs to be more competitive globally.

Like many other government agencies involved in education and training, MARA has contributed significantly to increasing the country's manpower potential by supplying it with *bumiputera* professionals and highly trained personnel in all sectors of the economy.

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CHAPTER 3

Governance in Education in the Philippines[1]

Edilberto C. de Jesus

In the first two weeks of June 1999, more than 20 million students trooped back to school in the Philippines. Over 2 million were students at tertiary level institutions; 5 million in secondary schools; and 13 million in the elementary grades. The system they entered is governed at different levels, each with its own characteristics and challenges.

Congress determines the funding available for education and can pass laws affecting all parts of the education system. It has also made liberal use of its power to establish state universities and colleges (SUCs). Between 1994 and 1998, it added over 20 SUCs to the system, raising the total number to 107 as of 1998.

The national government, through a system of over 42,000 public schools, enrolls about 93 percent of grade school pupils and about 70 percent of high school students. For the needs of the system in the 1999-2000 school year, the Department of Education, Culture and Sports (DECS) obtained a budget of P83.35 billion (US$2.19 billion), or about 18 percent of the national budget.

Within the national government, the activities of several agencies have a bearing on the education sector. The Department of Public Works, for instance, becomes involved in the construction of schoolhouses. The Department of Budget and Management (DBM) has to balance the claims of education with those of the other sectors.

DBM rejected the request of DECS to open 22,000 teacher slots for the 1999-2000 school year, insisting that its staff of over 320,000 could adequately man-

[1] This chapter uses data from the Medium-Term Development Plan of the National Economic and Development Authority; the Philippine Education Sector Study funded by the World Bank and the Asian Development Bank; the Fund for Assistance to Private Education; and the Philippine Education Reform Commission. The chapter also benefited from discussions with Bienvenido Nebres, president of Ateneo de Manila University, and with former DECS Undersecretary Luis Balthazar.

age the 2 percent increase in basic education students. The DECS plea that 69,000 of its teachers were assigned to non-teaching jobs, in part because of legislation making it difficult to re-deploy staff, failed to move DBM. DECS then announced that it would ask Congress for P955 million (US$25.13 million) in the following year to hire 10,000 new teachers.

Through the local government code passed in 1991, local government units have begun to exert some influence on the education system within their areas. The code requires the establishment of school boards in every province, city and municipality, and gives them access to a special education fund derived from a tax on real estate to supplement the needs of their elementary and secondary schools.

Unlike most other countries in the region, the Philippines has a higher education system that is dominated by the private sector. Between 75 and 80 percent of post-secondary students enroll in private schools. Through its regulatory powers, the government also exerts great influence on the operations of tertiary level institutions.

Recent legislation has complicated the internal management of the education sector. In 1994, Congress passed the Higher Education Act creating the Commission on Higher Education (CHED) to supervise colleges and universities. In 1995, it established the Technical Education and Skills Development Authority to support and supervise technical-vocational education and training programs that did not lead to a college degree. These congressional initiatives reduced the scope of responsibility of DECS from the entire range of educational programs to elementary and secondary schooling.

This "trifocalization" of the management of the education system was aimed at providing sustained and focused attention on its specific segments by a specialized agency. To achieve this objective, the new system required clear and distinct demarcation of jurisdictional boundaries between the agencies. By nature, however, turf issues tend to take a long time to resolve and often have to be negotiated on a case-by-case basis.

Trifocalization also proved an inconvenience to institutions offering a comprehensive product line from grade school to graduate school. The restructuring of the education system meant that they now had to transact business with three separate bureaucracies, where they only had to deal with one before.

Parallel to the multiplicity of government agencies in education is the diversity of private interests in the sector. Private schools vary in size, some enrolling barely 100 students, others as many as 30,000 or more. Many, particularly the parochial schools, limit their offerings to basic education. The growth of information technology has spurred the demand for short-term computer training, and some of the entre-

preneurs who have tapped into this new market opportunity have succeeded in obtaining the license to award college diplomas for their courses.

Religious affiliation establishes another line of differentiation and organization. The schools run by Catholic religious orders or by the church hierarchy belong to the Catholic Educational Association of the Philippines. The Protestant schools have their own Association of Christian Schools and Colleges. Nonsectarian schools join the Philippine Association of Colleges and Universities.

The Coordinating Council of Philippine Educational Associations includes these three groups as well as the Philippine Association of Private Technical Institutions and the Philippine Association of Private Schools, Colleges and Universities, which gathers together smaller institutions in the provincial areas. At both the basic education and tertiary levels, a number of schools operate without affiliating with any of the associations.

Private schools are also organized differently. The sectarian schools are mainly run as foundations. The nonsectarian institutions assume the widest diversity of forms, from foundations and non-stock corporations to corporations listed on the stock exchange.

Issues and Challenges

Despite the multiplicity of players active in the education sector, a fair degree of consensus has emerged on the issues confronting education in the Philippines. As in many other developing countries, a great deal of effort has focused on ensuring access to education. Between 1986 and 1994, the government increased spending on education from 1.85 percent to 2.78 percent of GDP. By 1997-98, gross enrollment rates in elementary education had reached 95 percent. The number outside the system, however, remains significant. In 1989-90, 18 percent of children ages 7 to 12—1.7 million children—were not in school.

Legislation in 1988 to establish free public high schools boosted enrollment in secondary education a decade later to 64 percent. At the tertiary level, the participation rate exceeds 20 percent, comparable to that found in developed countries.

Retention Rates

But going to school and getting an education are by no means the same thing. To begin with, students have to stay in school. Available data on retention rates give lit-

tle comfort, suggesting that 24 of every 100 children who enter the first grade will drop out before completing grade four. Less than 70 will complete their elementary education. Fewer than 50 will actually obtain their high school diploma.

Poverty is clearly a factor in the high dropout rate. Public education, constitutionally mandated as "free," is no longer without costs, and the costs are rising. In 1986, the government assumed almost 80 percent of the costs of elementary education, and the private sector contributed 17.8 percent. By 1994, the government's share had dropped to 61 percent, while the private sector portion had risen to 33.1 percent. The National Capital Region (NCR) had an elementary completion rate of 97 percent in 1994, compared with 54 percent for the depressed region of Eastern Visayas.

Rather than redress regional inequities, the local government's Special Education Fund (SEF) accentuates the imbalance. Since the funds come from real estate taxes, the richer areas have higher collections and more money to spend. The NCR had only 10 percent of total enrollment in public schools but accounted for half of national SEF expenditures in 1993.

Quality

The issue for the students who manage to stay in school is the quality of the education they receive. The results of the 1997-98 National Elementary Assessment Test and National Secondary Assessment Test (NSAT) do not inspire confidence in the effectiveness of the education system. Tenth grade students in mathematics, science and English scored below 50 percent on the average. Sixth grade students also failed to make 50 percent in English and did only marginally better in math (51.8 percent) and science (52.7 percent). Even in the Filipino language, the NSAT average score was only 57.5 percent.

The annual ritual of recrimination within government regarding resource gaps in education indicates the quality problems. Classroom construction cannot keep up with the increase in enrollment. Schools lack basic facilities, such as chairs and desks. Seven students have to share one textbook. The shortage of teachers leads to classes with 50 to 60 students.

An even more serious problem is the perceived deterioration in the quality of the teaching staff. Over 500 teacher education institutions in the country collectively produce about 35,000 graduates a year. Between 1990 and 1992, the number taking the Professional Board Examination for Teachers (PBET) each year exceeded 130,000. Graduates of other degree programs who wanted to be certified for teaching and PBET repeaters inflated the number of examinees.

The PBET examinations consist of two parts: a general education test of 250 items and a professional education test of 190 items. Not one of over 400,000 PBET examinees between 1990 and 1992 would have obtained a teaching license if they had been required to answer at least 75 percent of the questions correctly. Even with a lower passing score, only 14.8 percent squeezed through in 1991 and only 25.7 percent in 1992.

The last two administrations have made an effort to raise the compensation of public school teachers and other public servants. Between 1985 and 1995, teacher salaries increased fourfold. Over time, this initiative should draw more qualified people to the teaching profession. Over the short term, however, raising salaries by itself does not necessarily buy quality. The education system does not necessarily get better teachers, only better-paid teachers.

The short-term consequences of the initiative have had a negative impact on the system. Without significant budgetary increases, rising personnel salaries reduce the budget for maintenance and other operating expenses. Between 1990 and 1997, the share of such expenses in the DECS budget dropped from 16.5 to 8.8 percent. The decline in expenditure per pupil was even sharper. In 1997, DECS was spending only about a quarter of the amount it had spent per pupil in 1990. The P135 (US$3.55) allocated per pupil would buy a modest meal in a Makati fast-food restaurant.

The negative impact extended beyond the public school system. By 1997, elementary school teachers were earning about 65 percent more than private secondary teachers across the country. The smaller parochial schools could not maintain the pace of government salary increases and faced the prospect not only of losing their faculty but even of having to close down. And yet, private schools show lower costs per student, better student scores in standardized tests, and higher cohort survival rates.

Searching for Solutions

Given the scarce resources, a tradeoff between access and quality is perhaps inevitable. It is still possible, nevertheless, to question the government's allocation of resources.

Setting Priorities

Promising the voters free high school education was a grand populist gesture reaping rich political benefits. The nobility of the motives that prompted the promise could

not have been questioned had Congress earmarked funds to support public secondary education. Without adequate appropriations, however, what transpired was the diversion of funds from primary to secondary schools.

As early as 1988, a sector strategy paper tried to contain the damage, urging government to expand enrollment in the private school system instead of opening new public high schools. The government did introduce an arrangement for education service contracting, giving scholarships to private high schools for students who could not find a place in the public school system. But elementary education still felt the blow of a decreased budget.

Much high-minded rhetoric about the constitutional mandate to favor education and the need for affirmative action to promote equitable access to educational opportunities frequently accompanies the creation of state universities and colleges. Many of these SUCs originated as high schools or technical institutes. According to the Philippine Education Sector Study (PESS) funded by the World Bank and the Asian Development Bank, these high schools or vocational-technical schools were "upgraded by legislative stroke of the pen and designated forthwith as a tertiary institution, with little, if any, change in the institutions' staffing profile or course offerings." With the new status, the existing staff immediately benefited from an improved salary structure. The SUC also started to crowd out existing private schools by offering the same programs but at significantly lower rates.

Between 1982 and 1996, enrollment in the public sector increased by 112 percent at the secondary level, and by 302 percent at the tertiary level. By 1994, while the government was spending less for elementary education (60.2 percent, from 69.8 percent), it had increased its allocation for secondary education from 12.4 percent to 19.1 percent, and for tertiary education from 17.8 percent to 20.8 percent.

The reallocation of resources was questionable from the standpoint of efficiency, effectiveness and equity. A 1996 World Bank report calculated that unit costs in public tertiary education were six times greater than in elementary education. The government was diverting resources away from the sector most accessible to the poor and directing them to the sectors that serve the better off. It was also pouring resources into sectors that were already being served by private institutions operating at lower costs and performing better.

The government exerts such a dominant force in the primary and secondary sectors that the search for solutions must begin with policy changes. Foremost among these changes must be a correction in the government's spending pattern to honor the constitutional requirement to give basic education "the highest budgetary priority." The National Economic and Development Authority (NEDA) has produced

a Medium-Term Development Plan (MTDP) for 1999-2004 that gives primacy to basic education. But as a document that sets budgetary priorities, the MTDP faces opposition from those sectors primed for budget cuts. The NEDA has to mount a lobby to obtain the backing of the president and the legislature. In this battle, it has begun to reach out to civil society groups to try to mobilize support for the MTDP.

SUC Reform

The clamor for review and reform of the SUC sector may perhaps finally find a hearing. Even the existing SUCs are against the creation of new ones. They have recognized that each additional SUC is another competitor for a share of the budgetary pie. But a moratorium on new SUCs would not be sufficient. From the report of the 1995 Task Force on Higher Education in the Philippines, the PESS concluded "the overwhelming majority of SUCS…would not be recognized internationally as having the characteristics and satisfying the criteria to be called tertiary-level institutions."

The PESS proposal to rationalize the SUC system has received support from a number of experts. The proposal calls for the evaluation of SUCs to identify those that deserve to be designated as institutes of higher learning and receive continuing state budgetary support. Other SUCs would be given a chance, over a specified time frame, to earn their place in the system. During this period, they would be given greater autonomy to manage their operations. Part of the test would focus on their ability to generate revenue from the markets they serve. Weaker SUCs may consider joining an established SUC and becoming part of a multicampus university system. The alternative for those unable to obtain accreditation and unwilling to entertain a merger would be to raise funds from the market or other sources as state funding would be withdrawn within a fixed period.

Rationalizing the SUC system in this fashion would release resources that could be channeled to basic education. Other changes would be required to enable DECS to make more effective use of the funds. Decision-making authority with respect to the deployment of staff and the management of the budget needs to move closer to the operating units. The school boards could perhaps assume greater responsibility for the elementary and secondary schools in their areas.

Quality Assurance

The problems in the tertiary education sector are no less serious. But government initiatives to improve the quality of basic education would help address one of its

most critical concerns—the unpreparedness of high school graduates to tackle college-level materials. An improvement in the quality of college applicants would reduce the burden and the cost of remedial courses that many institutions of higher learning now find it necessary to implement.

The private sector segment of tertiary education would not object to seeing government education funds flowing mainly to basic education. Since the government does allocate funds for higher education, however, a portion should be accessible to the private sector as well. In 1999, 80 percent of this budget went to the support of the 107 SUCs. Many of the 1,045 private institutions are probably no better than the worst SUCs. But they do not draw funds from the public coffers. The same screening process proposed for the SUCs could also serve to determine which among the private institutions deserve government support.

Quality assurance is as critical an issue in private as in public tertiary education. Because it depends on market support and is less constrained by bureaucratic regulations, the private sector should have greater motivation and scope for exploring community linkages to address this issue. This is the direction being taken by the Philippine Commission on Educational Reform (PCER) created by the Estrada administration in 1999.

Three elements provide the primary basis for quality assurance in Philippine private higher education. The Commission on Higher Education sets minimum standards for the opening of a new institution and approves new programs. In the professional fields such as engineering, medicine, law and accountancy, where graduation from a degree program is required, graduates must pass a government board or bar examination to be licensed to practice their professions. These two elements make the Philippine system similar to that in Europe, where the government basically determines and enforces quality standards.

The private sector also follows a system of voluntary accreditation to monitor and maintain quality standards. Because of the diversity of the sector, a system has evolved where each educational association separately and independently conducts its own accreditation, primarily for its members. Thus, the Catholic, Protestant and nonsectarian schools have their own accreditation teams.

In the past, the system became vulnerable to the charge of "forum shopping." A school that has little confidence in its standards would be tempted to apply to the accreditation body if it felt it would have a better chance of obtaining a satisfactory mark. The establishment of a federation among the accreditors of the different educational associations has encouraged the development of common standards and eliminated much of the basis for allegations of forum shopping.

The system of voluntary accreditation resembles that practiced in the United States. In the American system, however, the accrediting bodies are organized according to the academic disciplines and the professions. Thus, the business and engineering programs of a school would be subject to separate accreditation bodies. The Philippines has adopted a similar system to improve its engineering and science programs. Technical committees have been established by CHED to evaluate the strengths and weaknesses of the academic programs offered by institutions in these fields and to recommend improvements.

Discipline-Based Accreditation

The PCER Committee on Quality Assurance is exploring the possibility of extending to a wider area the concept of accreditation by profession or discipline. The objective would be to establish a common set of standards and a common process for evaluating programs that train students for a particular field.

Experts already practicing in the field would be enlisted to assist in both the articulation of the standards and the actual evaluation of programs against these standards. Practitioners should have valuable insights to contribute on what skills the profession now requires to serve the needs of the market and what kind of training may help develop these skills. The time seems opportune as well for tapping their help. In recent years, employers and professional groups have been vocal in their concern about the quality of the graduates pouring out of the schools into the work force.

The kind of professional accreditation envisioned would not need to replace that conducted by the educational associations. The associations may have values other than technical competence that they would want to assess. The expectation, however, is that schools would want the seal of approval issued by the new body as the market begins to respond to its endorsement. CHED has also expressed its willingness to consider giving incentives to programs that meet the standards.

More structured participation of professionals in the evaluation process may also help prompt a review of government licensing examinations. The public pays serious attention to the results of these board exams, considering them convincing indicators of quality. Schools whose graduates do well in the exams play up the results in the media to recruit more students. The importance attached to exams has also made review centers a thriving business. CHED has already moved to cancel recognition of school programs that consistently fail to produce graduates who can pass the exams.

There is a danger, however, of allowing the licensing examinations to drive

the academic programs and the educational process. The curriculum of law schools, for instance, pays scant attention to new areas such as intellectual property rights or environmental law or human rights; courses on these issues would take time away from the bar subjects. Schools feel they must teach to prepare students for the test. Whether this is desirable is a question that needs to be asked. Periodic validation of the exams is necessary to determine their relevance to the tasks awaiting the professionals and their ability to measure the required competencies.

The desired accreditation system must also recognize the developing country context in which it will operate. Quality indicators cannot be enforced as absolute standards. This is the problem with some of the minimum requirements established by CHED for new schools. Many items, particularly those related to facilities that new schools must have, appear drawn from developed country norms that existing schools do not have and may not be able to match even with the grace period allowed by CHED.

The country does not constitute one market for education in which all schools compete. It has, instead, distinct regional markets. The schools in the poorer regions, with few exceptions, will not be able to match the quality of the better schools in Manila. But the schools in Manila are not accessible to the students of the poorer regions. The accreditation system must appreciate the regional variations, set minimum standards, calibrate the steps toward higher-quality norms, and deliver incentives for incremental movement up the ladder.

The PCER proposal still requires further work. Issues that need to be addressed include the composition of the professional accrediting panel, the manner of selection and replacement of its members, its sources of financial support, and the mechanisms to protect and enhance its credibility. But the concept appears to promise greater rigor in evaluation, as it would be based on technical and professional criteria and a higher regard for the country's regional diversity. It would also be more sensitive to market reality. The governance of an area dominated by the private sector must, inevitably, recognize market forces.

Regional Perspectives

The "Asian miracle" has lost a good deal of its luster in the wake of the financial and economic crisis that swept across the Asia-Pacific region in 1997. What remains undisputed is the critical role that investments in education played to breed the dragon and tiger economies of East and Southeast Asia. Millennial pronouncements

heralding the onset of the Information Age have only served to reinforce the concern among nations over the state of their respective education systems.

It is striking to note that developed countries appear just as unhappy about their schools as their underdeveloped neighbors. Europeans fear that their graduates may not be adequately prepared for the common Euro, let alone the global market. Singapore wants its schools to produce more entrepreneurs. Japan wants more creative graduates. The United States, surprisingly, worries about whether its public elementary and secondary schools adequately prepare students.

To remedy perceived problems, the developed countries have the resources to explore high technology innovations. They can deploy computers in the classrooms, connect schools to the Worldwide Web, and experiment with distance education. As late starters, developing countries in Latin America and Southeast Asia can theoretically benefit from the cutting-edge technology available in Japan and the United States. On the issue of the governance of the education sector, however, these countries can perhaps learn more from each other than from the richer and more technologically advanced countries.

This is not to say that technology is not important, but only to underline the fact that Latin America and Southeast Asia share many more problems themselves than they do with the developed countries. The list of common problems includes poverty, especially of the rural sector, a tendency toward bureaucratic centralization, ethnic and linguistic diversity in several countries, and the intrusion of factional political considerations in decision-making on educational issues. This complex of problems does not easily submit itself to a technological fix.

The starting point toward a solution may require an approach similar to that used by the Fundación Social in Colombia: that is, crafting the "imaginary" or evocative vision of what the educational process and structure should aim for, and then mobilizing a societal consensus in support of it. Without such a consensus, technology can be a distraction. The hype about the "information highway" and the knowledge society and global competition should not cause countries like Colombia and the Philippines to lose their focus on the fundamental issue of equity, which the governance of the education sector must address. Computer literacy would be a worthwhile target to aim for, after the attainment of functional literacy and numeracy have been assured. Programs calling for a computer in each school appear almost bizarre when many schools do not even have running water and students have to share basic textbooks with six or seven classmates.

As a relatively young nation burdened with a colonial past, the Philippines would also benefit from the explicit emphasis placed by educators in Colombia and

Brazil on education as a political, liberating process—and on the role of the school in preparing students to exercise their rights and fulfill their responsibilities in a democratic community. Despite the long experience with the institutions, structures and processes of representative democracy introduced by the Americans, considerable doubt remains about the internalization of democratic values among Filipinos. The educational system would be implicated in any disjunction between what Filipinos believe and how they behave.

Computers are marvelous machines for transmitting information. That might be part of their appeal for systems that prize rote learning. But, as the example of the Escuela Nueva suggests, the improvement of quality often implies a cultural change, "a shift of emphasis form the transmission of information to…the comprehension and social construction of knowledge." The point applies to the Philippines as well.

CHAPTER 4

The Challenges of Japanese Education: From Uniform Arrangements to Diversity

Anne Emig
Ikuko Shimizu

The prestige of the education systems of the high performing (HIP) Asian countries is partly associated with strong performance on international math and science tests, as well as economic indicators. Japan in particular has a story of accomplishment to tell when "success" in education is more explicitly defined as "high average achievement in a range of subjects distributed with relative equity over the student age population at relatively low public cost" (Rohlen, 1997). This chapter explores how Japan has organized its education system and attempts to understand the roots of its achievements.

The chapter begins with a description of pre-war education, followed by an outline of the foundation and systemization of public schooling, including the drive for universal public education. It looks at how the education system grew during the post-war period, portraying the well-coordinated planning and administration of schools, as well as the effective instructional practices at the classroom level that contributed to equitable achievements and opportunities across schools. Subsequently, the chapter traces the expansion of post-compulsory level education and the school-work relationship that is unique to Japan. It describes the influence of traditional values and culture, and delves into the emerging problems associated with the current education system. Following an explanation of some of the measures taken by the central authorities and other stakeholders to respond to these issues, the chapter concludes with an overview of the major challenges ahead.

Certain measurements of educational achievement do not reflect the full range of output and outcome, including cognitive and social skills. These measurements may emphasize Japanese strengths and may not identify weaknesses. However,

it may be just as important to assess the cost of what has been achieved as it is to appreciate the benefits of what has been accomplished. With this in mind, the chapter tries to take a panoramic look at the education system in Japan, incorporating the evolution of history, culture and institutions.

Roots of Attainment and Achievement

Understanding the path that Japan followed to achieve universal primary education early in the 20th century is important for two reasons. First, a solid school system is a pre-condition for high educational performance. Second, the process of evolution as much as the traditional preconditions have shaped current education and its outputs. History unveils the connections between education systems and performance (Rohlen, 1997). A description and analysis of the development of Japanese education may explain what is behind its high performance—and lack of innovation.

An Educational Foundation: The Meiji Restoration and Modern Education in Japan

Education has long been regarded as a means to develop oneself in Japan, as in other parts of the world. The strict four-class stratification during the Edo period (1600-1868) distinguished between the warrior class and the remaining strata: farmers, artisans and merchants. Before the Meiji Restoration in 1868, there were two forms of schooling for two socially stratified classes: one for the elite—who made up slightly over 5 percent of the population and included the warrior class (e.g., shogun, daimyo and samurai) as well as the lesser hereditary foot-soldiers—and the other for the commoners.

Schools for the elite children emphasized Confucianism. Private education institutions for non-elite masses, typically called *terakoya*, taught elementary reading, writing and arithmetic. The *terakoya* began at the end of the medieval period, when they developed from the educational facilities at Buddhist temples (*tera* denotes temple in Japanese). They received no government subsidies or supervision, but they began to spread spontaneously in the late 1700s, spurred by the desire of the masses for education. Although they varied, *terakoya* fees were financed by donations and parental contributions; compensation to teachers by parents was a form of gratitude. The amount was determined by the means of parents—mostly in kind in the coun-

tryside and in money in cities. By the mid-1800s, these autonomous local institutions were found in small towns and rural villages throughout the country. Dore (1984) estimates that by the end of the 19th century, roughly 40 percent of Japanese boys and 10 percent of girls were getting some kind of education outside their homes.

With reasonably high education standards already in place—the literacy rate was about 40 percent just before the Meiji era began in 1868—the Meiji Constitution laid the foundation for modern education as part of its more outward looking and modern regime for the country. Starting in 1872, a series of education orders was issued. The 1872 order set itself aside from the traditional Confucian system and reflected novel Western ideas, such as an emphasis on individualism and on the practical value of education. The order highlighted that education was a resource for success in life for everyone, and, for the first time in Japanese history, it recommended the establishment of public schooling through the creation of a national, egalitarian education system. Special schools for the elite children were closed, and many of the 26,000 school facilities established by the government were converted from the *terakoya*.

This effort to promote social equality through a modern school system was part of the vision of the 1872 order. However, criticism mounted of ambitious plans for school systematization and the bold steps to increase educational facilities. The order was based on Western models, and failed to take into consideration social needs and conditions unique to Japan. In terms of both orientation and content, there remained a preference for the traditional schooling style of the *terakoya*, which represented a strictly local approach initiated by the general public.

Consequently, a new education order was promulgated in 1879. It too placed a high importance on universal primary education, stressing government efforts to establish a foundation for national education at the elementary level, and also reflected the decentralized American system of educational administration. However, it differed from the 1872 order in allowing local governments to exercise greater discretion in developing education programs. Nonetheless, the 1879 order resulted in the deterioration of the elementary school system, which led to the issuance of the 1880 education order emphasizing national control and government intervention in administering local education. At this time, Japanese translation of foreign textbooks was prohibited as part of a national effort to unify the ideology and principles taught in schools.

The Development of Elementary Education

The first system for strict compulsory education came in the 1886 elementary school order. Previously, the responsibility of parents and guardians to send their children to

school was not regarded as legally mandatory. The 1886 order specified that "…the parents and guardians of such children have the obligation to see that their children receive general education." It was the first time that the term "obligation" was used, but parents and guardians still were allowed to postpone their children's education under certain circumstances (e.g., sickness and poverty). The elementary school attendance rate remained lower than 50 percent, however, due primarily to the high cost of tuition and to reliance on children as family labor.[1] The steady increase in average household incomes that resulted from the development of light industry gradually made the tuition more feasible for many families.

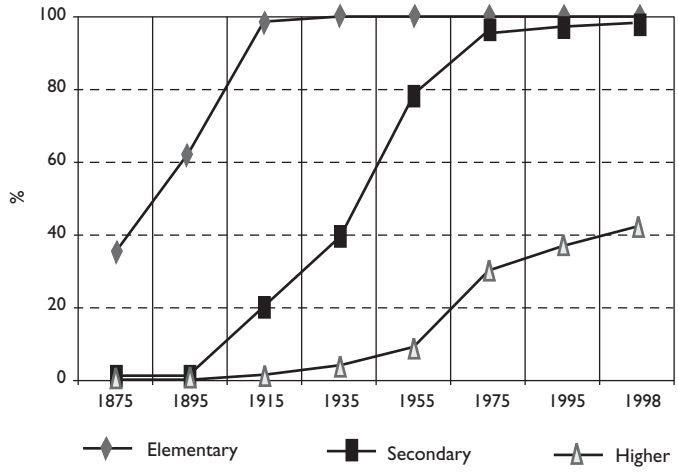
The 1890 elementary school order defined the purpose of elementary education as comprising three essential parts: moral education, education for citizens, and education for skills and knowledge. Ten years later, the 1900 order declared that all ordinary elementary school courses should last four years, and spelled out numerous regulations concerning compulsory attendance. It also abolished tuition. During this time, a positive and popular attitude towards education began to spread in Japan. By 1906, the enrollment rate reached 96.6 percent (Figure 4.1). Another notable accomplishment was a gradual shrinking in gender and regional differences in attendance rates, giving Japan an egalitarian elementary education system within a rather short time.

The realization of almost universal primary education in particular related directly to Japan's choice of a pyramid-shaped education structure (Okita, 1980). In other words, the government developed a broad-based education system that emphasized improving primary education, rather than a pillar-shaped structure that would allocate more attention to higher education. Ordinary elementary school was extended from four to six years in 1907, leading to a gradual increase in public attention to mid- and higher-level education. These achievements testify to the government's strong initiative. However, such social and cultural factors as a single language and religion played a role as well. Equally important were improved living standards and an increasing recognition of the link between the value of education and economic betterment.

A significant number of Japan's education reforms stemmed from the "catch-up policy" the country adopted to reach the level of Western nations though "mass-production education" (Cummings, 1997b). Absorbing Western systems and advanced know-how in various aspects of development also characterized Japan as

[1] During 1878-82, 82.3 percent of the Japanese working population was in the primary sector. This figure declined to 69.6 percent over 1898-1902, and to 49.4 percent in 1930 and 13.9 percent in 1975 (Okita, 1980).

Figure 4.1 **Enrollment Rates in Japan, 1875-1998**



one of the typical "information recipient nations" (Murata and Takakura, 1997). Yet, what was unique was the way the country "Japanized" these foreign influences—i.e., how it attempted to localize Western models within the conditions in Japan, and how it maintained a domestic locus of decision and control. The results were centralized education policies, standardized education methods and homogenous outcomes, all of which have shaped education in Japan through the present.

The Path of a High Performer: Post-war Education and Universal Primary Education

Post-World War II education reform was crucial to shaping the present school system in Japan. It became the foundation of educational development in Japan thereafter, and as such deserves attention. The major change in how education was administrated in the post-war era must especially be kept in mind. The role of the Ministry of Education shifted from one of direction, control and order, to one of supervision, advice and assistance.

Evolution of Policy Initiatives and Institutional Consolidation

When Japan entered World War II, elementary schools were reorganized into national schools, and structural and instructional reforms were made accordingly. In 1937, the Ideological Control Bureau was reorganized into the Nationalism Instruction Bureau, designed to embed instruction with patriotic spirit. The National School Act issued in 1941 also colored schools with nationalist zeal, emphasizing loyalty to the emperor's state. The experience revealed how a centrally controlled education system could rapidly be manipulated into a tool for nationalist indoctrination.

When World War II ended in August 1945, Japan was placed under American occupation. A number of the reforms related to establishing democracy during this era, including those in education, are often referred to as "Americanization under occupation." It needs to be kept in mind, however, that Japan had already developed a solid education system during the pre-war period, which enabled an effective restructuring of education institutions after the war, as well as rapid growth of secondary and tertiary education. Thus, along with a series of steps towards democratization, there was also a continuity of pre-war education accomplishments, including a centrally managed framework and the emphasis on basics at the elementary level.

In 1947, the Fundamental Law of Education introduced 6-3 compulsory education and the 6-3-3-4 school system. After 1952, when Japan was restored as a full sovereign power, it continued to emphasize the pivotal role of education in the development of a democratic society and nation. Various adjustments enabled the 6-3 system to rapidly increase enrollment rates and expand the quantity as well as the equality of educational opportunities. These measures included:

- *Controls on teacher's salaries.* The 1952 Law on the National Treasury's Share of Compulsory Education Expenses specified that one half of the salaries of teachers within the compulsory education system would be paid by the national government.
- *Regulation of class size.* The 1958 Law on the Standard for the Organization of Classes and for the Fixed Number of Educational Personnel in Local Public Compulsory Schools set the basis for regulating the number of children that could be grouped under one teacher.
- *Subsidizing of teaching materials and classroom equipment.* The same 1952 law that provided national support for teacher salaries also subsidized acquisitions of school materials.

- *Financial assistance for children of compulsory education age living under difficult circumstances.* Assistance to needy households for their children's school supplies, clothing, transportation and lunches was provided through the 1950 Livelihood Protection Law, the 1956 National Subsidy for the Free Distribution of Textbooks to Elementary School Children Having Financial Difficulties, and the 1956 revision of the School Lunch Law.
- *Special attention to education in remote areas.* The Law for the Promotion of Education in Isolated Areas in 1954 included measures to improve conditions across the educational spectrum in remote parts of the country.
- *Attention to mentally and physically handicapped children.* This support came through the 1954 Law for the Encouragement of Attendance at Schools for the Blind, Schools for the Deaf, and Schools for the Handicapped.

In addition to these measures, a uniform finance and personnel policy was implemented, standardizing teacher salaries and per-student expenditures in all public schools.

Measures such as these, developed through the comprehensive planning and administration of the Ministry of Education, have ensured that the Japanese educational framework continues to be centrally rooted. But the national government does not involve itself in the everyday management of schools. Public education enjoys flexibility at local and school levels, too. This characteristic can be observed in the instructional aspects of Japanese education.

Effective Development of the Instructional System

High performance rests on more than just universal primary education. In Japan, educational uniformity and equality have been critical as well. The central authorities have taken a number of crucial steps towards shaping a solid and standardized instruction system, addressing administrative mechanisms related to many aspects of school and classroom design and organization.

The first and most important step has been the creation of a uniform national curriculum. Curriculum design and implementation is regarded as the heart of school management (Murata and Takakura, 1997). Some practices related to curriculum seem unique, such as teaching basic subjects in the morning when children are expected to be more alert. A solid understanding of core cognitive subject matter is emphasized, particularly at the early stages of elementary education. Japanese students' high achievements in basic math and science on international tests confirm this point.

There is a focus as well in schools on nonacademic activities, including programs related to school cleanliness, personal hygiene, disaster preparedness and student-served lunches (Murata and Takakura, 1997). Moral education is also important, although it is interesting to note that such instruction has long been closely linked with Japan's socioeconomic development. In the early to mid-1900s, the contents of textbooks for moral education highlighted such issues as diligence, modesty, thrift and health care; during wartime, obligations to the state were emphasized; and in the post-war era, the focus shifted to principles of democracy and civil society.

The uniform national curriculum enables families and teachers to move from one place to another without worrying about curricular or pedagogical variation. Indeed, what is being taught in second grade math class in the first week of the quarter, for example, is equivalent across prefectures and the country. Yet, it should be noted that the Japanese national curriculum and accompanying guidelines contain general goal statements rather than detailing every aspect of teaching matters, which would limit teacher flexibility.

The second essential step taken by central education authorities has been the construction of a national mechanism for the production of textbooks. This has helped not only in the dissemination of the national curriculum, but also in the unification of principles conveyed through textbooks. In a practice dating to 1886, the Ministry of Education investigates the contents of each privately published textbook to confirm that it conforms to the spirit of the Fundamental Law of Education and the School Education Law, as well as with the course of study.

A third step involves time commitment in schools, which is considered one of the important reasons behind the solid performance of Japanese children. The timetables of Japanese schools have been uniform and rather inflexible. Japanese students have a longer school year and usually longer instructional time than their peers in Western countries. The average Japanese child spends 220 days in primary school per year, compared to 175 days for American children (Nelson, 1996). The attendance rate is also very high: absenteeism does not exist as a major problem, as it does in urban cities in the United States or in some developing societies. Considerable time is also spent on out-of-school educational activities in Japan.

The fourth step has been to make higher student-teacher ratios work. During the Meiji era and the post-war baby-boom period, a single class routinely accommodated more than 50 students. This figure has decreased to 37 on average in lower secondary schools today, still a relatively large class size (Nelson, 1996). However, Japanese students are able to pay close attention to teachers or to the task defined by the teacher (Stevenson and Lee, 1997). The structure of Japanese class

lessons and the varied instructional approaches used by teachers engage children's attention, enabling effective teaching at a relatively low cost. Although some say that smaller class size would do a better job in meeting individual student needs, using the group as the basic unit of instruction seems to work quite effectively in Japan, where team spirit is part of many other aspects of life.

Lastly, comprehensive and ongoing in-service teacher training has contributed greatly to Japan's educational performance. In addition to extensive training at the beginning of their careers, teachers in Japan have abundant opportunities to enhance their professionalism. At school, they interact with each other, work together on lesson plans, and share ideas about techniques in the teachers' room. These activities in turn reappear in classrooms in the form of effective teaching skills.

All of these methods of systematic national education management have guided schools nationwide up to the present day, paving a fundamental common ground that makes Japanese education integrated and well coordinated.

Expansion of High School and University Education

In addition to its reforms targeted at increased and equitable access to basic education, Japan made vigorous efforts starting in the 1950s, to develop upper-secondary and tertiary schools. The growth in the percentage of students continuing beyond compulsory schools increased in the 1960s (Figure 4.1) in conjunction with the baby boom.

As in the Meiji period, when schools were regarded as the engine of modernization, education commanded an important role during Japan's decades of rapid economic growth. The need for a more educated labor force, as well as private demand for post-compulsory education, propelled the expansion of enrollment rates, particularly at the secondary and tertiary levels during the 1960s and 1970s. Educational attainment became an important determinant of an individual's entry job and professional trajectory, while the process of gaining admission into an institution of higher education prepared young people for participation in the booming economy. [2]

The government responded to these trends in the same ways that it had

[2] Although the education system in Japan is said to be egalitarian, it is also true that education has become a central mechanism of social mobility and entrance into the elite strata of Japanese society, as argued by Dore (1976). There is further debate on meritocracy later in this chapter.

guided the growth of primary education: by ensuring its efforts were centrally driven, comprehensive and complementary to societal conditions. For example, in 1955, 1960 and 1970, the government published *Outlines of the Course of Study for Upper Secondary Schools*. Each revision was intended to make education content more relevant for an evolving society. To ensure high schools were readily available to a large number of working youths, part-time and correspondence systems of upper-secondary education were instituted. Between 1948 and 1952, the number of students enrolled part-time in upper-secondary schools tripled (Ministry of Education, Science and Culture, 1980).

During the 1960s, economic policies promoted the spread of diverse forms of vocational education and the establishment of university-level engineering programs. By the 1970s, this growth-oriented approach shifted to a welfare state approach that emphasized distribution. This advanced more fair and even access to higher education, which had remained very selective in spite of the increasing number of students wanting to continue their post-secondary education. The government supported the growth of the university system (see Figure 4.1), and there was an increase in the number of private institutions, technical colleges and two or three-year junior colleges to accommodate rising demand. Enrollment in colleges and universities, including graduate schools, accelerated throughout the 1980s and the 1990s.

Despite the Japanese government's encouragement of work-related education and training throughout the post-war period,[3] the link between schools and industry rarely involved collaborations related to curriculum, including research and development. In Japan as well as in East Asian countries, private rather than government initiatives filled the need for R&D. Instead, the spotlight remained on facilitating the school-to-work transition (Stern, 1997). In the context of a lifetime employment system, Japanese employers have assumed a great deal of responsibility in training new employees, with the understanding that it is a long-term investment in human resources.[4] Extensive on-the-job training, however, has discouraged college and high

[3] This feature dates back to more than 100 years ago. In 1894, then Japanese Minister of Education Kowashi Inoue declared the need for promoting technical training to face the industrial competition in the world.

[4] However, there has been a gradual change in this on-the-job training. As labor mobility has increased, more companies have begun to realize that they cannot assume their new employees will pay them back in the form of increased capacity and company loyalty. In fact, a study by the Statistics Bureau of the Management and Coordination Agency (Employment Status Survey, 1999) shows that the younger the person, the more likely he or she will want to change jobs: approximately 22 percent of the population aged 15-24; 16 percent between 25-34; 11 percent between 35-44; and 7 percent between 45-54. The figures have increased rapidly since the 1970s and indicate a clear pattern of the likelihood of voluntary job separation among young people.

school students from becoming specialists, and higher education institutions from enhancing their curricular creativity. Education at the college and university level has thus remained relatively general in Japan, with little intent to relate content to occupation.

The expansion of high school and university education also shaped certain aspects of the Japanese lifestyle. For example, the considerable expense involved in putting children through high school and university has spurred the desirability of small families. Beginning in the 1960s, the increasing number of women in higher education encouraged more to enter the labor pool, which contributed to smaller family size, even as it enabled families greater educational spending per child.

Influence of Traditional Values and Culture

Societal and cultural differences need to be understood when analyzing and evaluating the performance of an education system. This section looks into patterns that have influenced and shaped education in Japan, including some shared with other HIP Asia countries.

Family and Parental Involvement

Learning occurs not just in schools. In Japan and other HIP Asia countries, family structure and attitude affect the progress of a child differently than in other parts of the world. HIP Asian parents are comfortably willing to spend private funds to support their child's academic performance—to such an extent that governments in these countries can count on individual families to contribute to the overall national effort in education (Rohlen, 1997). Why are parents so eager to manage their children's schooling? One compelling reason is because academic success is directly linked to occupational achievement and social prestige, and children's accomplishments are seen as an extension of their parent's achievements (LeTendre, 1996).

HIP Asian parents rely on what is called "shadow education" for their children's out-of-school learning. This commonly involves cram schools—called *juku* and *yobiko*—and private tutoring. These activities are supposed to enrich instruction, challenging gifted students who might grow bored with mid-level instruction in classrooms, providing remedial help to students who need extra assistance, and preparing students for high school and university entrance exams. In fact, there is a hierarchy not only among institutions of higher education in Japan, but also among the cram

Table 4.1. Cost of Shadow Education Annually per Student, Japan, 1998
(In U.S. dollars converted at US$1=130 Yen)

	Elementary schools	Lower secondary schools			Upper secondary schools		
		1st year	2nd year	3rd year	1st year	2nd year	3rd year
Public schools	$655	1,250	1,475	2,140	763	749	1,620
Private schools	–	1,158	1,438	1,587	928	1,183	1,714

Source: Ministry of Education, Science, Sports and Culture (2000).

schools that "feed" students into elite high schools and colleges. Although it is difficult to pinpoint the number of such schools—they include everything from one-room schools run by housewives to giant corporations that have country offices abroad attended by children of Japanese parents working overseas—estimates range from 35,000 to 200,000, with business volume said to reach between $4 billion and $7 billion. As shown in Table 4.1, the cost of shadow education to the individual family can soar as high as $2,077 per student for the third year of public junior high school. It seems ironic, however, that a form of dual education—the simultaneous existence of the mainstream and shadow systems—has enabled the survival of the dominant values of Japanese education, i.e., egalitarianism and uniformity. Yet, it can also be argued that the diffusion of relatively high-cost shadow education threatens to undercut the egalitarian dynamic of the formal school system, which is intended to maintain uniformity by being broadly available at a modest cost.

In addition to shadow education, Japanese parents are generally eager to support their children's after-school lessons from an early age. These are mainly activities in sports and the arts aimed at developing well-rounded children. According to the Tokai Bank, Ltd., the leading out-of-school activities for Japanese children in 2000 were swimming, piano and calligraphy.

Emphasis on Effort: The Exam System

All Japanese elementary schools stress the basics, which include math and science, art, music and, most importantly, social skills, defined as harmonious and cooperative human relations. As students proceed through the grades, the focus evolves to hard work and endurance, with the common challenge being a competitive entrance

exam. Effort is considered more fundamental than ability or aptitude in determining success in learning (Cummings, 1997b; Rohlen, 1997)—a characteristic shared by all HIP Asia countries. At this point, the early focus on mutual support turns into a push for individuals to survive through the super competitive system. While this may seem contradictory, Rohlen points out that the social skills and cooperative approaches learned in elementary school prepare Japanese students for the hard study and sternness of secondary schooling.

As the students enter the so-called "exam hell," in-school and out-of-school education becomes virtually consumed by preparation for the high-stakes tests. The stress on effort promotes longer time-on-task, but the onset of exams seriously warps the curriculum. Teachers and parents encourage their children to work hard rather than explore their creativity.

Preference for Homogeneity

The preference for homogeneity through cooperation and cohesion is one of the distinctive characters found in Japan and the rest of HIP Asia. Heterogeneity, on the other hand, is an unfamiliar concept. Japan is almost a mono-racial country (less than 1 percent of its population is ethnically non-Japanese); Japanese is the single national language; and most citizens are Buddhists. There is no huge disparity in wealth, and there are very few at-risk children or children in poverty. The disruption of education from social situations—including unemployment, poverty and crime—is uncommon. This helps to narrow variation in academic outcomes across the population.

The nature of the education system reflects homogeneity as well. First, Japan has an automatic grade promotion system, and students are promoted to the next grade according to their age. Repeaters or dropouts hardly exist; skipping is not allowed. This mechanism underscores a horizontal consciousness and forms the basis of an egalitarian approach.

Second, there is an emphasis on group-based order. Japanese schools train students how to behave and compete as a unit, a pattern that characterizes Japanese people in general, in contrast with the Western emphasis on individualism. In primary and secondary schools, students are grouped into homeroom classes intended to be homogenous in terms of sex, academic attainment, home locality and month of birthday. Within the classroom, students are then divided into smaller groups that engage in non-academic activities, such as serving lunch, cleaning classrooms and feeding fish. By assuming responsibility in everyday class management with other group members, children are expected to support one another.

A third factor is the late tracking system. By not tracking students until the later years of schooling, the degree of deviation from the standard within each classroom is minimized. Particularly at the elementary level, schools emphasize such values as friendship, cooperation and persistence, which all children, regardless of their academic levels, can achieve.

Finally, teachers, too, are organized in groups and work together to develop common curricula, share responsibilities for student activities and guidance, and exchange information. Outside class, teachers spend their time in a teachers' room, where their desks are arranged face to face, in order to facilitate communication. This encourages teamwork, and helps ensure all homeroom classes in the same grade are homogeneous in terms of academic and nonacademic performance.

Current Issues and Efforts

All of the practices noted above foster the individual and social attitudes that reflect Japan's culture and values, helping to explain the country's high performance in education as well as the structure of its system. The Japanese seem to take pride in their consistency and integrity in attaining peak levels of educational performance, even as schools have also been able to respond to and show the potential to transform Japanese society. The manner in which schools have fulfilled a key role in economic development has bolstered the sense of satisfaction and comfort among education leaders and parents. It has also lowered incentives for innovation and creativity, even when times have begun to change.

The discussion so far has focused on exploring the background of Japan's successful development of an education system that meets the needs of modernization and economic growth. This success manifests itself in high scores on international tests, which are relied on to make international comparisons (as shown in Table 4.2). Yet this is not the whole story. Since the early 1980s, it has become evident that Japan's school system is not adapting to changing values and needs. Many of the emerging problems Japanese education faces today are not new. But the conventional framework is no longer sufficient in a changing socioeconomic environment. The problems arising are of a qualitative, not quantitative nature. This section considers the underside of Japanese education today, traces what is behind its difficulties, and describes the measures taken by stakeholders.

Table 4.2. Math and Science Test Rankings for Japanese Elementary and Lower Secondary Schools

	1964, 1st test	1981, 2nd test	1995, 3rd test
Elementary level math	na	na	3rd (26)
Lower secondary level math	2nd (12)	1st (20)	3rd (39)
	1970	**1983**	**1995**
Elementary level science	1st (16)	1st (19)	2nd (26)
Lower secondary level science	1st (18)	2nd (26)	3rd (41)

Note: The total number of countries ranked is in parentheses.
Source: Ministry of Education, Science, Sports and Culture (2000).

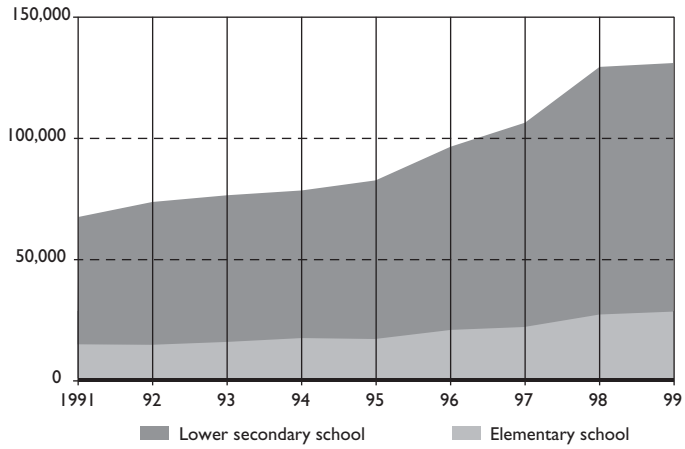
Emerging Problems

The failure of schools to meet student needs has surfaced mainly in the practice of *ijime* (bullying); *gakkyuu-houkai* (the collapse of effective class structure because of students' disobedient attitudes); *futoukou* (fear of attending school, refusal to go or taking prolonged absences—see Figure 4. 2); and *kounai-bouryoku* (school violence and outbursts of anger). While by no means universal features of the school system, these are serious social issues that often capture considerable media attention, and greatly affect the classroom experience where they arise.

In a front page article in August, 2001, a major newspaper in Japan (*Yomiuri*) reported that *futoukou* had reached as high as 134,000 students, one student in every class in junior high schools. The number of *futoukou* students—defined as those who took more than 30 days absence per year—was reported to have been constantly increasing for nine years, including an increase of 3.1 percent from 1999 to 2000. The likely causes were cited as school bullying, distrust of teachers, and poor parent-children relationships. The article pointed out that the ministry persistently limits its solution to the "return to (formal) school," and that the government is hesitant to provide public subsidies to "free schools" that often accept *futoukou* students. One education critic mourned Japan's lack of flexible learning places, and called for more menus for learning, including government support for charter schools, free schools, and internship opportunities.

The reasons behind these problems are multi-layered. For one, school learning and academic achievement have become much too central to personal growth,

Figure 4.2 **Number of Students Refusing to Attend Schools, Japan, 1991-99**



and the traditional academic curriculum has become too unresponsive and rigid to meet children's diversifying needs. Another reason is the change in family structure. With more nuclear families today than ever before, parents rely heavily on schools and cram schools, and in some cases have not spent enough time with their children. Some lament a society in which adults do not take raising children seriously, and children do not listen to adults, including teachers. The signs of child alienation are evident, particularly through increased rates of child crime and suicide. In addition, the local community today has much less influence on child development, since there is more limited interaction between children of different ages and between children and adults, mainly because children's lives revolve around school. White (1987, p. 176) remarks that "until recently…children congregated in their neighborhoods in vertically organized, mixed-age friendship groups, which permitted support and learning from a diversity of acquaintances. Children now mix only with their age-mates, and only incidentally, perhaps on the way to and from school and *juku*."

Concern is not limited to school and family-related problems. There is increasing recognition that the pool of graduates with high education credentials is not fulfilling the employment needs in Japan. The major goal of education during the era of industrialization and economic growth was to support the nation's economic activities. However, given economic globalization, more employers want workers with

expertise, creativity and flexibility (Ministry of Health, Labor and Welfare, 2001). There is now a need for more than just willing-to-do-all, durable graduates whose motivation to continuously learn has been exhausted from the exam-focused education system, or who are trained to work efficiently in a group but lack creativity and self-assertiveness. Shimotani (2000) fears the potential effects of students' declining math and science scores on Japan's economic performance.

Efforts to Tackle Education Issues

Formal education in Japan has tended to focus on knowledge through drill and rote learning, and such a system is usually weak at addressing the inherently diverse characteristics of individual children. With this in mind, the Ministry of Education launched an education reform in the mid-1980s,[5] embracing the mottoes of "decentralization over centralization," "variety over uniformity," and "flexibility over rigidity." Since the late 1980s, reforms aiming for an "old but new education system" have stressed personality development, particularly at lower and upper secondary schools. This view marks a transition from simple knowledge acquisition to more emphasis on students' critical thinking ability, judgment, creativity and motivation.

Reforms currently underway aim for a transformation from an education focusing solely on intellect to one focusing more on "minds," or what is called "education for the whole mind" (*kokoro no kyouiku*). The reforms include such elements as a school system allowing students to make a wide variety of choices; administrative reforms as seen in the decentralization of education management; and a new emphasis at universities on links to research and development. Acknowledging Japan's resource scarcity, there is a growing understanding that human capacity will drive competitiveness in a global community. The Japanese government has been increasing R&D budgets with the recognition that it has "failed to invest in important research fields in a flexible manner, leaving the country badly trailing Western industrialized countries" (*Japan Economic Almanac*, 2001, p. 42). The percentage of government funds in Japan's total R&D expenditure in 1998 was 21.7 percent, compared to 51.1 percent in Italy, 41 percent in France, 35.6 percent in Germany and 29.4 percent in the United States (Science and Technology Agency, 2000).

Another pressing issue is considered to be strengthening the country's

[5] Following the establishment of the National Task Force for Education Reform in 1984, the final report was submitted in 1987.

Table 4.3. Total Annual Instruction Time (Hours) by Grade Level, Pre- and Post-Reform

	Elementary school						Lower secondary school		
Grade	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Pre-reform	850	910	980	1,015	1,015	1,015	1,050	1,050	1,050
Post-reform	782	840	910	945	945	945	980	980	980

Source: Ministry of Education, Science, Sports and Culture (2000).

response to internationalization and the information revolution through more effective foreign language and information technology education.

A prominent initiative in recent years has been the transition to a five-day school week. This began in 1992 with granting the second Saturday of the month off, followed by two Saturdays off starting in 1995. In the future, all Saturdays will be off. The new schedule reflects concern over an excessive school orientation, and allows family and community to share a role in the character-building of children through various activities outside school. Yet adjusting the course of study and other measures in accordance with the new school calendar remains a contentious issue. The scope of debate extends beyond formal schooling, because if parents simply send their children to cram schools on Saturday, then the shift to a five-day week does not enhance children's opportunities for nonacademic activities such as playing, sports and community service. The Ministry of Education, therefore, has launched complementary measures to involve parents in maximizing the utility of non-school days—for example, by establishing public facilities where parent-child joint activities can take place.

The ministry has also paid attention to curriculum, based on the findings of a number of researchers and professionals who have pointed to the need to create more innovative schools. Experiments so far have included "experience learning" (*taiken gakushuu*); development of "open-ended and goal-free lessons;" increasing students' choice of subjects at upper levels; introducing internships and recognizing credits from them for graduation; and community service. Recently, the government announced a 30 percent reduction of teaching content in elementary and lower secondary schools. This involves not only less instruction time, as shown in Table 4.3, but changes in curriculum content so as to achieve education for the whole mind, focusing on the full person.

However, the positive historical legacy of uniform schooling continues to exert counter-pressures to these new ideas and practices. Innovations such as charter and free schools, for example, which accommodate children who do not adapt to the mainstream system, still receive little national acceptance. And as long as the exam system remains as competitive as it is today, non-traditional schools—which can be academically less demanding—will not be an appealing choice for students and parents.

In the old days, particularly the early post-war era, when goods were scarce and people shared a common sense that diligence, endurance, thrift and hard work were virtues, there were clear advantages to uniformity and centralization in education. But with the changing needs and values of people, especially youth, educational arrangements need to be responsive, flexible and innovative to meet such changes. There is a tension in preserving what is effective about the old system, while adapting to new needs.

Conclusion: Harmonization with Heterogeneity

In sum, Japan's approach to education planning and administration has been a systematic, centrally managed arrangement conforming to national goals, standards and curricular guidelines. Easily accessible public education at a modest cost, guided by the principles of egalitarianism and uniformity, has helped maintain social stability. In addition, shadow education, strong parental involvement, a flourishing economic situation and cultural values have all played major roles in Japan's high-level performance in education. These different factors have intertwined, reinforced each other, converged and shaped the Japanese education system, bringing relatively high standards with inclusiveness and homogeneity. Until recently, the system functioned smoothly, with a close match between educational outputs and the need for labor.

Yet the same factors that led to Japan's success in education have also fostered little incentive for innovation. A debate has now begun on how to integrate broader social change into government education reforms in order to make schools more attractive and effective places of learning in a globalizing world. The challenge of Japanese education is how to achieve a balance between the intellect and the whole mind, and how to adapt and innovate for the future, without fundamentally altering the system that has yielded such strong performance in the past.

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CHAPTER 5

Education Reform in Japan: Fostering a "Zest for Living" through Informatics

Takashi Sakamoto

Society has entered an Information Revolution comparable to the civil revolutions of the past, like the Industrial Revolution. Dramatic advances in science, technology and data transfer are fast rendering obsolete the knowledge and skills learned in school. To keep up with the changes in society and particularly to have a major role in shaping it, one must make active use of modern scientific and technological achievements.

Economic organizations are asking the educational community to develop human resources in preparation for the new century. In April 1995, the Special Committee for Education of the Japanese Federation of Employers' Associations (Nikkeiren) said that individuals in the new era must be rich in character and vision, original and creative, able to identify and solve problems, open to globalization, and able to lead others. In March 1996, the Federation of Economic Organizations (Keidanren) called for active, highly responsible, and creative individuals to guide the future of Japan.

These qualities are consistent with Japan's national standard course of study, the aim of which is to motivate children to learn, adapt to the changing society at their own initiative, acquire a basic education, and develop their individuality. The qualities also conform to the students' record of scholastic attainment, which emphasizes interest, motivation, attitude toward learning, logical thinking, sound judgment, self-expression and, above all, the ability to participate actively in building modern society.

Multimedia-aided understanding, use, creation and transfer of information will be commonplace in the 21st century. Individuals must learn to extract the information they need with the help of multimedia, and create and send out their own

multimedia-based work. They must analyze information carefully to determine its accuracy, and learn not to be confused or misled by it. They must be able to spot bias in information and prevent it from distorting their view of reality. When sending out information, they must respect the privacy of others, avoid using or creating biased or incorrect information, and protect intellectual property rights. In the process, they must develop a strong sense of the importance of information as well as its limitations.

Education Policies for an Advanced Information and Communication Society

Education reform policies for Japan in the 21st century were first discussed in a report published by the Ministry of Education in January 1995. This report, entitled "Promotion of Education Policies adapting to the Development of Multimedia (Panel Summary)," enumerated basic education reform measures that would prepare the country for the information society.

In February 1995, the Headquarters for the Promotion of Advanced Information and Communication Society, under the Prime Minister, announced the "Basic Policy for the Promotion of the Advanced Information and Communication Society," which views the Information Revolution as a force for social reform.

In response, the Ministry of Education issued "Guidelines for Informatization in Education, Science, Culture and Sports" in August 1995, citing specific steps for carrying out the foregoing policies. These steps included providing advanced information and communication networks and satellite facilities, developing education methods using this infrastructure, and designing teacher training programs.

An influential report entitled "The Model for Japanese Education in the 21st Century," issued by the 15th Central Council for Education in July 1996, summarized the status of education reform in Japan and analyzed its effectiveness in solving the problems in the present education system and developing future leaders. The report then dealt with the need for a "zest for living." This was defined as the individual's capacity to recognize problems, learn, think, judge, act and achieve a productive resolution independently. It also included the individual's humanity, sense of cooperation, compassion and sensitivity, and vitality.

These characteristics are consistent with the list of desirable competencies mentioned earlier. To develop them, the report argues, children and the society as a whole need *yutori*, or "room to grow." But schools now teach too many subjects, leaving no room for growth. School subjects should therefore be pared down to the

basics. Supplementary subjects can be taught outside school in cooperation with the children's families and their local communities. The hours gained from this process of paring should be used for integrated study, during which the schools can expose the children to international issues, information technology, science and technological advances, environmental concerns, and related subjects to help them adapt to the changing society.

The report made several recommendations regarding computer education, including:

- Systematic implementation of it;
- The use of information and communication networks to improve the quality of formal education;
- Establishment of new schools that can meet the needs of an advanced information and communication society; and
- The development of well-balanced individuals and of information ethics.

The following specific recommendations were made:

- In elementary schools, children must gain familiarity with computers by using them in their learning activities.
- In junior high schools, students must become computer literate and learn to use information appropriately, besides studying advanced computer subjects depending on their interest. Computers should be used to enrich curricula. For example, information and communication networks should be used during the period of integrated study.
- In senior high schools, more active use of computers in the various subjects, based on prior learning, should be encouraged. Information-related subjects should be strengthened at vocational senior high schools and comprehensive high schools. General high schools should teach information-related subjects.

The report pointed out, however, that children must be made to understand that technology is merely an instrument for learning, and that interaction with others is more important. Computers and other equipment provide virtual experiences, which are subordinate to real experiences in life, society and nature. Information ethics, the report also emphasized, must be taught to protect privacy, intellectual property rights, and information security. These views set the direction for computer education in Japan.

In May 1997, the cabinet adopted the "Action Plan for the Reform and Creation of Economic Structure," which called for the accelerated use of technology in education. According to the plan, Japan's economic viability and international competitiveness in the advanced information and communication society hinge on the computer literacy of its citizens. The plan discussed the content of informatics education in elementary and secondary schools, proposed the effective use of networks and multimedia, and, following the recommendation of the Educational Personnel Training Council, declared that elementary and secondary school teachers must become better able to use advanced technologies.

In August 1997, the Ministry of Education's reform program was revised to deal with the appropriate environments needed for the advanced information society. Schools must be provided with computer hardware, software and access to the Internet. Then, in November 1997, the Cabinet Committee for Economic Measures announced the "Emergency Economic Reform to Pioneer the 21st Century." Education reform was discussed as part of economic structural reform focused mainly on deregulation, together with reform in such areas as information and communications, welfare and health care, employment and labor, finance, and distribution and transportation.

The following proposals were made for educational technologies in elementary and secondary schools:

- Curriculum standards will be revised to allow children in elementary schools to familiarize themselves with foreign languages, lives and cultures during the new period of integrated study. In view of the increasing globalization of information and communications, children should be able to use the Internet and other information and communication instruments in English.
- Schools will be given access to networks in stages so that soon all schools in Japan will be connected to the Internet.
- The policy of providing computer software for educational use will be steadily carried out. By FY1999, 20 computers were expected to have been installed at each public elementary school (one computer for every two pupils in a computer room open to all classes); 42 computers at each junior high school and general senior high school (one computer per student in the computer room); and eight computers at each school for special education (one computer per student in a classroom).
- Curriculum standards will be revised to make the basic content relating to information compulsory at junior high schools, and to make information-related subjects part of the curriculum at senior high schools.

The promotion of informatics education—the revision of curriculum standards and the provision of computers, software and access to the Internet for all schools—is no longer merely a matter of cultural and education policy. It is part of Japan's emergency economic policies. This reality indicates a growing recognition of the firm link between informatics education and the country's welfare in the 21st century.

Use of Computer Technology in Education

As of March 1998, the Internet was used in 13.6 percent of Japanese elementary schools, 22.7 percent of junior high schools, and 37.4 percent of senior high schools. Nationwide, 18.7 percent of all schools, including schools for special education, had Internet access. The Ministry of Education plans to provide Internet access to all junior and senior high schools and schools for special education by 2001 and to all elementary schools by 2003. Elementary schools could gain Internet access a year ahead of schedule. Given the rapid pace of installation, 30 to 40 percent of schools nationwide probably already have access to the Internet.

It was decided that, as of FY 1997, the costs associated with Internet providers and communications charges, amounting to ¥203,000 per school, would be covered by local tax allocations. These costs totaled ¥1.7 billion in FY 1998 and will increase to ¥8.1 billion when Internet access is provided to all schools in 2003.

The "100-School Networking Project," launched in FY 1995 with 111 schools participating completed its tenure of two years. A follow-up project is now in progress. Various activities are being carried out at schools and other educational organizations in Japan and elsewhere. These activities include information gathering, transfer and exchange; collaborative learning and research; collaborative production; and network conferencing.

The KONET Plan, designed to link 1,014 schools via the Internet and a videoconferencing system, has also been launched. Many activities, such as interaction via e-mail, information gathering and homepage creation, are being carried out under the plan.

A survey by the KONET Plan Office revealed that 38.5 percent of schools had one terminal connected to the Internet and 39.45 percent had two terminals connected. Twelve percent of schools had 20 or more terminals with an Internet connection. The dial-up method of connection was used in 89.8 percent of schools. The Internet was being used in social studies, science and special activities in elementary

schools, and in home economics, social studies and science at junior high schools. Internet use averaged slightly less than four hours a day. Homepage creation was done in 65.3 percent of the schools. The homepages contained information about the schools, school events, club activities, the local community and student associations. But children seemed to have difficulty using the homepages.

Students who participated in the KONET Plan were observed to have better computer skills (60.5 percent), easy access to a large amount of information (56.4 percent), and higher motivation for learning (25.3 percent). As a result of participating in the plan, teachers came to know about multimedia (76.2 percent), started using the Internet for information gathering (64 percent), and gained a broader perspective through interaction with teachers in other schools (23.6 percent). Participation in the plan also accounted for qualitative differences among teachers in terms of information acquired (23.1 percent).

In addition to these projects, the Gifu, Kochi, Saga and Osaka prefectures, along with Mitaka City and other areas, have been introducing Internet use. Nonprofit institutions such as Media Kids have also contributed to increased Internet use by students. In FY 1997, distance education through optical communication links to a master classroom was started, making it possible for sick children confined in a hospital to continue learning.

The Ministry of Education also studied the use of advanced computer facilities in 20 districts, selecting six schools per district for the study. It used two satellite communications systems, 10 optical communications systems, and 19 digital communications networks to link rural schools with schools in urban areas. In many cases, children in rural areas were observed to benefit from the vivid information they acquired from urban schools, even as they provide their counterparts in the urban areas with information on their rich natural environment and traditional culture.

Videoconferencing has been introduced in schools participating in the KONET Plan, and is used more often than e-mail at elementary and junior high schools. The use of the various Internet systems at the elementary and high school levels is summarized in the following chart.

Internet system	**Elementary**	**Junior High**	**Senior High**
E-mail	53.2%	40.9%	39.5%
Videoconferencing	66.2	43.3	26.7
CU-SeeMe	1.3	2.8	17.2

Once senior high school students have become accustomed to using the Internet, they seem to have no difficulty using e-mail and the CU-SeeMe system. At elementary and junior high schools, however, the videoconferencing system may be used more easily because the pupils themselves supply the instructional content just by appearing before the camera.

The supplementary budget for FY 1998 included a plan to connect 118 schools—two schools each from 47 prefectures and 12 cities designated by government ordinance—through optical communications.

Informatics Education Curriculum

The promotion of informatics education has two aspects. One is the effective use of information technology in such subjects as the Japanese language, mathematics, social studies and science. The other aspect is the teaching of information technology itself. In other words, information technology is both a means of teaching and a school subject. These two aspects are related: learning with the help of information technology enables one to learn information technology by experience.

Information technology as a means of instruction is taught in teacher training programs. As a school subject, it is taught according to the Ministry of Education's national standard course of study based on the policy set by the Curriculum Council. School textbooks must conform to this national standard, imparting content in a phased manner from elementary school to senior high school.

The education plan based on the present standard course of study took 12 years to complete. A request for recommendations was submitted to the Curriculum Council in 1985. After a report responding to this request was completed in 1987, the standard course was developed. Textbooks were then drafted and screened. The three-year high school education program based on this course of study was fully implemented in March 1997.

The curriculum development now under way started in 1996, when a request for recommendations was made to the Curriculum Council. Following the council's recommendations, the standard course of study was due to have been revised in 1998. A new curriculum was expected to be implemented in both elementary and junior high schools in 2002, ahead of schedule, and in three-year senior high schools in 2006. Because it takes about ten years to review and revise the curriculum, subjects in such fields as information technology, where rapid changes take place, should be continually updated.

The policy on informatics education issued by the Central Council for Education led to a preliminary task force report entitled "For the Implementation of Systematic Informatics Education" in October 1997. The report was concerned with the promotion of computer education at elementary and secondary schools. It defined information literacy—the goal of computer education—as the ability to understand and manage information and to take part in the information society. The ability to understand information implies an understanding of the characteristics of information devices and of the fundamental theories and methods for managing information. The ability to manage information means the ability to collect, analyze, process, express and create information on one's own and to transmit such information to the intended recipients. It also includes the ability to use information devices as appropriate to the task or objective. The ability to take part in the information society involves an understanding of the role and influence of information and information technology in social life, a sense of responsibility to uphold information ethics, and the willingness to take part in the creation of a desirable information society. These points correspond to what the Central Council for Education calls the "zest for living" in the context of information.

For the next revision of the national standard course of study, the report recommended that information literacy be made a basic subject, along with reading, writing and arithmetic. It would therefore be taught systematically as a separate subject in elementary school, as an important factor in the "zest for living" concept. However, the implementation of this recommendation is problematic, since elementary school teachers are individually responsible for their classes. Thus, information literacy may have to be clearly defined in the national standard course of study and taught by means of a period of integrated study, rather than as an independent subject. Establishing information study as an independent subject at junior and senior high schools is also to be preferred. The report therefore recommended that information basics in industrial arts and homemaking be a required course and applied information an elective course at junior high schools, and that information study be established as part of general educational subjects in senior high schools.

These recommendations were contained in the "General Outline of the Principle of National Curriculum Standards Reform (Midterm Report)" published by the Curriculum Council in November 1997. The report stated:

> The use of computers should be accelerated more actively within the study of each subject so that informatics education will be conducted systematically throughout each stage of education. Elementary schools should work

on learning activities by using computers and other technology in a "period of integrated study" (tentative name). Junior high schools should make compulsory the basic content of informatics education, including the acquisition of basic computer skills. Senior high schools should appropriately position "information study" (tentative name) as an educational subject.

This indicates that consistent computer education measures are being implemented with a view to the needs of the new century.

Issues for the 21st Century

Education reform driven by information and communications technology is in progress in Japan, but the reform must be pushed forward through various measures. Computer education urgently needs to be incorporated into the curriculum in a uniform manner from elementary and secondary school through the university level. In high schools, information should become a required subject for all students. In universities, two separate courses on informatics should be taught: one for students who are majoring in the subject, and another for those who are not. Likewise, once the subject of informatics education has been established and certified, universities will run training programs for teachers. This training will take some time to complete. Until then, in-service teachers must be required to obtain a license to teach information study through training programs.

All elementary and junior and senior high schools will be equipped with high-speed networks. Then education centers and social education facilities in prefectures, cities designated by the government, and other specified cities will be provided with access to satellite communications networks. Local communities will be supplied with information and communications technology, including satellite communication and videoconferencing systems, and the Internet, to enable them to provide distance education. In-service elementary and junior/senior high school teachers will be encouraged to obtain a special license through distance education, and adults to take graduate courses through distance learning while continuing their present jobs. In-service teacher training courses need to be conducted, with the aid of computer technology, to prepare senior high school teachers to teach information study. To support the use of information technology in distance education and in schools, computer coordinators must be selected and trained.

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CHAPTER 6

Private Education in South Korea

Eun Mee Kim and Inpyo Lee

The expense of educating a child in South Korea from kindergarten through the university level was estimated for 1998 to amount to 100.4 million won (about $83,700).[1] That year's total expenditure on education was shared equally between public and private education. On average, it costs 2.77 million won ($2,308) annually to send a South Korean child to kindergarten, 5.49 million won ($4,575) for elementary school, 4.47 million won ($3,725) for middle school, 4.71 million won ($3,925) for high school, and 9.28 million won ($7,733) for college (4.87 million won, or $4,058, for junior college). The composition of education expenditure also varies depending on the level of education. Up to 60 percent of the total expenditure for a kindergarten student, for example, goes to extra or private education. In contrast, in junior college, public education accounts for more than 80 percent of the total expenditure.

These amounts contradict the assumption that the financial effects of the economic crisis on families would have reduced expenditure on private education. To the contrary, the demand for such education is growing. However, because of the financial crisis, South Koreans are looking for cheaper private education programs, such as cram schools and on-line tutoring, as opposed to private tutoring (Table 6.1).

Many social problems arise from the financial pressure to pay for a private education. A survey by the Korean Consumer Protection Board (KCPB) in 1997 pinpointed the excessive amounts spent for private education as a source of considerable stress to parents. Among the parents who responded to the survey, 15.5 percent had part-time jobs or borrowed money to finance their children's private edu-

[1] *Joongang Ilbo*, March 23, 1999.

Table 6.1. Distribution of Private School Enrollment in South Korea, 1998

Type of school	Percent of total private school enrollment
Music and art school	30
Private tutoring	10
Cram school	13
On-line tutoring service	21

Source: Joongang Ilbo, March 22, 1999.

Table 6.2. Number of Students per Classroom in South Korea, 1970-98

Year	Elementary school	Middle school	High school
1970	62.1	52.1	59.7
1980	51.5	62.1	59.4
1990	41.4	50.2	52.7
1995	36.4	48.2	47.3
1998	34.9	40.8	48.2

Source: Korean Educational Development Institute and Ministry of Education (1997).

cation. The stresses of studying were also reportedly burdensome to students. Nearly 18 percent of the students surveyed in 1997 said they had seen a psychiatrist to help them deal with the mental anxieties caused by studying for the university entrance examination (KCPB, 1997).

Sociocultural Basis of Demand for Higher Education

The belief that social reputation and respect can come only with a high level of education has boosted the demand for higher education throughout South Korea. Parents from every social class want an education beyond the university level for their children. The KCPB survey revealed that 97.7 percent of parents want their children to go to a university and 35.2 percent want to send their children to graduate

school. To ease the demand for private education, the government has made repeated attempts to reform the public education system, and particularly the university entrance examination. The entrance examination now tests students' logical and creative thinking. But because the high school curriculum has not changed accordingly, students still have to enroll in cram schools or hire tutors to prepare for the examination (KCPB, 1997).

Growth of Education in South Korea

Education in South Korea has increased in quantity as well as quality. The strong desire for education and the traditional respect for scholars have preserved the preeminent role of education in economic development. However, South Korea lags behind most developed countries in public education. Most importantly, the government does not spend enough on education to meet the rising demand, creating a problem for private education.

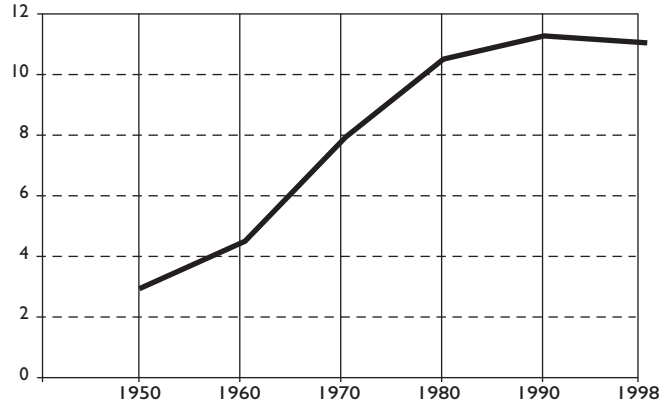
The growth of education since 1945 has been rapid (KEDI, 1999). Until the 1970s, the increase came mostly in the number of students from elementary to high school (Figure 6.1). Students in junior colleges and universities also grew in number in the 1980s and 1990s. The supply of teachers and schools has increased as well (Figures 6.2 and 6.3).

Quantitative education indicators for South Korea approximate the level reached by more advanced countries such as Japan and Taiwan. In 1995-96, Korean high school students compared favorably in number with their counterparts in Japan, Taiwan and New Zealand (Figure 6.4).

However, the quantitative increase has not been matched by an increase in quality. In this respect, South Korea has fallen behind more advanced countries. Although the number of students in a classroom has decreased sharply at all schooling levels (Table 6.2), there are still more students per teacher in Korea on average than in schools in the member countries of the Organisation for Economic Co-operation and Development (OECD) (Figure 6.5).

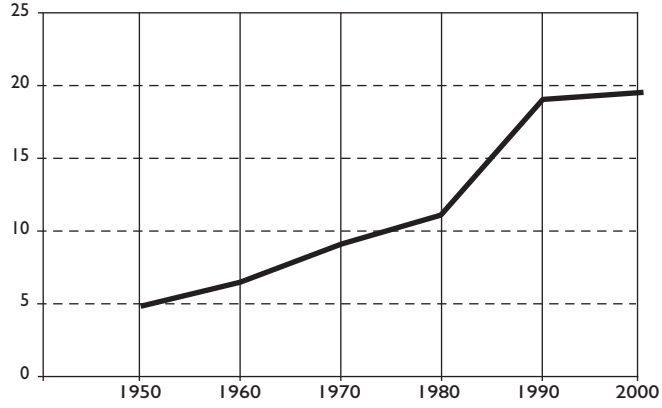
South Korea does not compare favorably with many other countries where the working conditions of teachers and investment in teacher training programs are concerned. New teachers spend less time in field training in South Korea than in Europe and North America, and have a more limited choice of short-term training courses. New teachers in most of the other countries surveyed train in the field for more than a year.

Figure 6.1 **Total Number of Students in South Korea, 1950-98**
(In millions)



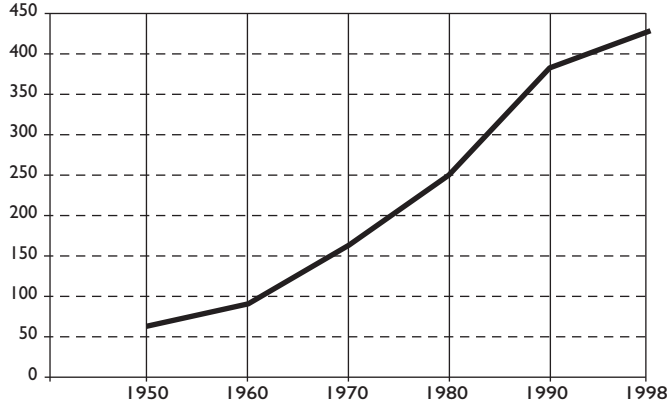
Source: Korean Educational Development Institute and Ministry of Education (1997).

Figure 6.2 **Total Number of South Korean Schools, 1950-2000**
(Thousands)



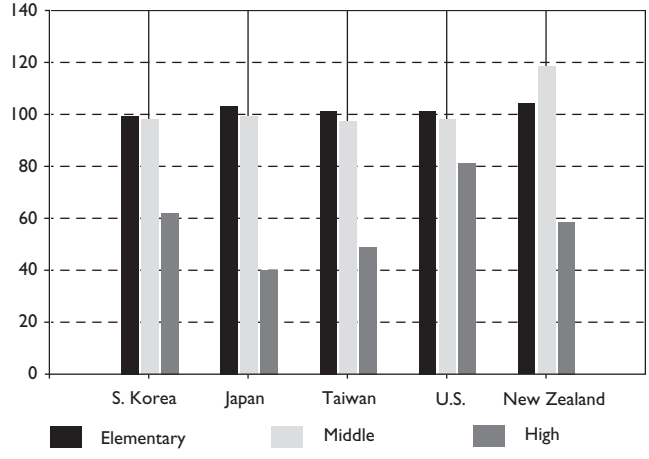
Source: Korean Educational Development Institute and Ministry of Education (1997).

Figure 6.3 **Total Number of Teachers in South Korea, 1950-98**
(Thousands)



Source: Korean Educational Development Institute and Ministry of Education (1997).

Figure 6.4 **Schooling Ratio in Various Countries, 1995**
(In percent)



Note: Data for South Korea and Taiwan are for 1996.
Source: National Statistical Office.

Table 6.3. Degree of Satisfaction of South Korean Students with School Life, 1996
(In percent)

Aspect of school life	Yes	No
Overall conditions	34.3	15.3
Educational content	29.6	23.8
School facilities	21.3	43.6
Relationships with friends	63.4	5.0
Community	17.9	39.2

Source: National Statisticals Office (1998a).

Table 6.4. Public Expenditure on Education in South Korea and Selected Developed Countries, 1995
(In percent)

Country	Share of public education expenditure in GDP	Share of private education expenditure in GDP	Share of total education expenditure in GDP
Canada	6.3	0.7	7.0
Germany	4.5	1.3	5.8
France	5.8	0.5	6.3
Ireland	4.8	0.4	5.2
Japan	3.6	1.1	4.7
South Korea	3.6	2.6	6.2
Spain	4.8	0.9	5.7
United States	5.0	1.7	6.7
OECD average	4.8	1.2	6.0

Source: OECD (1998).

School Satisfaction Surveys

A 1996 survey by the National Statistical Office (1998a) regarding satisfaction with school facilities and the educational environment showed that Korean students and their parents are relatively happy with the schooling itself, but generally dissatisfied with the educational environment. The high student density in classrooms and the poor quality of school facilities are among the reasons for the dissatisfaction. The sur-

vey pointed to the urgency of modernizing school facilities by investing more in education and improving its quality.

Public education in South Korea, on the whole, is unsatisfactory. This could be due to the government's low spending on public education. According to OECD data, South Korea spends a relatively small share of GDP on education. Education expenditures accounted for only 3.6 percent of GDP in South Korea in 1998, compared with a share of well above 4 percent in the United States, Germany and France. Japan spends only 3.6 percent of its GDP on education, about the same as South Korea, but private education in Japan is only slightly over 1 percent of GDP (versus 2.6 percent for South Korea). The share of private education in GDP is generally much higher in South Korea than in the OECD countries (Table 6.4).

These statistics support the notion that the South Korean government has failed to meet the rising demand for education, forcing parents to turn to private education.

Education Reform Plans

To help reduce private education expenditure by families in South Korea, the university entrance examination should be made less stringent, the examination material made more relevant, and student recruitment methods improved to include continuous assessment, credit for extracurricular work, and other forms of academic credit to supplement the national examination score. The level of difficulty of the college entrance examination, in fact, has been relatively low for several years now, and an even easier examination was planned for 2000.

Second, the school curriculum should be made less diversified in order to improve the quality of public education. The new school curriculum should also reflect the students' preferences and future career plans. Extra curriculum programs or classes offered free of charge by the schools should help relieve the financial burden of parents (KCPB, 1997).

In response to the clamor for reforms, the Ministry of Education is preparing programs such as the Brain Korea 21 Plan and the Five-Year Education Development Plan (*Joonang Ilbo*, May 24, 1999). These programs are based on a recognition that the country's current educational problems are attributable to the inordinate social value ascribed to education and the fierce competition that such a value inspires. Therefore, the tradition of giving importance only to college graduates should change.

The goal of the Brain Korea 21 Plan is to strengthen the national competitiveness of South Korea by building a knowledge-based society and establishing a knowledge infrastructure. The Five-Year Education Development Plan, on the other hand, attempts to harness public support for educational reform (KEDI, 1999). The overall goal is to build a society where equal educational opportunities are available to everyone. More specific objectives are to make education institutions more competitive internationally, provide a lifetime education, and establish independent local education systems.

With a larger budget for education and a stronger commitment on the part of the government to reduce the extremely high cost of private education, there is reason to hope that the new set of education reforms will have significant results.

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PART III

LATIN AMERICA: COMMON ROOTS, INEQUALITY AND THE WEIGHT OF HISTORY

Claudio de Moura Castro
Aimee Verdisco

There is no single or obvious path to educational reform. Each step along the way bears the weight of past policies and politics. In Latin America, although states fought long and sometimes bloody wars of independence, the institutions and structures they built as independence took hold bear a strikingly strong resemblance to those of their colonial past (see Bakewell, 1998). In this respect, the relatively homogenous systems of education found throughout the region come as little surprise.

In the countries of high-performing (HIP) Asia, by contrast, foreign influences tended to be "Asianized" from the start. Social policies, particularly in education, were structured to create and maintain a national identity and shared sense of nationhood, and then supported by generous resources. Since education was also seen as a means for overcoming existing inequities and social relations, states placed schools at the heart of government strategies for transforming societies through modernization and economic development. This practice emerged early, becoming evident in 1868, for example, as the Meiji Restoration took hold in Japan.

History, of course, cannot tell the whole story. Nor does historical reductionism go that far today toward designing technically sound and forward-looking policies to improve quality and equity in education. But the legacies of policies and administrations past are important insofar as they set the context within which current policy is made. The following pages present several of the "legacies" that have long conditioned education policy in Latin America and differentiate the region from HIP Asia.

Unequal from the Start

In terms of both organization and custom, the societies of Latin America appear to be outgrowths of Spain and Portugal—or, more cynically, of the aggrandizement of the Iberian Peninsula. The colonial period extended over 300 years (1500-1820), a period almost twice as long as independence. And although we can endlessly discuss whether the Americas were either discovered by Columbus or constituted a New World, this encounter did produce something different: a permanent link between the two sides of the Atlantic. It was this link that largely shaped the structure and institutions of modern Latin American societies and provided the region with a high degree of linguistic[1] and cultural homogeneity.[2] This stands in contrast to the experiences of Asia, Africa and the Middle East, where the local culture developed long before Europe and mostly remained strong despite contact with the Western world.

In Latin America, the transfer of Spanish and Portuguese norms left its mark on the education systems, which tended to replicate the hierarchical and stratified nature of the Iberian societies. Few efforts were made to redress these inequalities. Throughout colonial times, the church determined who received education and the content of that education. Much like wealth, the "right" to education was inherited. It followed the pyramid of society, serving mostly the sons of the aristocracy and those who were to work in the bureaucracy. "Purity of blood" was a distinguishing factor, although far more for the Spaniards than the Portuguese. Under the Spanish regime,

[1] It merits noting that in the case of Brazil, the different languages used by each Indian tribe led Jesuit missionaries to develop a common language. Borrowing heavily from Tupi-Guarani, the language spoken by the most populous Indian groups, this *lingua geral* became the lingua franca for indigenous populations as well as colonizers, reaching as far north as the Amazon River, thousands of kilometers away from Tupi and Guarani settlements. It wasn't until slaves started moving inwards to work in the gold mines that Portuguese came to the interior of the country. Until this time, Portuguese was spoken mainly along the coasts of Brazil and, insofar as slaves were imported from different African countries, Portuguese became their main mode of communication. The total domination of the Portuguese language thus remains a relatively recent phenomenon, perhaps of two centuries. See Ribeiro (1995).

[2] Excluding the Caribbean countries, there is only one linguistic group in which two closely related languages predominate. Portuguese and Spanish are quite similar both in written and spoken forms: 95 percent of the words share common roots. Merely 7.7 percent of the region's population speaks an indigenous language. According to the Inter-American Indigenous Institute (1993) there are 400 ethnic groups across Latin America and the Caribbean, each of which has its own language; most, however, also speak the official language. The comparison with Asia is striking. In the 7,000 inhabited islands of Indonesia, for example, more than 300 languages are spoken. And, in India, the constitution recognizes 18 languages (none of which is English); Hindi, the official language, has 13 dialects. The country's national census records more than 200 different mother tongues (Information on India, 2000).

teachers, by order of law, had to be Spanish and Christian. Students attending the university not only had to be European and Christian, but also from families (fathers and grandfathers) of good repute. Daughters received little, if any, formal instruction.

The masses received even less. Although some schools were established—at first, mostly religious—they were intended to serve a particular function: Christian indoctrination. Other forms of instruction were deemed threatening and dangerous to the prevailing mercantilist economy. The colonists saw little point in educating slaves and other laborers engaged in heavy, repetitive work in mines, fields and factories. Geography also played a role, complicating the logistics of establishing schools in rural areas and of delivering instruction in languages still foreign to much of the population. Under these conditions, independence fell upon largely illiterate societies: less than a quarter of the population could read and write (Britton, 1994: xii).

At the Service of the State

The migration of the Enlightenment from Europe to Latin America in the 18th century coincided with and strongly influenced the independence movements blossoming across the region. It also prompted new meaning and vision in education policy. Education was to be secularized—a prospect that implied both a transfer of responsibilities for education from the church to the state and wider access to the system. The diminishing power of the Jesuit Order created a de facto vacuum in education that had to be filled by the public sector, regardless of ideology or creed. The benefits of more inclusive education were both many and easily justified: economic growth and development, political unity and allegiance to colonial authorities. However, the paranoia of the ruling classes remained; mass education threatened their grip on power. Along with the fundamentals of reading and writing, schools were to "convey a sense of the proper order within a structured society" (Britton, 1994), reinforcing existing social hierarchies. This emphasis carried over into the post-independence era, from 1825 onwards, when it acquired considerably more political weight (Weinberg, 1983).

The dissemination of the new ideals of the Enlightenment encouraged the publication of books, many of which reached the general public and reinforced the trend towards secularization. Books were not sufficient for establishing national systems of education, however. Teachers were necessary as well, but in short supply given the lack of human and economic resources in the newly independent states. Nations across the continent welcomed the development of a mutual system of education, the so-called Lancaster school. Named for its British innovator, the system called for older,

more advanced students to instruct students in lower grades. Costs for education thus were reduced as one teacher could supervise several grades simultaneously. "It can[not] be considered mere chance that leaders such as Artigas, Rivadavia, O'Higgins, San Martín and Bolívar, all of whom were concerned to overcome these shortcomings, showed a markedly favorable attitude to this" (Weinberg, 1995:108).

As countries gained their independence, many of their new constitutions made reference to the importance of education in consolidating a sense of nationhood and citizenship. Influenced by the ideas of thinkers such as Andrés Bello, Benito Juárez, José Pedro Varela, and Domingo Faustino Sarmiento, the role of education in society gradually became intertwined with goals of economic prosperity and the creation of modern, stable institutions and legislation. Education thus acquired social and economic functions in addition to political objectives and was seen as the essential prerequisite for modernization. It provided the cornerstone for agricultural mechanization, urbanization, mastery of the official language, basic literacy and numeracy. Many founding constitutions even specified that education should be universal and free of charge. As early as 1828, the Constitution of the Brazilian Empire was explicit in making universal literacy mandatory. Yet given the fact that structures and institutions of the colonial era concentrated resources and efforts on an exclusive circle of beneficiaries, any notion of creating a "national system of education" had to start, for all intents and purposes, from scratch.

Social Cohesion Without Challenging Inequalities

Education, as a matter of public policy, both facilitated and stemmed from the consolidation of the newly independent states of Latin America. Thought to have a mobilizing effect, education increasingly was seen as the "glue" of society, capable of structuring different forms of democracy, drawing in different sectors of society (e.g., women, rural inhabitants, indigenous populations) and creating citizens rather than loyal subjects. Of course, the gaps between such ideals and realities were great. With the exceptions of Argentina and Uruguay, it would not be until the later part of the 1900s that education in Latin America would become a mass phenomenon.

In this regard, parallels to other regions such as Asia and Africa are worth noting. Notions of social mobility and the role education was assumed to play in promoting social cohesion appeared in these regions much later, during the post-World War II period of decolonization. In stark contrast to this experience, however, the cohesiveness education brought to Latin America did not coincide with a period of economic

"takeoff." After fighting wars of independence and the civil wars that followed, many states financially were strapped. The region lost some of the possibilities of takeoff, including rapid growth and development. Despite its secularization and intended expansion, education retained its predominantly urban and masculine pattern. A more symmetrical evolution and equitable distribution arrived only much later during the economic expansion and attempts at industrialization following World War II.

But there was another side to education that cannot be ignored. The great emphasis put on the development of universities was not without consequence. More than elsewhere, universities in Latin America played an important role in political modernization, development of new ideas (or ideologies) and resistance to authoritarian regimes. Compared to the United States, the research they produced amounted to little (until recently), although their role in producing leaders and politicians—both against and for the regime—has far outpaced the United States. The back and forth of prestigious people from universities to positions of power has been and remains a common feature of Latin America. Intellectuals play a more visible and important role and they are almost always academics.

Moving Toward Massification

By the mid-1900s, access to education across the region started to expand, albeit at neither a uniform nor steady pace. In some cases (e.g., Uruguay and Argentina), the impetus for change came much earlier. But in all cases, it emanated from the state—the one institution with sufficient resources and political will to initiate and carry out education expansion and reforms. These were driven by social policies, with great expectations that education would be the premier instrument ensuring the welfare of societies. Where public policy maintained the status quo, impetus for change came from the outside, arriving with revolutions in Mexico (1910-40), Guatemala (1944-54), Bolivia (1952), Cuba (1959), and Nicaragua (1979) (see Britton, 1994). In most all other cases, the move for massification was left to its own devices, seeping slowly through society.

All sectors of society demanded education, but in those societies where expansion occurred relatively early on, no group played as crucial a role as the middle classes. With "the possibilities of advancement limited by the slowness of capital accumulation and [with slim] chances of progression through political channels, education proved to be the most effective means of getting on during the period of transformation" (Rama, 1986: 163). Members of the middle class lobbied for meritocratic selection within universal and public systems that allowed students of lower

socioeconomic extraction to compete with more elite groups. For the middle classes, education meant social mobility and access to government bureaucracies, industry and other occupations formerly out of their reach.

Massification on Top of Existing Structures

The protagonist role played by the middle classes had serious implications for the development of education systems throughout the region. Development was neither uniform nor equitable, and the expansion that occurred at the secondary and tertiary levels was out of line with the European and North American tradition of building up a solid primary school system before moving heavily into secondary and then higher education. In Latin America, the focus was on those levels—secondary and tertiary—that both conferred the greatest status and offered wages higher than those found in manual occupations (see Rama, 1986; Filgueira, 1983). There was little demand to channel resources into technical training that could not be continued at higher levels. "Even in the various segments or networks of higher education, there was no clear emphasis on practically-oriented training geared to the dynamic sectors of the economy" (Rama, 1986: 164). Thus, as education gradually became massified, it also became stratified. Educational establishments diversified and catered differently to different regions or socioeconomic interests.

In the years following World War II, rapid economic growth fueled further expansion of educational opportunities. A revolution of rising expectations thus was set in motion. The relative fluidity and permeability of education systems, particularly for the middle classes, was expected to generate similar effects on income distribution. Yet education had a marginal effect on income, which remained relatively rigid and concentrated (see Filgueira, 1983: 70-72). It was compromised in its scope and reach by exploding rates of demographic growth and existing inequalities. Indeed, from the mid-to-late 1950s onwards, as the effects of the post-war boom lost their shine, education became a "soft form of social gratification. It was easier to provide education than to create employment, to redistribute income or to accept a political system to which all social groupings had access" (Rama, 1986: 165). Education, to some extent, also postponed demands for work and income: the payoffs for years spent studying, monetary and otherwise, became evident only after the fact.

As economies across the region contracted during the mid-1970s, the gap between the economic rewards education was expected to deliver and the realities of what it actually could deliver widened, as did diversification within education sys-

tems. Education became a scarcer commodity and more jealously guarded by those groups with privileged access to the state; secondary and tertiary levels benefited at the expense of good quality education for all at the primary level. Innovation suffered, particularly at the primary level, as resources and efforts were drawn off at higher levels. Yet these levels became distorted as well. Throughout the region, the trend was to add new subjects to curricula rather than to establish a framework that aligned education more closely with the needs of modernizing economies. Uncertain objectives handicapped the secondary level, while universities lacked clear emphasis on science and other technical fields (see Rama, 1986).

These were predictable outcomes, especially given the prevailing sociopolitical and economic equations. At their root, the education systems were inequitable. But, as is often the case with free public goods, they simply followed established social hierarchies. Good education for all was an expected outcome only in rhetorical public speeches. In reality, the poor got poor schools and the rich got expensive ones that met their needs for "status."

These trends became more pronounced during the 1980s. Education, both as a profession and a policy, lost prestige. The massive debt crisis plaguing the region hit just as countries should have begun to transform their industrial base and invest heavily in the improvement of education infrastructure. The simultaneous crises of the state and economy resulting from these shocks led to reductions in public spending for education. Although expansion continued, it did so at the cost of allowing quality to stagnate or decline. States allocated a relatively significant volume of resources to education, but delivery mechanisms were inappropriate and inefficient, leading to much leakage and waste. The failure to both measure results and properly control resources bred systems governed by wrong incentives (neither rewards nor penalties) and weak managerial formulas.

In responding to the debt crisis, references and comparisons often were made to the Asian tigers (see World Bank, 1993). The economies of Asia offered—and continue to offer—some interesting insights for Latin America, as noted in Part 1 of this book. The correlation to education in these countries is direct, as is the lesson for Latin America: high quality education facilitates high levels of growth.

Latin America can no longer afford to pursue growth while expanding bad quality education or good education at the price of growth. If the Asian experience was not testament enough, further evidence could be found in Latin America itself. Prior to the debt crisis, Brazil led the world in growth but diverted little attention to the creation of broad-based, quality primary education. It now suffers a wide discrepancy between the spectacular economic achievements of the recent past and an edu-

cation system that handicaps growth in the new economy. Argentina and Uruguay, in contrast, boasted exemplary systems of education, but achieved only lamentable rates of growth due to economic and political mismanagement. As economic crisis set in, however, Brazil stagnated while Argentina and Uruguay (and Chile and Costa Rica, both of which also had good education systems) were able to push ahead.

A New Commitment to Reform: Improving Quality and Equity

In as much as the 1980s were the decade for economic reform, the 1990s were the decade for education reform. The bitter economic reforms of the 1980s left economies stronger and governments more disciplined. As democratic regimes returned to power across the region, societies and education systems showed signs of strengthening from the bottom up. Many countries sought to reduce the role of central governments in education and, in doing so, support more local processes of decision-making and administration. Management was decentralized, as was education finance, albeit to a lesser extent.

Today, education is moving to the top of the policy agenda in Latin America. As revealed by opinion polls, it is a priority shared both by governments and societies at large. In many cases, new attitudes lead to action. Reform of primary education has gained momentum and, as completion rates continue to climb, reform of secondary education is quickly becoming a priority. Completion of primary education has become a prerequisite for employment in the formal sector, with higher paying and status jobs requiring a minimum of secondary education.

The opportunities opened by these junctures have not been lost on educators, government officials or civil society. Latin America may have been late in coming to education reform, but like all latecomers, it is in a hurry to catch up. It has the 20-20 hindsight of failed efforts as well as the lessons learned from other regions of the world from which to launch a serious process of reform. Already a plethora of innovations are taking place across the region.

What is particularly notable about these innovations is their "localness." Rather than simply grafting on an experience developed for other contexts, these experiments stress improving the quality of education within specific contexts. The cases that follow speak to these innovations, with the final one (Minas Gerais) providing an example of how various innovations can come together in a noteworthy process of reform.

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CHAPTER 7

Crossing Borders: Freirean Method and Experiences

Moacir Gadotti

The ideas of the renowned education theorist Paulo Freire stretch far beyond the borders of Latin America and cross cultures as well as scientific and academic disciplines. His theory of education as a prerequisite for freedom—the theme that he examined all his life—attracted the attention of widely disparate groups, from the *mocambos* slums of Recife, Brazil to the *burakunins* communities of Japan. Considered a model for interdisciplinary research, his work strengthened theories and practices of education, and made vital contributions to the work of educators, physicians, therapists, social scientists, philosophers and anthropologists.

While much of Freire's work took place in Latin America, he achieved international acclaim. He was renowned for going beyond notions of education as a bureaucratic, formal and rigid process. Freire's method considered the needs and problems of the community; the sociological, ethnic and cultural contexts; and the role of gender. With an emphasis on active participation, Freire tried to empower the most humble and common people to make their own decisions and to become autonomous.

The broad appeal of Freire's work may be due to his insistence that it is possible and urgent to change the world. He encouraged people around the globe to dream about a new reality—one that would be more humane and just. He has been a guardian of utopia, with a legacy suitable not just for poor countries, but for rich ones as well.

A Brief Biography

Freire was born in 1921 in Recife in northeastern Brazil, which is one of the country's poorest regions. He worked first in the Industrial Social Service (SESI) and later at the Cultural Extension Service of the University of Recife.

Freire's early work emphasized that authentic education is a process of "conscientization." He identified literacy as a form of political awareness that enables the oppressed to acquire both skill and power. In 1958 at the University of Recife, he presented these ideas in his doctoral dissertation, *Philosophy of Education*. Freire continued to refine his theories in subsequent years as a professor at the same university, and in his early experiments with the teaching of illiterates.

The methodology he developed was widely used in literacy campaigns and was considered such a threat to those in power at that time in Brazil that Freire was jailed immediately after the military coup d'état in 1964. Released 70 days later and encouraged to leave the country, Freire went to Chile, where he spent five years working on adult education programs with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Chilean Institute for Agrarian Reform.

Later invited to teach at the Harvard University School of Education, Freire worked in close association with a number of groups engaged in new education experiments in rural and urban areas. Throughout the 1970s, at the Office of Education of the World Council of Churches in Geneva, he served as an education counselor for Third World governments, especially in Africa.

In 1980, Freire returned to Brazil, after 16 years of exile, as a professor at the State University of Campinas and at the Catholic University of São Paulo. In 1989, he became Secretary of Education for the Municipality of São Paulo. During his tenure, he implemented literacy campaigns, reviewed the curriculum and increased the salaries of educators. He left this position in 1991 and returned to his library and academic activities, but he continued to have an active presence in the Secretariat. His immense experience was translated into many projects that were later developed.

Freire authored a number of books to argue his theories, including the best-selling *Pedagogy of the Oppressed; Education: the Practice of Freedom; Education for Critical Consciousness; Pedagogy in Process; Pedagogy of the City*; and *Pedagogy of Hope*. His work has been the subject of hundreds of Ph.D. dissertations, and he received dozens of honorary doctorates from universities all over the world. His numerous prizes included UNESCO's Peace Prize in 1986.

I worked closely with Paulo Freire for more than 23 years. A few days before his death from heart failure in São Paulo on May 2, 1997, we discussed future activities at the Instituto Paulo Freire (IPF). This was, for him, a space for discussion and for inquiry into new educational perspectives, and he spoke of his willingness to teach several courses. When he died, at the height of his intellectual production, he left an unfinished book (*Pedagogy of Autonomy*) and many other projects under way.

The Originality of the Freire Method

Freire forged his ideas in struggle—understood, by his own definition, as "action with reflection." The intense political mobilization that characterized the 1960s in Latin America played a fundamental role in the consolidation of his ideas, particularly when he lived in Chile. There he found a political, social and educational space that was dynamic, rich and defiant, and that enabled him to re-study and re-examine his methodology in a different context, evaluating its practice and systematizing its theory. In particular, he called attention to illiteracy as a consequence of poverty and exploitation, and emphasized that literacy was a basic requirement for attacking the cause of social inequalities.

Freire also developed his notion of the formation of a critical conscience and its passage through three distinct stages. The first phase is investigation, which is the collection of the words and "generative" themes that relate to the daily life of students and their social group. These words are selected according to their syllabic length and phonetic value, but principally for their social meaning for the group. Learning this vocabulary comes from spending time in informal meetings with those living where a project will take place.

The second phase is "thematization," where the themes gathered during the initial stage can be transformed into a critical and social vision, and new generative themes are discovered that relate to those found initially. In the third phase, "problematization," the themes guide the articulation of concrete actions to overcome political, cultural, social and economic constraints that are obstacles to becoming fully human. Oppression is seen as a process that can be overcome. With an emphasis on a subject that is important to the group, education thus becomes a collectively organized act for liberation.

Freire called his approach the study of reality. When used in schools, it involved teachers interviewing parents and students, cataloguing neighborhood amenities and services, visiting literacy centers, and collecting archival information about their school. In gathering data, they would consider the general level of education among neighborhood families, and then organize and apply this knowledge to school activities. The box on the next page is an example of the method, using the generative theme of human beings and the planet as applied to a primary education curriculum.

Current constructivist theories support the need to systematize students' prior experience and knowledge. Freire demonstrated that not only can all people learn, but also that every person knows something, and that real learning takes place when a child, a young person or an adult has a life project for which their knowledge

BOX 7.1 **Generative Theme: Human Beings and the Planet—Will They Survive?**

Subjects	Study of the reality (includes students' activities)	Organization of knowledge (identifies core content, concepts, and issues)	Application of knowledge (projects and assignments)
Art education	• Visual arts: collages, painting, modeling • Musical activities • Understanding landscapes: natural and built	Week of modern art activities/Folk music as a means of questioning reality	Visual arts/ Music/Poetry/ Dramatizations
History	• Questionnaires • Interviews • Debates	Industry/Class struggle/ Living standards/ Pollution/ Discrimination/Colonization/ Human rights	Essays/Group projects
Language arts	• Posters, billboards, ads • Newspapers	Lectures/Writing projects/Linguistic analysis/ Analysis of advertising campaigns and consumption patterns	Group projects
Sciences	• Debates • Interviews • Group discussions	Environment/Recycling/ Pollution/Basic sanitation/ Conservation/Human body and reproduction/Physical and mental health/Nutrition	Group projects/ Writing projects addressing a community issue
Math	• Questionnaires • Debates	Cost of living/Basic computation/Monetary systems/ Percentages-Fractions	Graphing cost of living, inflation, and income data/ Written analyses
Geography	• Interviews • Debates • Reports • Maps	Social groups/Social classes/unemployment/ Violence/Social and physical space/Migration and population explosion	Drawing maps/ Group projects about urbanization of neighborhood
Physical education	• Questionnaires • Interviews • Debates	Body awareness/Leisure time	Demonstration of good health habits

Source: O'Cádiz et al. (1998, pp. 201-202).

is significant. Each person is responsible for the construction of knowledge and for the redefinition of what has been learned. Once this takes place, a person can organize his or her world, and then go on to transform it. Not surprisingly, Freire's emphasis on the contents of everyday life proved highly engaging for adults and was effective in accelerating the adult literacy process. He was the first to systematize and experiment with a method created entirely for adult education, which was widely recognized among politicians and educators.

Freire also proposed a new concept of the pedagogic relationship. He did not view education as the transmission of content from teacher to student, but chose to emphasize the establishment of a dialogue. This means that while teaching, the teacher is also learning. Traditional pedagogy affirms this ideal, but Freire placed the educator in a position to learn from the student in the same way that the student learns from the educator. Thus, no one could be considered definitively educated or complete. Each person, in his or her own way, together with others, can learn and discover new dimensions and possibilities. Education becomes a process of collective and continuous formation.

Freire's work is interdisciplinary, and can be seen as research and science or as education. Freire did not think about reality as a sociologist would, attempting merely to understand it as an impartial observer. He sought elements in the sciences that, by providing a more scientific understanding of reality, would allow for intervention in that reality.

Perhaps most importantly, Freire viewed education as a political act, and as an act of knowing and creativity. But he did not concern himself with bureaucratic schemes about political or academic power. Instead, he committed himself to changing the world, making liberation and a vision of a utopian society central themes of his work. As an objective of education, liberation calls for a critical reading of a world still in formation. This requires the denunciation of oppressive and unjust realities and, consequently, the declaration of another reality that is still in the making. Aiming for this radical transformation implies the recognition of men and women as subjects rather than objects of their own histories and lives.

Experiences as Secretary of Education (1989-91)

Many instances demonstrate the links between Freire's theory and practice. A number took place during his tenure at the helm of the Municipal Secretariat of Education for São Paulo. For those who knew Freire well, the administrative skills he brought to

the Secretariat were not a surprise. His secret was knowing how to govern democratically. There was one weekly meeting in which general policy initiatives were discussed. If it was necessary, new directions were explored. Freire vehemently defended his opinions, but knew how to work as part of a team—just the opposite of the spontaneity of which he has been accused. He used to say that the work of educational change requires historical patience because education is a long-term process.

"The most important structural changes introduced in the schools relate to expanded school autonomy," wrote Freire in his book about his experiences as secretary, *Pedagogy of the City* (1993, pp. 79-80). "The biggest advance for school autonomy came in granting (each) school authority over its own pedagogical projects, which received support from the administration, and accelerated the overall school transformation."

Three examples illustrate this process of change: the program of continuous professional development for teachers, the program of literacy for youth and adults, and the practice of interdisciplinarity. These activities played a major role in the significant decline in school failures in São Paulo, from 22.5 percent in 1988 to 12.3 percent by 1991.

From the beginning of his administration, Freire insisted that he was deeply challenged by the issue of the professional development of teachers. His professional development program based on four basic principles: first, educators are the subjects of their pedagogic practice, which they create and recreate by reflecting on day-to-day events and work; second, an educator's professional development should be continuous and systematic, because pedagogic practice is made and remade; third, pedagogic practice requires an understanding of the very origins of knowledge, that is, how the process of understanding unfolds; and finally, a program for the professional development of educators is a prerequisite for curricular reorientation in schools.

Freire wanted to prepare teachers with a new pedagogical attitude and approach, one that stood in contrast to the authoritarian tradition in Brazil and could accommodate more open and participatory teaching methods. It was not possible to hope that in a few years all traditions would be overcome. But Freire was willing to put his reputation on the line, and the result went beyond expectations. The training of teachers took place through practice and real participation. Simply as an exercise in democracy, it transcended what might have been learned in a formal course.

Freire also started a literacy movement in partnership with social organizations, offering expanded night courses and technical education. The Movement for Literacy (MOVA-SP) began in January 1990, and had significant repercussions in São

Paulo and other Brazilian states. It strengthened popular and social movements, and was a rare example of partnership between civil society and the government. This partnership was not always harmonious. But it was a necessary first step toward developing a more equitable interaction between the state and the grassroots levels.

MOVA-SP did not impose a singular methodological approach. It instead embraced pluralism, although anti-scientific, authoritarian and racist pedagogies were not tolerated. Certain of Freire's political and pedagogic principles were emphasized, including the concept of education as liberation; the idea that education plays a role in constructing a new understanding of history; the theory of the construction of knowledge; and the understanding of literacy not only as a logical and intellectual process, but also as a process that is profoundly affective and social.

What was developed must not be confused with other literacy campaigns that have a long history of failure in Brazil. MOVA-SP stressed instead the character of continuity and the permanence of the movement it was building. Involving grassroots groups was particularly important in this regard—their ability to build on local ties and deliver successful literacy programs in developing countries has been widely recognized. The success of MOVA-SP proved this point. In three years, with participation of a range of organizations, the program reached more than 80,000 illiterates (Table 7.1).

In 1987 and 1988, Freire developed the concept of interdisciplinarity through dialogues with educators and scientists from various fields at the University of Campinas (São Paulo). The concept unfolded from the analysis of concrete practice and of the experiences of "reflection groups." The following year, as Secretary of Education, Freire started an important movement to change school curricula. It was called the Project for Interdisciplinarity, and it emphasized that interdisciplinarity was not merely a pedagogic method or an attitude on the part of the teacher, but was demanded by the very nature of the pedagogic act.

Interdisciplinary and transdisciplinary pedagogic action requires the construction of a school that is participatory. Freire assumed that teachers were capable of elaborating programs and methods for teaching and learning, and were competent to insert the school in a community. The fundamental objective of interdisciplinarity was to experience the integrated daily reality of the student, the teacher and the community (in a traditional school, experiences are compartmentalized and fragmented).

Interdisciplinarity articulates knowledge, wisdom, life experience, school, community and the environment in order to transform school practice into a process that is collective and mutually responsible. Table 7.2 presents the processes unfolding

Table 7.1. Types of Grassroots Groups Participating in MOVA-SP

Type of association	Number	Percentage
Community or neighborhood associations	30	40
Educational/Cultural groups	13	14
Women's groups, mothers' clubs, women volunteer groups	12	16
Religious groups	11	15
Workers' groups	6	8
Human rights groups	2	3
Sports associations	1	1

Evolution of MOVA-SP in Terms of Classes, Students and Grassroots Groups

Time	Classes	Students	Grassroots groups
February 1991	451	9,513	39
May 1991	557	11,853	45
December 1991	868	17,766	68
May 1992	920	20,114	69
June 1992	..	21,000	..

Source: Stromquist (1997, pp. 173, 214).

at each phase of an interdisciplinary project conducted in São Paulo, as well as the required conditions and outcomes.

Freire in the Contemporary Context

Freire's thinking relates to the theories of many other contemporary educators. We can find a great affinity, for example, between Freire and the revolutionary French educator Célestin Freinet (1896-1966). Both believed that the student is capable of organizing his or her own learning. Freinet gave enormous importance to what he called the "free text." Like Freire, he used the so-called global method of literacy, associating the reading of the word with the reading of the world.

Table 7.2. Phases in an Interdisciplinary Project in São Paulo

Study of the reality	Organization of knowledge	Application of knowledge
Problematization	Selection of content areas	Implementation of the program that has been organized
Discussion and stories of the students, educators and community	Reality and systematized knowledge	Evaluation and planning for the transformation of the student, educator and community
Visits, interviews	Educator's approach and attitudes; cognitive and affective requirements	Knowledge: action, appropriation and (re)construction
Questionnaires, significant situations, thematic design	Notions, hypotheses, presuppositions, theories	Tools: natural and built environments, games, magazines, books, etc.

Source: O'Cádiz et al. (1998, p. 111).

Freire didn't support the principle of nondirectivity in education as did the American psychotherapist Carl Rogers (1902-1987), but the two shared many other views, especially in terms of what concerns freedom of individual expression. They both believed that people can solve their own problems, as long as they are motivated to do so. Similar to Freire's method, which tries to draw the traditionally distant figure of the teacher closer, the Rogerian approach, centered on the person, brings the relationship between patient and therapist closer, instead of maintaining the distance defended by traditional psychology.

There are some similarities between Freire and Ivan Illich (1926-1974), the Austrian philosopher. Both critiqued the traditional school and the bureaucratization of the present-day scholastic institution. Both demanded that educators cultivate individual development and collective liberation by combating alienation and encouraging the rediscovery of a creative autonomy. But there are considerable differences between the two as well. Illich was pessimistic in relation to schools, believing the traditional school had no future. He maintained it was necessary to "de-school" society. Freire optimistically maintained that schools can change and play an important role in the transformation of society. What brings Illich and Freire together is their profound belief in the need for a revolution in the content and the pedagogy of the pres-

ent-day school. Both contended that this change is pedagogical and political, and that the critique of the school is part of a wider critique of all contemporary civilization.

Like John Dewey (1859-1952), the well-known American philosopher and educator, Freire gave great importance to knowledge of the life of the local community. But he held a different notion of culture. For Dewey, culture was simplified because it didn't involve social, racial and ethnic elements. Freire viewed culture with an anthropological connotation, arguing that education always takes place in the culture of the student. What Freire's pedagogy took from Dewey was the idea of "learning by doing," cooperative work, the relationship between theory and practice, and the method of beginning work by talking in the language of the students.

Freire shares some similar viewpoints with Lev Vygotsky (1886-1935), the Russian pedagogue. Although Freire and Vygotsky lived at different times and in different hemispheres, their approaches emphasized the interconnected nature of social and educational changes. While Vygotsky focused on the psychological dynamic, Freire concentrated on educational strategies and the analysis of language.

According to Jean Piaget (1896-1980), action is fundamental for the development of a child and is an essential characteristic of logical thought. The Swiss psychologist stated that we only learn what is significant for us. Freire agreed with this thesis and insisted on the need to develop the "curiosity" of the learner in order to develop the act of knowing. When we separate the production of knowledge from the discovery of already existing knowledge, schools become easily transformed into shops for the sale of canned learning.

Freire was influenced in widely different ways. His humanistic thought was inspired by the personalism of Emannuel Mounier, the existentialism of Martin Buber, the phenomenology of Georg Hegel, and the Marxism of Antonio Gramsci and Jürgen Habermas. However, it cannot be said that Freire was just eclectic. He integrated the fundamental elements of these philosophical doctrines without repeating them in a mechanical or biased way. The association between humanism and Marxism, and between Christian and Marxist themes, enriches his texts and enables them to be read by a wide public.

In particular, Freire's examination of the oppressed/oppressor relationship resonated across the world. His theories, enriched with varied experiences from many countries, have since acquired a universal meaning. In addition to the countries in which Freire directly applied his own ideas, many others have borrowed his methods and achieved positive results. He inspired a popular education paradigm, which emphasizes that education must focus on the production and not just on the transmission of knowledge, and that education is the first condition for a democratic life.

This approach overturns the hierarchies between teachers and students, and considers education to be a dialogue full of rigorous discovery and imagination that is guided by community and participatory planning.

Roots, Wings and Dreams

Freire is the most widely read educator in Brazil today, and he is also the educator with the most labels. He has been called a national-developmentalist, new schoolist, inductivist, spontaneist, nondirectivist, Catholic neoanarchist, and so on. His challenging ideas and their worldwide repercussions have not pleased everyone. In spite of his enormous capacity for dialogue and his humility, he has been criticized at times, especially by conservatives.

Freire didn't respond to personal attacks, or tussle with critiques of his work. He believed that good humor was a pedagogical and progressive weapon, unlike polemics. He considered criticism in a positive way and tried to learn from it. When he responded to it indirectly in his books—and he did this systematically—he attempted to contextualize his work, demonstrating that he was a product of his time. With some critical interpretations, Freire said he simply did not recognize himself. Above all, he maintained the right to disagree.

Certain conservative critics argue that Freire did not have a theory of knowledge because he had not studied the relationships between the subjects and objects of knowledge. They say that he was interested in the product. This is not true, however, because his thought is based on an explicit anthropological theory of knowledge.

Others accuse Freire of authoritarianism, stating that his method supposes a transformation of reality even though such an objective may not be shared by all. Without universal applicability, these critics say, his method is also unscientific. This criticism ignores the fact that Freire did not accept the idea of pure theory—he thought this was an illusion. He argued instead for a critical theory rooted in a social and political philosophy. He rejected the idea of scientific neutrality, distanced himself from academic isolation, and contended that the conservatives hid their ideology under the rubric of politically neutral and "pure" theory.

Paulo Freire left many lasting legacies. First there was his life and his example. Freire enchanted us with his tenderness, charisma, coherence, commitment and seriousness. His words and actions were devoted to building a world "less ugly, less mean-spirited, and less inhuman," as he used to say. Together with love and hope, he

also instilled in us a sense of daily outrage about injustice, which he told us we could not sugarcoat with our words.

Freire's body of work is immense, consisting of numerous editions of books, articles and videos found throughout the world. Some have asked why his pedagogy had such success. I believe that it was because his "pedagogy of dialogue" does not humiliate students. It gives them dignity, putting the teacher at their side for the task of orienting and directing the educational process, but also searching as they are. The teacher is also a learner.

Generations of educators, anthropologists, social and political scientists, and professionals in the natural and biological sciences have been influenced by Freire and have helped to construct a pedagogy grounded in liberation. An entire generation learned to dream about a world of equality, equity and justice, and it embarked on an ongoing struggle for this world. Many continue Freire's work, even though he did not leave behind disciples per se. He always challenged us to reinvent the world, pursue truth, and not to copy ideas. Freire gave us roots, wings and dreams—the best legacy an educator can leave.

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CHAPTER 8

Improving the Quality of Education for the Rural Poor: Escuela Nueva in Colombia

Vicky Colbert

The lack of quality education is one of Latin America's great blights, but pockets of excellence exist that serve as inspirations for the future. In Colombia, the Escuela Nueva (New School) system is a good example of a local innovation that became a highly effective national policy. It enabled Colombia to provide complete, quality primary education in areas where little or no educational opportunities existed before. Now one of the largest and longest running "bottom-up" educational innovations of the developing world, the Escuela Nueva concept has been so successful that educators from around the globe have traveled to Colombia to learn about it.

Colombia, like other countries in Latin America, experienced rapid expansion in primary education beginning in 1950. Overall coverage had risen to 80 percent by 1994, but the distribution of coverage differed sharply among the various departments of the country and between urban and rural zones. While coverage in urban areas approached 89 percent, it was only 66 percent in rural areas. The overall quality and efficiency of basic primary and secondary public education have been extremely poor, with students at the lowest income levels most seriously affected.

Escuela Nueva first began addressing these issues in 1975, with the introduction of multi-grade schools in rural areas where there were not enough students or teachers for complete schools. Backed by educational research showing that multigrade schools require innovative strategies, the initiative emphasized peer tutoring, child-centered teaching methods and self-instructional and interactive learning guides and textbooks. It shifted the standard school model away from the transmission of knowledge to the social construction of knowledge, and showed that democratic behavior and citizenship skills can be actively cultivated at school. It emphasized transforming curricula and pedagogical methods in partnership with the crucial actors of change—children, teachers and communities.

By the end of the 1980s, Escuela Nueva had proved that quantitative and qualitative improvements could be made in even the most disadvantaged schools. The program evolved from a local and departmental innovation to national implementation in over 20,000 schools across Colombia. In tandem with other educational reforms, Escuela Nueva has played a major role in the significant progress Colombia has made in extending education to the poor, particularly in rural areas. During the 1988-1996 World Bank-financed project to universalize primary education, which incorporated the Escuela Nueva model, the number of students increased by 45.6 percent overall in rural schools. In urban schools, the number rose by 7.6 percent. In a recent comparative study of 11 Latin American countries, Colombia was the only country, after Cuba, to achieve higher results in rural public schools than in urban public schools.

The Escuela Nueva Approach

Escuela Nueva grew out of the unitary school approach promoted by UNESCO in the 1960s. This approach targeted rural education problems in developing countries, and was among the first attempts to break away from the traditional standard model of education. It aimed to offer complete education in incomplete schools, in part through the introduction of self-instructional, individualized learning cards. Escuela Nueva pursued the same objectives, but also introduced new operational strategies in curriculum, teacher training and community involvement.

From the beginning, Escuela Nueva has focused on the school as the place to improve the quality of education. It has embraced the changing learning paradigm of a new school and open classrooms as ways to upgrade the effectiveness and quality of impoverished rural schools. It has integrated curricular, community, administrative and teacher training strategies, and has demonstrated that traditional teacher-centered practices can be changed to a more child-centered, participatory and personalized learning approach.

The Escuela Nueva system stresses a stronger relationship between the school and the community, and a flexible promotion mechanism adapted to the lifestyle of the rural child. Flexible promotion eases the boundaries between formal and non-formal education by allowing students to advance from one grade or level to another and complete academic units at their own pace. In addition, children can leave school temporarily to help their parents in agricultural activities, in case of illness, or for any other valid reason, without jeopardizing their education.

Escuela Nueva started with two fundamental assumptions. The first was that improving educational effectiveness would require creative changes in the training of teachers, in the administrative structure, and in the relationship between the education system and the community. Second, the project needed to be replicable as well as technically, politically and financially viable on a large scale. Overall, the project sought to foster certain attitudes and abilities in students, teachers, administrators and members of the community.

For students, this meant providing a participatory learning process based on child rights. Escuela Nueva needed to encourage the ability to apply acquired knowledge to new situations; an improved self-concept; cooperative and democratic attitudes; and a set of basic skills in language, mathematics, science and social studies.

For teachers, Escuela Nueva has highlighted the role of guide and facilitator rather than of presenter of facts. It has also called on teachers to take the lead in the surrounding community, emphasize positive attitudes toward work in the rural environment, cultivate close ties to administrators, and develop multi-grade instruction skills. Concurrently, Escuela Nueva has worked with school administrators to build guiding and collaborative relationships with teachers, rather than rigid and controlling ones, and has encouraged professional development through action-oriented research.

In the community, Escuela Nueva has promoted partnerships among teachers, parents, children and the community at large. It has encouraged participation in school activities, ensured that local culture is fully valued in daily school activities, and provided opportunities for community members to make key contributions to schools. Sample activities have included creating school and community maps, a county monograph and an agricultural calendar.

Escuela Nueva has ushered in a number of changes to curricula, starting with promotion that is flexible, but not automatic. This reduces repetition and allows for variations in the pace of learning. Another important element has been self-instructional learning guides and interactive textbooks that promote child-centered and active learning, link learning experiences with family and community, and promote the development of thinking.

Cooperative learning guides allow a teacher handling several grades simultaneously to organize students into small groups. The guides also serve as planning tools for teachers, and are organized so that they can be readily taught by less qualified teachers or extended by more skillful teachers. Combining a core national curriculum with possibilities for departmental and local adaptations, the guides can be produced at a national level, which considerably reduces printing costs, while the departmental and local materials can be developed with simpler and less expensive technologies.

Escuela Nueva has also introduced classroom libraries, learning corners that highlight the local culture, and school governments. The governments teach students about civic activities, promote participation and democratic behavior, and offer lessons related to the non-violent resolution of conflicts. Children are organized into committees that can be linked to community groups and projects. Activities include the classroom diary, the child's diary, suggestions and commitments, internal mail, the classroom newsletter and the parents' book.

Teacher Training

An integral element of the Escuela Nueva project has been in-service teacher training. Teachers learn to apply the Escuela Nueva curriculum elements both in classrooms and communities, and to adapt student guides to the child's level and to the local environment. Through workshops that are practical rather than content-focused, the teacher training focuses on assisting teachers in guiding, orienting and evaluating learning processes, while avoiding time spent in routine instructions.

Teacher training in Latin America has traditionally faced a number of obstacles, starting with an excessive emphasis on theory. Many in-service training seminars try to compensate for weaknesses in teacher education or to remedy their conceptual and theoretical shortcomings. These seminars are expensive, cannot be replicated and do little to improve actual teaching practices or student learning. Training generally occurs outside schools, with limited chances to observe innovative practices; and it is rarely followed up, rendering it all the less effective. Among teachers themselves, there are few opportunities to share their experiences and knowledge with their colleagues.

To confront these issues, Escuela Nueva devised a series of guiding principles. It recognized first that teachers would benefit from the same participatory methods they should employ in their classrooms—therefore, they should be actively involved in changes in their own schools and in teaching practices. Second, teachers have much to learn from each other and through supportive links with colleagues and supervisors. Finally, promotion of attitudinal changes is essential to changing traditional teaching practices.

The in-service training strategy developed for Escuela Nueva was designed as a process, not an event, since it involved several phases. The guiding principles took shape as three operational strategies, with the first being the creation of demonstration schools. These permit direct observation of all the innovations of the Escuela

Nueva approach. They also encourage contacts between teachers, children and communities, and the schools themselves are able to closely monitor children's rights and quality indicators for learning.

The second strategy called for a teacher training curriculum where teachers would learn to apply the Escuela Nueva components and elements, articulating theory with practice in a series of workshops. A training manual, organized in units and learning guides that follow a methodology similar to the children's learning guides, helps teachers experience the same methods they use with their students. In the first stage of training, teachers focus on practical implementation by organizing a child-friendly learning environment and establishing links between the school and community. The second stage emphasizes knowledge of subject matter, and teachers learn to use and adapt children's learning guides and materials.

The third strategy outlined the formation of teacher learning circles or microcenters. These encourage teachers to come together to reflect on their work, interact with other teachers and work on common problems. They also facilitate exchanges with teaching institutions, opening the way, for example, for distance education services to support teacher development.

Participation

Escuela Nueva emphasizes participation in all of its activities, since studies have repeatedly demonstrated that participation enhances the quality, sustainability and impact of a variety of programs. According to the World Bank (1996), participation "is a process through which stakeholders influence and share control over development initiatives and the decisions and resources that affect them." In the Escuela Nueva system, student learning guides, for example, demand continuous interaction between students, and between students, parents, teachers and other members of the education community. In teacher training, workshops require the full involvement of each teacher, as they learn by doing and practice what was learned between workshops. The microcenters are self-managed by the teachers, and the use of new technologies is expected to enhance the collaboration between teachers locally, nationally and internationally.

Evaluations of Escuela Nueva schools have demonstrated how a participatory framework has contributed to the quality, sustainability and impact of the learning process. In terms of quality, access has been extended to all children and equally to boys and girls. There has been individualized attention to different learning paces

and adaptation to the community and families, including through the use of local knowledge. Examples of sustainability include the empowerment of teachers to take part in reforming their own schools, and of children who have moved to the center of the learning process. Personal gains range from increased self esteem to the ability to work in teams and develop leadership skills.

The impact of Escuela Nueva can be measured through the higher academic achievements of its students compared to students in traditional schools. Coverage has increased, while dropout and repetition rates have fallen. In terms of rights, Escuela Nueva satisfies the right of all boys and girls from rural areas to have a good quality education. With its strong emphasis on the right of participation, the system in general promotes a bottom-up process and the collective construction of learning and knowledge.

The Evolution of Escuela Nueva: Going to Scale

Escuela Nueva has gone through three stages: local and departmental innovation, national implementation, and universal application. These stages correspond to the three stages proposed by Korten (1980) in relation to community organization and rural development: learning to be effective, learning to be efficient and learning to expand.

Learning to be effective occurred with the support of the U.S. Agency for International Development. This phase, from 1975 to 1978, consisted of the implementation of Escuela Nueva in 500 schools in three departments of Colombia. It included the design and production of materials for teachers and children; planning of the program, including its administrative and financial organization; development of delivery systems; implementation in the schools and the communities; and initial evaluations.

The second stage, learning to be efficient, took place from 1979 to 1986. It brought the program to 3,000 schools with the financial support of the departments, the Inter-American Development Bank and private organizations in Colombia such as the Coffee Growers Federation and the Foundation for Higher Education. This stage included replication of training at the national level, using existing materials.

During this period, the World Bank supported the Development Plan for Rural Areas, which assessed the viability of going to scale. A study of the education sector was designed to identify medium-term policy priorities. Since access to education in rural zones and the less developed provinces was still limited, the study suggested investing in more teachers and infrastructure and proposed examining new methods of deliver-

ing education. A consensus on priorities began to emerge, leading to the government's landmark decision in 1985 to adopt Escuela Nueva as a universal strategy in rural areas. By this time, the program had expanded to 8,000 schools throughout the country, and was supported through a combination of financial resources from the national and departmental governments and from private institutions.

The third stage, learning to expand, started in 1987. By 1992, Escuela Nueva had targeted 20,000 rural schools, and had become one of the five pillars of the national plan to eradicate severe poverty. However, expansion coincided with the country's nationwide decentralization policy. The Ministry of Education, its attention diverted to its own reorganization, was unable to offer Escuela Nueva the stronger organizational capacity required to preserve its quality as well as new decentralized structures at the local level. For a number of years, the ministry abandoned rural schools as a priority.

The problems that resulted included reduction of training time, return to the use of traditional training methods, and lack of practice in the use of materials. There was little training and preparation of administrators, and a lack of support and absence of monitoring of teachers. In some cases, teachers and administrators without previous experiences were brought to Escuela Nueva schools, while a considerable number of trained teachers were transferred to urban areas, on the basis of the political whims of the mayors, whose administrative power had risen.

Significant pedagogical innovation on a large scale requires that local management systems be in place to support the innovation. Using Korten's approach, effective expansion to the 20,000 schools would have required constant attention to ensure acceptable fits between organizations, programs and beneficiaries. But the numerous problems that emerged during decentralization resulted in losses in effectiveness and efficiency. While some of this kind of reduction is inevitable in going to scale, a host of new legislative, administrative and financial procedures exacerbated this tendency.

Despite these stumbling blocks, the Escuela Nueva schools continued to show better outcomes not only within Colombia, but also in comparison with other countries in Latin America. Several evaluations from 1982 up to 1997 confirmed that children from Escuela Nueva achieved higher scores in language and mathematics in the third and the fifth grade. (Psacharopoulus, Velez and Rojas, 1982; McEwan, 1998). Different statistical analyses also confirmed significant reductions in dropout and repetition rates, and noted that children demonstrated improvement in self-esteem and civic behavior. In 1998, the First International Comparative Study of UNESCO and the Latin American Laboratory for Evaluation of Education Quality reported that among 11 countries, only Colombia's rural public education was generally superior to its urban public education. This was due in part to Escuela Nueva.

Lessons Learned

A number of lessons can be drawn from the Escuela Nueva experience, the first being the importance of using a bottom-up approach that starts with the school as the unit of change. It is also necessary for the process to be gradual and well-monitored. A study by Drabble (1999) said of Escuela Nueva: "The incremental approach of small, effective changes instead of a 'mega reform,' the fact that small solutions were introduced in teachers' daily work and the empowerment of school personnel were essential to the bottom-up approach and to its continued survival."

Interactive learning guides with processes handled by the children themselves have helped ensure continued implementation of the Escuela Nueva system. In some cases, children orient new teachers who have arrived without previous training. Regular evaluation has maintained interest in Escuela Nueva and proven it is an innovative and effective framework, while the support of international organizations has helped the program evolve. A flexible approach has meant that even if all the components of the program do not work in a given situation, there is at least some positive net effect.

Equally important has been the continuous mentoring and promotion of the original core team that developed Escuela Nueva, which, despite many changes and circumstances has managed to keep the project alive and running. The Back to the People Foundation (Fundación Volvamos a la Gente), established in 1988 by the founders of Escuela Nueva, has even adapted the approach for urban areas and continues to provide technical assistance to several departments in the country. Currently, it is leading an effort to establish a network of teachers and schools that can apply the innovation.

The successful application of Escuela Nueva in other countries proves that it can be readily adapted to other contexts. Guatemala has implemented a similar program in 1,000 schools, and countries such as Brazil, Paraguay, Panama, Chile, El Salvador, Guyana and Uganda are incorporating components of Escuela Nueva in their education reforms. In addition, most Latin American countries now emphasize child-centered learning, interactive textbooks, cooperative learning, experiential teacher training and teacher learning circles.

As a general point, when implementation has emphasized participation and community involvement, the innovation has been most likely to survive and develop. This has clearly been the case in the department of Caldas, where the Secretary of Education established a partnership with the Coffee Growers Committee. The committee has helped ensure that the department maintains Escuela Nueva, that the

school government is linked to the needs of the community, and that the Escuela Nueva methodology has been extended to the post-primary levels. This has allowed Caldas to offer complete basic education in its rural areas. Another example can be found in the departments of Quindio and Antioquia, where local teacher circles have fostered a high level of cooperation among teachers. It is common in these areas to find circles that have been in operation for many years.

The Future of Escuela Nueva

Many education innovations fade and even disappear over time. Escuela Nueva also has become weakened and vulnerable to political and administrative changes, particularly those wrought by decentralization. Multi-grade schools can even be invisible to education planners, as summarized by Little (1995): "Those who design, fund and manage national school systems, teacher education systems, curriculum development, assessment systems or materials development ignore the multi-grade reality." In Colombia, where more than 80 percent of rural schools are multi-grade, the national administration still assumes that mono-grade schools prevail.

Despite the overall weaknesses of Colombia's education system, Escuela Nueva has survived and has had a strong impact. Steps should now be taken to reinvigorate the system, starting with the revival, on a voluntary basis, of a network of teachers, students, micro-centers and demonstration schools. The network could be linked through interactive technology, and could tap into distance education programs and teachers colleges and also promote research. Given the often isolated nature of rural schools, this would allow teachers to share their experiences, innovations, best practices and research results, and to feel part of a local and national network. Distance learning also helps teachers, students and parents upgrade a range of skills and receive information from a greater number of sources.

The cultural and citizenship components of Escuela Nueva should also be strengthened. Bringing Escuela Nueva's cultural dimension back up to its level during its early stages of the project could help integrate children, teachers and the local community; strengthen local cultural identity; and preserve important elements of local culture. While citizenship is already a key component of the model framework of Escuela Nueva, it should be bolstered through the development of a wider range of skills for both cooperative working and conflict resolution. Democratic and prosocial behavior are already emphasized, and one study (Chesterfield, 1994) provided evidence of the increased levels of democratic behavior in students in Escuela Nueva

schools compared to traditional schools. Cooperative learning, with its emphasis on developing tolerance, can also easily encompass conflict resolution skills, which are particularly relevant in light of Colombia's ongoing struggles with violence.

Given that the participatory approach is an essential dimension of Escuela Nueva's pedagogical model, management mechanisms should also incorporate a high level of participation. In the future, local managers—including education administrators, community representatives and other social actors, as mandated by the education law—should take steps in this direction. The combination of a participatory, locally based management system and a strong pedagogical model represents the best fit for the provision of quality basic education for all children.

Some new needs have emerged as an increasing number of children have finished their primary education in Escuela Nueva schools. These include a demand for education beyond the primary level by students and parents now more motivated to request continued education, and a greater need for consistency between primary and post-primary schools. Several innovations have been designed and tried in various departments. The post-primary experiments adapted the Escuela Nueva approach to grades 6-9. In addition, Fundaec, a private foundation, started the tutorial learning system (SAT), which is a high school system adapted to the needs and conditions of youth and young adults in rural areas. Other new applications are also being pursued—Escuela Nueva has inspired educators and policy-makers to consider its potential implementation in urban schools. The Back to the People Foundation, with the support of the Inter-American Foundation, has designed a project for schools in marginal urban areas in a variety of public and private school settings in Bogota, Cali and Buenaventura.

Finally, awareness of the need for change in education usually lags behind educational innovation. This lack of understanding can present obstacles to successful implementation. To counter these tendencies, information and communication strategies need to be developed to support Escuela Nueva's continued evolution.

Conclusions

Escuela Nueva has gone a long way in demonstrating that positive change can take place in poor rural schools on a large scale, and that this process can be efficient and cost effective. It has ushered in a new role for teachers through its shift to child-centered, participatory learning; it has opened space for learning about and practicing

democracy at the classroom level; and it has inspired the New Education Law in Colombia, which mandates complete basic education through the ninth grade.

Based on the premise that high quality education requires the participation of children, teachers, families, communities and administrators, Escuela Nueva has systematically shown how to integrate and operationalize curricular reform, teacher training, and community and classroom management at the school level. While many of the pedagogical principles incorporated by Escuela Nueva were not new, the project has been innovative in concretely applying these ideas in schools with scare resources.

There has been recognition worldwide of Escuela Nueva's achievements. In 1989, the World Bank selected it as one of three education reforms that have demonstrated success on a large scale. The World Bank Institute has subsequently developed a system of workshops for training public officials in finance, planning and education ministries on using Escuela Nueva's approach to improve the quality of basic education.

Escuela Nueva was presented at the World Conference on Education as one of the two most innovative educational experiences of Latin America, and the 2000 UN *Human Development Report* selected Escuela Nueva as one of Colombia's three main achievements. Finally, more than 35 countries have come to Colombia to learn about the Escuela Nueva experience, to see the model first hand, and to understand how an innovation can survive despite the deficiencies of an education system. Many of the essential ideas currently being discussed by ministers of education in Latin America are a reformulation of what Escuela Nueva first put into practice 20 years ago.

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CHAPTER 9

Communication, Social Mobilization and Changes in Education

Bernardo Toro

In 1989, the Fundación Social (FS) began to reflect on new ways to reduce the extreme violence, poverty and social inequality that have plagued Colombia since the 1950s. Sixty percent of the population lives below the poverty line, while 10 percent controls more than half of the country's income. Crime is endemic, with more than 20,000 homicides committed every year.

The mission of FS, a nonprofit organization founded in 1911 by Father José María Campoamor, is to modify the structural causes of poverty in Colombia. To support this mandate, the FS owns a group of companies that operate across the country, mainly in the fields of finance, housing and social security. Employing almost 7,000 people, these companies are devoted to producing goods and services that benefit mainly middle- and low-income people. The net profits are dedicated to financing the FS mission.

As FS began exploring alternatives for nurturing a culture of democratic coexistence and productivity, the foundation decided that one of the best and most sustainable strategies would be to foster reform in education through the involvement of public and private primary school teachers. Their collaboration is critical to modifying the thinking, feelings and behavior of children and young people, and to preparing future generations to contribute to a more peaceful society. Approximately 160,000 Colombian primary school teachers instruct 4.5 million children between the ages of seven and 12. Eighty-three percent of Colombian primary education is public, and the country has one of the highest performance averages in rural education in Latin America. But while Colombian primary students in general fall slightly above the regional mean in performance, they rank far below Cuba, which has achieved the most successful education system in the region.

In order to reach its objectives, the FS had to address five challenges:

- Mobilize teachers in their daily classroom work to foster a culture of democracy and productivity among Colombian children.
- Teach teachers new ways of thinking, feeling and behaving that could be applied to existing teaching habits and routines. This had to be done in ways that wouldn't mean extra work for them, that they would deem important, and that they would be willing to accept.
- Design and produce instruments to mobilize the teachers.
- Generate broad collective action among teachers using their own capabilities and resources.
- Resolve the question of how a private organization such as FS could undertake a mass mobilization in public schools.

These issues guided the development of the FS Social Communication and Mobilization Program (SCMP) for school principals and primary school teachers. The program focused on 20,000 primary schools, and was designed to develop a shared vision of goals and actions. It recognized that even if the knowledge, institutional capacity and resources for educational reform exist, it is not possible to move forward without the support of the educators and managers within the system.

Communication and Social Mobilization: Criteria and Basic Concepts

The SCMP was designed following several key principles. It began by considering how to mobilize the actors, who are the ones who turn the objectives of a reform into daily actions and decisions. Any kind of change also requires a convergence of interests and new ways to understand and organize a given situation. The actors must identify which decisions they can undertake and which materials are at hand to contribute to the final objectives. And even if an educational innovation or reform is properly designed and financed, it also must be well-communicated and capable of generating the enthusiasm needed to carry it out.

Too often, communication and mobilization issues are omitted from educational reform. Resources are sometimes assigned to publicity campaigns, but this is not enough for social mobilization. Such mobilization requires individuals working together towards a common purpose. An effective mobilization must focus on "re-editors," who are those individuals with enough credibility and legitimacy among their

audiences to propose and modify actions. Politicians are re-editors because they have followers willing to freely accept their ideas for action. Similarly, the school principal is a re-editor of the teachers he or she directs.

Structuring a process of social mobilization involves three basic steps. The first is to formulate an attractive horizon or vision that is a desirable and possible representation of the future that those participating want to build. A proper educational reform process must not only have well-formulated objectives and goals, but it must also reformulate its objectives in ways, language and symbols that foster passion.

The second step is to define the re-editor's field of action. After a vision is developed, many individuals will be willing to participate in a process of change only if they can understand what they can do from their work place or within their immediate surroundings. In educational reform, the school is the action field of principals, as the classroom is for teachers. Many proposals for educational change fail because their objectives fall far beyond these fields of action. An effective mobilization campaign must indicate the decisions and actions that re-editors can make in their own fields of action while providing explanations on how and why these decisions and actions contribute to attaining the objectives. In order to act, re-editors must be able to clearly see what information they need to know, what decisions they must make, and what instruments they can use.

The third step in social mobilization is to transform individual action into collective action. This means fostering a sense that what individuals do and decide is being replicated by many others for the same reasons. This feeling of shared purpose sustains social mobilization and develops the conditions necessary to transform it into a process of change. Mass communication is fundamental to collectivization processes.

Implementation of the SCMP

The SCMP began by identifying a clear target group and purpose. In three well-defined phases, it sought to mobilize 20,000 primary school principals to improve school conditions, democratic coexistence and productivity. The selected public and private schools came from both urban and rural areas across Colombia.

As a whole, the SCMP was designed around a general vision: a society based on democracy, human rights and dignity. Reaching this goal with children involved a more specific vision: the formation of citizens. A citizen is a person who is able, in cooperation with others, to define or transform the laws and norms under which he

or she wishes to live, while defending the rights and dignity of all. Additional visions were conceived for each of the three phases of the SCMP. In the first phase, the vision was "for my primary school to succeed." In the second phase, it was "seven basic lessons for social coexistence for each day and for life." The third phase focused on "modernity codes: basic abilities and competencies for productive participation in the 21st century."

Across all three phases, the main re-editors were school principals, although as the mobilization grew and acquired prestige, schoolteachers also became re-editors. Initially, the SCMP inquired about the fields of action and power of the re-editors, looking at what decisions they could make and what materials they required for the mobilization. Other issues involved realizing how to communicate with re-editors at reasonable costs and defining languages, symbols and ways to interpret the world in order to design pertinent communication materials.

The mobilization took place between 1989 and 1996. The first phase called on principals to take seven actions that previous research and experience had shown could improve school conditions. These included assigning the best teachers to the first and second grade; taking advantage of the duration and intensity of the school year (Colombia's school year runs for 170 days, with an average school day of 4.2 hours); nurturing children's self-esteem (including not blaming the child for school failure); using notebooks to develop expression and writing; assigning homework intended to improve learning and engage the family; paying attention to the child's classmates and friends, a key influence in shaping the child's values; and taking care of school texts and using them to improve learning and to widen educational aspirations and create reading traditions.

The second phase of the SCMP began in 1992. It was designed so that principals and teachers could understand, teach and strengthen the basic concepts of coexistence. With Colombia's history of extreme internal violence, it is critical to provide future generations with the capabilities for peaceful conflict resolution. Harmonious coexistence must be instilled at an early age through daily teaching and experiences at school.

The SCMP suggested a series of activities to support the coexistence concepts. These included learning to tolerate others, which is the basis of all coexistence models; to communicate, which is the basis of personal and group self-affirmation; to interact, which is the basis of social life; to make group decisions, which is the basis of economic and political models; to rely on oneself, which is the basis of social responsibility; to take care of the environment, which is the basis of human survival; and to appraise cultural and social knowledge, which is the basis of cultural and social evolution.

In 1995, the third phase of the SCMP began. This encouraged principals and teachers to identify the basic competencies and abilities that children need in order to participate in society and be productive individuals. Called "modernity codes," these competencies and abilities included reading and writing correctly; working with basic mathematical calculations and problem solving in different situations; developing written expression, particularly the skills of description, composition and analysis; criticizing and analyzing the media; criticizing and analyzing the social surrounding (as a form of democratic and political education); working as a team and making joint plans and decisions; and learning to find, access and use information.

All three phases of the SCMP relied heavily on information materials and mass communications. A color poster and a booklet were designed for re-editors to use during each phase. The poster allowed school principals to publicize the mobilization at the school. The 12-page black and white booklet was easy and inexpensive for principals to reproduce and disseminate among their teachers. In simple language, the booklet proposed actions and decisions that could become a part of educators' daily work.

To develop a sense of shared vision and purpose among the 20,000 principals spread across the country, the SCMP turned to the mass media. In the first phase, a 30-second TV spot was produced and broadcast 100 times on commercial television for a month. In the spot, a boy and a girl run out of school to write graffiti on a street wall and write, "First my primary school." Then, looking toward the screen, they add "to succeed." The spot was very successful among educators and had a strong impact.

The SCMP gathered evidence that demonstrated the considerable extent to which the graffiti spot was recognized and recalled by educators across the country. Then a letter was mailed to the 20,000 school principals explaining the importance of the vision in phase one and inviting them to work as re-editors. The project also sent them posters and booklets describing best practices for school success. The actors from the TV spot appeared in these materials in order to make the link to the spot. Afterwards, the SCMP started broadcasting a weekly educational program nationwide. It deepened and broadened the concepts of the first phase through a series of news stories, documentaries and interviews.

Similar methods were employed for phases two and three. These phases also included music and teaching guides, as well as the production and broadcasting of five dramatic series' (28 episodes each) and five documentary series' (30 episodes each).

Evaluation of Achievement

From the beginning, the SCMP model incorporated a process of evaluation. Every set of materials mailed to re-editors included a survey to determine how they were using them. To assure the information gathering process, the SCMP paid for the survey's return postage.

In 1990, a year after the first phase of mobilization, the FS hired the Centro Nacional de Consultoria (CNC, the National Consulting Center), which specializes in evaluations and surveys. The CNC selected a random sample of 258 schools and visited each one to perform field observations and interviews with principals and teachers. The aim was to measure the advocacy level and assess how re-editors were using the SCMP materials. The results were then compared with 1,664 questionnaires submitted by principals as part of the SCMP evaluation. The bottom-line results were almost equal ($r = 0.90$).

More than 90 percent of survey respondents believed that the materials improved the quality of education, professional activity and school performance. Between 80 and 90 percent maintained that the materials led to better teaching, strengthened communication among educators, eased integration of objectives among principals and teachers, and deepened interactions between teachers and students. For each booklet distributed, an average of 14.3 copies were made. Among the principals, 84 percent used the booklet in meetings with teachers; 69 percent used it with parents; 65 percent applied it to school planning; 61 percent employed it in community promotion; and 45 percent brought it into dialogues with education authorities. Ninety-nine percent of the principals placed the poster in a visible place and 29 percent framed it. A total of 80 percent of the teachers read and studied the material.

In terms of changes that were made based on the materials, 25 percent of the schools placed their best teachers in the first and second grades, while 20 percent accepted the recommendation of improving children's self-concept. Regarding the process of collectivization, 52 percent of school principals believed that 60 to 100 percent of other principals were using the materials with the same criteria. Among teachers, 48 percent saw the TV programs and 82 percent remembered (even a year later) the graffiti spot. Both evaluation reports from the first phase were published and distributed to all schools participating in the project.

In 1995, the SCMP undertook an evaluation of the second phase's seven basic lessons for social coexistence. A stratified sample of 398 private and public educational institutions was defined. An evaluation sent by mail focused on the maintenance, uses and reproduction of materials, as well as awareness of their contents. The

results revealed that 84 percent of the schools had kept the materials, with 30 percent using them intensively and 50 percent moderately. Between 67 and 72 percent of the schools used the materials with teachers and students, while 27 percent reproduced the materials to distribute them among students, teachers, parents and community members.

Around 73 percent found that the contents of the materials were clear; 59 percent said they were highly applicable; and 75 percent noted the materials were very relevant to problems in Colombia. School principals believed that 54 percent of their colleagues were carrying out similar activities on coexistence and democracy.

New Applications for the SCMP Model

In 1995, Walfrido dos Mares Guia Neto, the Secretary of Education of the state of Minas Gerais in Brazil, asked the leader of the SCMP (the author of this chapter) to implement the model as part of educational reforms in Minas Gerais. This transfer was successful, with some printed materials and the model itself being translated and published in Portuguese. The SCMP model has also been used to introduce educational changes and innovations in other Brazilian states (Paraná, Mato Grosso, Ceará and São Paulo), and has been employed by the Istituto de Águas do Brasil (Brazilian Water Institute).

The SCMP materials, including videos, music clips, posters and booklets, have also enjoyed commercial success in Colombia. At the end of 1996, the biggest producer of educational materials in Colombia, Carvajal & Company, through its branch Norma Comunicaciones, acquired FS permission to use the commercial rights of the SCMP model for a three-year term. The company intended to distribute and sell the model in rural and private schools that hadn't participated in the original program. Since then, Norma Comunicaciones has successfully marketed the model and materials, and discovered that they are also useful for labor unions, parents, NGOs and government projects related to coexistence and democracy.

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CHAPTER 10

Three Decades of Testing in Latin America: From Ghost Repeaters to Quality Gaps

Ernesto Schiefelbein and
Paulina Schiefelbein

Testing has played an important role in the development of education in Latin America for over 30 years. In the 1950s and early 1960s, testing consisted mainly of isolated projects designed by local scholars, who often worked with North American researchers and were funded by international agencies. Broader applications implemented in the 1970s and 1980s addressed academic and political controversies and obstacles. These included the lack (or high cost) of computer facilities for data processing and analysis of test results; the objections of Marxist scholars to standardized testing; limited training in the design and validation of tests and the ability to analyze data; the excessive optimism of conventional wisdom about the quality of education; and political authorities who feared being held accountable for poor results.

By the late 1980s, international testing and comparisons with developed countries had made a cross-section of educators and lay people aware of the region's poor education performance. Many countries began a process of identifying local problems and defining realistic strategies to contend with them. Simultaneously, Marxist criticism dwindled after the fall of the Berlin Wall, and advances in technology made low-priced personal computers widely available. The role of testing evolved, moving first from screening students for the next level of education to illustrating new activities for teachers. Later, tests were used to identify key problems and the causes of low quality. Most recently, there has been an emphasis on testing as a way to determine how to improve quality.

The lack of well-trained professionals is a problem that persists, however, even as individual researchers and practitioners still shoulder the task of initiating many new testing programs. And while many countries have begun to venture into the testing arena, none has taken systematic advantage of all its potential applications.

A History of Selectivity, Quality and Testing

The story of testing in Latin America begins in the early 1960s, when education systems were highly selective. Only half of all children could enroll in primary school; less than 15 percent entered secondary school; and only 1 to 5 percent went to universities (IDB, 1980: 54). Most of the university students came from elite families at the top 5 percent of the socioeconomic order.

At that time, analysts relied on only two ways to assess the quality of education: either through the performance of university graduates who continued their studies in Europe or in the United States, or through the performance of the children of diplomats who were enrolled at primary or secondary schools in developed countries. The results were acceptable in both cases, but it was misleading to assume that this indicated a good quality national system. Research shows that poor students have much lower achievement levels than wealthy students (Wolff, Schiefelbein and Valenzuela, 1994), and that good students can always catch up when exposed to appropriate teaching.

Still, conventional wisdom assumed that the quality of education in Latin America was high, an opinion reinforced during the late 1960s by gradual increases in literacy rates (IDB, 1980: 52). Many analysts thought that each country only needed to do more of the same to reach universal primary education. This bias was due partly to the fact that most managers operating public education systems had attended private schools and had succeeded in an extremely selective system. These experiences encouraged highly optimistic descriptions of the average public school, distorted the design of curricula, and hindered the creation of appropriate education policies. It took several years for the realization to take hold, for example, that literacy measurements drew from overly subjective definitions. In some cases, a population census would report as "literate" any one who was able to sign their name or who had spent one year in primary school (UNESCO, 1992:16).

While the problems of public schools were analyzed as early as the 1960s by testing experts, many of them trained in the United States, relevant data on the extent of the barriers to quality remained scarce. The *vestibular* carried out in Brazil (de Moura Castro and Carnoy, 1997: 26) and similar exams in Chile (Himmel and Maltes, 1979), Costa Rica, Mexico and Venezuela were mainly intended to screen high school graduates applying for university admission (de Moura Castro and Carnoy, 1997: 27). The data were not used to appraise the quality of secondary education, and, given the selectivity of the system in this period, only about one-fifth of the student-age population in each country even took the tests.

BOX 10.1. My Hunt for Ghost Repeaters: A Note from Ernesto Schiefelbein

In the huge computing center at Harvard University, I retrieved the printouts of a simulation of the 1960-66 enrollments in Chilean primary schools. I checked the results for the final year and found that the estimates were much smaller than had previously been calculated. I tried to find a mistake in the design or the punching of the cards that recorded the data, but all figures and formulas were correct. So I went back to the Center for Studies in Educational Development at Harvard. With my advisor, Dr. Russell Davis, we went through and verified the equations. We did many alternative simulations, but when these provided similar results we concluded that some data were wrong. After several analyses, we finally agreed that the only possible explanation was that repetition rates, which had been retrieved from the Statistical Yearbook, were underestimated. Eventually, we were able to estimate repetition rates that would provide enrollment estimates close to the historical data. We finally concluded that the true first grade repetition rates should be at least twice as large as the figures reported in the yearbook (Schiefelbein and Davis, 1974). Later, we developed models to simulate the true repetition rates based on data available in Latin American countries. Other developing countries such as Kenya and Nigeria used these models to estimate their own repetition rates. Three years later, I came back to Harvard as a visiting professor and worked again with Dr. Davis. In 1973, we showed that in Latin America over half of the first grade students were repeating. But it took 25 years for this finding to be widely accepted.

The Early Impact of Testing

In the late 1960s, a widening number of researchers and analysts in the region finally began to challenge the optimistic view of educational quality. The international comparison on reading, mathematics and science carried out by the International Education Assessment (IEA) in 1968, and the growing acknowledgement of high repetition rates, suggested that something was rotten in the education system (Thorndike, 1973; Keeves, 1988). The IEA study showed that Chilean students achieved roughly half the level of students in developed countries and scored close to the level of students from Iran and Thailand—a country that Dr. Pote Sapianchai, a leading scholar and consultant to the Ministry of Education at that time, had encouraged to participate as a benchmark for future improvement (Rodriguez and Menke, 1974).

In Chile, researchers began to take an in-depth look at repetition rates, and studies using a simulation model found that over 40 percent of first grade Chilean students were repeaters, while the official figure was around 20 percent (see Box 10.1; Schiefelbein and Davis, 1974). By the early 1970s, researchers had estimated a

50 percent repetition rate in first grade for the average country in Latin America (Schiefelbein, 1975). This figure was twice as large as the number published in the statistical yearbooks of each country, where data were provided by school principals. The gap had resulted from misleading definitions: any student leaving their school was reported as having dropped out for good, while in fact the student may have repeated the same grade the next year in another school (UNESCO, 1992).

The disclosure of these higher repetition rates added pressure for measuring education achievement. For the first time, countries in the region began carrying out three types of studies on testing: (i) to measure learning levels at the end of primary education; (ii) to assess the impact of classroom factors such as textbooks on learning; and (iii) to compare achievement scores with figures from developed countries. These experiments took place between 1967 and 1972 in Chile at the end of eighth grade (Schiefelbein, 1993: 118) and in Venezuela in 1969 in grades six and nine (Miller and Wolfe, 1968; Hung et al., 1973).

The experiments detected a wide gap in student achievement scores according to socioeconomic levels (Garcia et al., 1974; Schiefelbein and Farrell, 1982), and confirmed that the quality of education overall remained below the international standards. When the Chilean scores were compared with those of the developed countries in the IEA study, the comparison showed that even the best Chilean students performed below international levels. While these results were discussed only in narrow academic groups, they stirred interest in further analysis of quality problems.

In 1971, Chile studied the main factors influencing achievement by replicating the method of the U.S. scholar James Coleman (his seminal 1966 report, *On Equality of Educational Opportunity*, demonstrated the impact of socioeconomic factors on education). The testing scores of eighth grade students were used to calculate factors linked to success (measured by achievement levels) and to identify the gaps between different types of schools. The study added interesting bits of new knowledge, such as the positive relationship between textbooks and achievement (Schiefelbein and Farrell, 1982). But one of the key findings was that higher achievement scores in private schools vis-à-vis public schools disappeared when controlled for socioeconomic status. This finding suggested that there was no difference in the value-added contributions of private or public schools.

The association between socioeconomic status and student achievement continued to be analyzed in many studies carried out at that time. In El Salvador, sophisticated testing was used to evaluate the educational TV project carried out with USAID support (Mayo, Hornik and McAnany, 1976; McGinn, Warwick and Schiefelbein, 1979). A similar method was applied to the radio mathematics project

BOX 10.2. A New Approach to Analyzing Achievement

In the early 1970s, economists from the Program of Joint Studies for Latin American Integration (ECIEL) who analyzed household surveys joined the growing consensus that education was a powerful lever to increase economic development. In 1972, Joseph Grunwald, an economics professor from Yale University who worked with ECIEL, designed a project to compare and analyze educational performance in each country. He obtained an international grant and gathered a group of economists interested in education, including Claudio de Moura Castro, who became the project's technical coordinator. The group adapted the 1968 IEA test for the participating countries, and brought into education refined statistical techniques, the support of existing mechanisms built for analyzing the household surveys, and the financial backing to conduct extensive work. The experience produced a new standard for modern team research. Testing would no longer be the personal adventure of a researcher, but the systematic effort of an "industrial approach" to the quality of education.

in Nicaragua (Suppes et al., 1978). Colombia relied on this approach in studies on the impact of malnourishment (McKay, McKay and Sinisterra, 1978).

In the early 1970s, an ambitious regional program used production-function analysis to complete the task of estimating the determinants of achievement in education (Box 10.2). The Program of Joint Studies for Latin American Integration (Programa de Estudios Conjuntos para la Integración Económica Latinoamericana, ECIEL), with support from The Brookings Institution, worked in six countries to test achievement levels in grades four and six and to collect data on factors that contributed to educational quality (de Moura Castro and Sanguinetty, 1977). While the test instruments contained a limited discrimination power that may have curbed their effectiveness, some significant factors were identified in Argentina, Chile, Ecuador, Mexico and Paraguay (Wolff, 1998: 4). The results stirred interest across the region in obtaining objective measures of the quality of education. However, the testing reports did little to advance understanding of how to build and sustain quality. The next task was to carry out field experiments in order to assess the impact of quality-related factors that could be changed (Schiefelbein and Simmons, 1979).

The time was ripe because the Organization of American States (OAS) was funding a massive research and development program in the region. Several countries had agreed to contribute money to research and development in education if the United States would offer matching grants. A $10 million program unfolded over

the next decade, supporting many forms of research, including the further replication of the Coleman report. Seminars were held on the design and evaluation of tests for measuring achievement, and the flow of new ideas into the region generated interest in testing and research.

Understanding grew regarding the potential impact of standardized achievement tests in schools (McGinn and Borden, 1995: 228; de Moura Castro and Carnoy, 1997: 29; Bradley, 1999: 14), as well as regarding how tests can be used to define school achievement standards (Ravitch, 1996: 4). In Chile, items in demonstration tests showed teachers examples of the desired changes proposed in the ongoing Chilean education reform. The tests illustrated the need for teachers to move beyond traditional rote learning and recall in order to develop the ability of their students to apply concepts and solve problems (Schiefelbein and Davis, 1974: 48).

The ideas of Benjamin Bloom (1976) about mastery learning were influential in Latin America in this period and prompted further interest in testing. Teachers started to question the customary emphasis on rote learning, while they also became aware of how difficult it was to go beyond it. There was also no fair evidence of the impact of other forms of teaching. Testing was seen as an ideal source for that evidence.

At the same time, many groups continued to express opposition to testing (or to U.S. ideas on education). Lack of technology was a constraint as well. Few researchers had access to all the available data, optical scanners were unreliable, and computing time was available only on huge, complex and costly mainframes. Without clear targets from education planners (UNESCO, 1989), most of the experiments mentioned above required the support of regional and multilateral agencies, including the international development banks.

Identifying Problems and their Causes

By the 1980s, two forces had driven educators and decision-makers towards more evaluation: the increasingly urgent need to improve the quality of education and the spreading popularity of market solutions to social problems. Testing played a key role in Chile, for example, during an experiment to improve education performance with market mechanisms (Schiefelbein, 1993: 121). In 1981, Chile embarked on a transfer of schools to local authorities—mainly municipal mayors (de Moura Castro and Carnoy, 1997: 31; Schiefelbein, 1991: 20). Demand for schools was subsidized with vouchers, and a central testing service was established to help parents select the best school for their children.

By the mid-1980s, scholars were preparing state-of-the-art research papers analyzing key topics related to education quality. Their task was made easier by the executive summaries of research reports that they could retrieve from the REDUC data bank, which contained 30,000 abstracts of report findings (Resúmenes Analíticos en Educación, RAE). REDUC centers had been set up in each country through the combined efforts of the Ford Foundation, International Development Research Centre (IDRC), USAID and the IDB (Schiefelbein, 1985). While these reviews of available knowledge triggered further testing, analysis of the results lagged. In 1986, the Ministry of Education in Costa Rica started to test all students in grades three, six and nine (Esquivel, 1990), followed by testing of samples of students. Similar efforts were carried out in Mexico (Palafox, Prawda and Velez, 1992), Colombia, and Argentina (Table 10.1). However, analysis of the data collected in those countries and the dissemination of the ensuing reports was the result of individual rather than concerted efforts (Rojas and Esquivel, 1998). Eventually, the scant use of this information became a weak point in the national testing systems (Chapman and Mahlck, 1993). In some cases, this weakness was exploited by leftist teachers to oppose the use of tests (de Moura Castro, 1999).

A hallmark of the 1980s testing efforts was the recognition of repetition as a priority problem. Researchers started to look for its main causes, but found little support because by that time much of the international funding for research had dried up. Fortunately, the work of the IDB, the World Bank and UNESCO continued, in part through activities that helped raise awareness of the need to address repetition. An international seminar organized by the IDB helped to outline the problem (IDB, 1980: 255). This was followed by a joint World Bank-UNESCO project that confirmed the high repetition rates by replicating the analysis carried out in the early 1970s (Schiefelbein and Grossi, 1981). The World Bank accepted repetition as a key issue (Schiefelbein, 1988), and helped Paraguay, Colombia, Guatemala, Peru, Bolivia and Brazil develop simulation models to estimate true repetition rates.

These estimates were confirmed by alternative methods and by field research. Harvard University and its USAID-financed project entitled Basic Research and Implementation for Developing Education Systems (BRIDGES) carried out field research in Paraguay, Honduras and Colombia, detecting repetition rates that were much higher than those reported by school principals and close to the simulation model rates (McGinn et al., 1992). The studies suggested that a fair amount of the reported dropouts were students repeating a grade after moving to other schools. Soon after, both the IDB and the World Bank began financing projects for improving information systems and evaluating project impacts.

Table 10.1. The Use of Standardized Achievement Tests in Latin America

		Present national testing system								Previous experience		
Country	*Size*	*Grade*	*Area (Ma/La/S/Ss[1])*	*Start*	*Source reference (C/S[2])*	*Diffusion (Yes/No)*	*Data on relevant factors (T/SC/ST[3])*	*Analysis (Yes/No)*	*External expert support*	*Grade*	*Period*	*External expert support*
Argentina	Sample Universe	7 & 12 12 & 13	Ma-La Ma-La-S-Ss	1993 1997	C	Yes	T SC ST	Yes	No	7-9	1989-	(Mendoza)
Bolivia		4 & 7	Ma-La	1997	C	Yes	T SC ST	Yes	IDE– World Bank			
Brazil	Universe	4-8 & 11	Ma-La-S[4]	1995	C	Yes	T SC ST	Yes	Local businesses	1-3-5 & 7	1990-1993	Local businesses
Chile	Universe 10%	4 & 8 4 & 8	Ma-La S-Ss	1991	C	Yes	T SC ST	Yes	Catholic University	8	1967-1972	USAID
Colombia	Sample	3 5	Ma-La	1991		Yes	T SC ST	Yes No	Institute SER		1980-1988	No
Costa Rica	Sample	3-6 & 9 3 & 6	Ma-La-S-Ss[5]	1995 1996		Yes (but not public)	..	Yes	No	3-6 & 9 3-6-9 & 12	1986 1987-1989	No
Ecuador	Sample	2-6 & 9	Ma-La	1996	C	Yes (but not public)	Yes	Public	competition for analysis	1992		
El Salvador	Sample	Various grades	Ma-La-S-Ss[6]	1997	C	No	..	Yes	No	3-	1990 1970	USAID-Stanford SABE from USAID
Guatemala	Sample	3-6 & III	Ma-La	1997		MINEDUC will define it	T SC ST	Yes	Universidad del Valle		1991	BEST from USAID
Honduras	Sample	3 & 6	Ma-La[7]	1997	C	Yes	T SC ST	Yes	Universidad Pedagógica Nacional	All primary levels	1990	USAID
Mexico	Sample	All grades 1-3 & 6	All subjects			Yes (but not public)		Yes	No	6 6	1986-1990 1990+	No No
Brazil-State of Minas Gerais		3-5-8 II-III & IV	Ma-La-S[8]	1992		Yes (but not public)	SC ST	Yes	No			

Nicaragua	Sample Sample	4 – III 2-3-4-6- II & IV	Ma-La	1996 1998	C	No	..	No	Independent consultants No			
Panama	Sample Universe	Secondary 3-6-III & VI	Ma-La Ma-La-S-Ss	1995 1997	C	Yes (but not public)	..	Yes	No No	6-VI	1981-1985 1985-1988	No No
Paraguay	Universe	6 3-9	Ma-La	1996 1997	C	Yes (but not public)	T SC ST	Yes	No No			
Brazil-State of Paraná	Universe	4 8 & II	Ma-La Ma-La-S-Ss	1995 1996	C	Yes (but not public)	..	Yes	No			
Peru	Sample	4 4-6	Ma-La Ma-La-S-Ss	1996 1997	C	Yes (but not public)	T SC ST	Yes	No			
Dominican Republic		4-8 & VIII	Ma-La-S-Ss	1995	C	Yes	SC	Yes	Private businesses		1991-1994	No
Brazil-São Paulo	Universe Universe	3 7	Ma-La Ma-La-S-Ss	1996	C	Yes (educational journals)	T SC ST	Yes	No		1992-1994	No
Uruguay	Universe	6	Ma-La	1996	C	Yes	T SC ST	Yes	No		1994-1995	No (ITEMAN)
Venezuela	Sample	3-6 & 9	Ma-La	1997	C	..	..	..	Outside consultants			

Sources: Rojas and Esquivel (1998); Wolff (1998); de Moura Castro and Carnoy (1997); Palafox, Pravda and Velez (1992).

[1] Ma = mathematics; La = language; S = science; Ss = social science.
[2] C = curriculum; S = standard.
[3] T = teacher; SC = school; ST = student.
[4] Used in secondary schools as well as in tests for chemistry, biology and phsycial sciences.
[5] Tests of knowledge, physical condition and cognitive skills.
[6] Health, environment.
[7] In the future this will include S and Ss.
[8] Used for primary grades 5 and 8, as well as for tests for chemistry, biology and physical sciences.

In the late 1980s, there was a growing consensus among experts that statistical offices in ministries of education had long underestimated repetition rates. Governments had generally remained reluctant to address the problem, and rates had fallen in only three countries (UNESCO, 1992; Wolff, Schiefelbein and Valenzuela, 1994). Fortunately, the head of UNESCO's Regional Office for Latin America and the Caribbean (UNESCO-OREALC) had the courage to present the poor progress to ministers of education gathered in Guatemala in 1989. For the first time, education authorities began to accept the real magnitude of the poor quality of education in the region. The ministers asked UNESCO to identify the best strategies to cope with the problem, and an analysis was presented to the following meeting of the ministers in Quito in 1991.

In Brazil, the high repetition levels were accepted after many academic debates and the conclusive analysis of Sérgio Costa Ribeiro, who demonstrated how repetition, not the number of dropouts, was a major problem. In highlighting the error of comparing stocks instead of doing a flow analysis, Ribeiro's sophisticated statistical model accounted for factors previously related to dropouts. Upon closer inspection, these turned out to be more complex issues—for example, students leaving and entering the school system due to seasonal labor. Ribeiro's findings changed the direction of the discussion about education in Brazil, and brought a new focus on problems related to quality (Costa Ribeiro, 1990). For example, after evidence revealed that teachers frequently made students repeat first grade when they were unable to read words or paragraphs, a new demand arose for testing reading comprehension (Ezpeleta and Weiss, 1994: 142).

In Honduras, a research project made a similar link between reading and repetition and diagnosed a host of quality problems, which ranged from the limits of dictating substantive information to an overemphasis on orthography and grammar (McGinn et al., 1992). These poor classroom practices, in turn, contributed to poor learning. For example, if teachers simply required students to recall spelling and grammar rules, evaluation became a straightforward process that focused on the rules and other formalistic matters. There was little emphasis on the more complex learning related to mastery of subject matter, coherency of thoughts and articulated presentation. Indeed, an analysis of reading comprehension items in available test data banks subsequently showed that half of the grade four students struggled to understand what they were reading (UNESCO, 1992: 26).

The same situation was revealed in many other countries. Nearly 40 percent of fourth grade students in Chile and over half in El Salvador, and 60 percent of third grade students in Honduras did not understand what they read. Poor reading and writing in turn proved to be effective constraints for all other subjects (Elley, 1992).

BOX 10.3. A Joint Effort to Produce Good Testing

In 1993, a number of Latin American education ministers requested that the UNESCO Regional Office help their countries test and measure quality. UNESCO presented a project to the Ford Foundation to secure seed money for a regional effort, and invited countries to pledge funds for the national cost of administering the test and processing the data. Seven countries agreed to participate. A pilot test was implemented in 1993-1994 and preliminary results were published in 1995. The UNESCO effort was complemented by seminars conducted by the Organization of Iberian-American States (OEI) and the joint Education for All monitoring program carried out with UNICEF and the World Bank. The high visibility of this joint effort attracted additional countries. In 1997, a test in mathematics and language was given in 14 countries, and the results were published a year later (Casassus et al., 1998). A preliminary analysis suggests that less than half of the fourth grade students who took the test were able to understand a simple paragraph.

This problem was addressed in the late 1980s with a move from data to action (Chapman and Mahlck, 1993). Among the factors that paved the way for governments to take a proactive role in the operation of national education testing systems was the fall of the Berlin Wall, the availability of personal computers, the experience from testing systems already in operation in four countries, the need to improve the reading levels of the labor force in a competitive international environment (Pinera and Selowsky, 1981), and the World Declaration on Education for All (Hartwell and Vargas-Baron, 1998). There was a need for children to do more than just attend school. Testing systems could regularly assess strategies and identify the most effective ways to use educational resources.

Current Trends: Testing as a Support System

Despite consistent support from international agencies that have been instrumental in establishing and evaluating national testing in Latin America (Table 10.1), analysis of testing data still tends to be scanty and oversimplified. Efforts to correct this began in the 1990s. With seed funds from the Ford Foundation and the IDB and with the cooperation of the Organization of Iberian-American States (OEI) and USAID, UNESCO has coordinated regional work on testing that is allowing international comparisons of achievement levels (Box 10.3). The interest of countries themselves

is demonstrated by the high level of financing they are providing to this project—80 percent—and by their support of other new developments in testing.

The comparisons have supported many of the findings of the late 1960s (Thorndike, 1973; Keeves, 1988). For example, UNESCO administered a common math and language test in seven countries, including Venezuela, which also participated in the 1989 IEA study on literacy. In the IEA study, Venezuela performed well below the level of the 20 developed countries and some developing countries such as Indonesia (Wolff, 1998: 5). Given that its scores were near the regional average in the UNESCO test (and the country achievement score variance was small), the conclusion was that the region as a whole still lagged far behind the developed world (Schiefelbein, 1995: 9; Elley, 1992; ETS, 1992a-b; IEA, 1997).

The 1991 International Assessment of Educational Progress (IAEP) Test of Mathematics and Science and the Third International Mathematics and Science Study (TIMSS) confirmed the low levels of achievement (Wolff, 1998: 7; Wolff and de Moura Castro, 1999: 10). In the IAEP study, the lowest performing schools in Brazil scored no higher than the chance level, the average yield of correct responses that results from random answers to multiple choice tests (Wolff, Schiefelbein and Valenzuela, 1994: 7). In the TIMSS study, Colombia averaged a score of 385, compared to top countries that performed in the 600s. By contrast, over the same 1968-88 period, Thailand (which ranked close to Chile in the 1970s) had already improved its scores to the point of being quite close to developed countries.

However, even these poor scores probably underestimate the problem of education quality in Latin America. The analysis of data is still too simple and is mainly limited to the percentage of correct answers. It glosses over the probability that any student who knows 20 correct answers out of 100 questions will also get an additional 20 correct answers by chance (in any item with four alternatives) and thus receive a total score of 40 percent (Schiefelbein, 1993: 139; Wolff, Schiefelbein and Valenzuela, 1994: 7). If the TIMSS scores have a ceiling of 800 points, then countries scoring 600 have students knowing 70 percent of the correct answers, while countries scoring 400 have students knowing less than 30 percent of the correct answers.

Despite the slow development of analysis of testing scores, five main uses of testing clearly emerged in Latin America during the 1990s: (i) to improve curricula and pedagogy; (ii) to channel public resources to deprived groups; (iii) to justify extensions of the daily schedule to expand opportunities to learn; (iv) to screen high school graduates into selected university careers; and (v) to evaluate impact and estimate the cost-effectiveness of common education strategies.

Interest in using testing results to improve curricula and pedagogy grew throughout the decade (Sommerset, 1988). In 1996, Chile used testing data to justify increasing the emphasis on communication in building language skills and reducing the teaching of grammar and orthography (Castillo, 1999). Several other countries have turned to test data to identify subjects that students are most likely to fail in order to design suitable learning materials or to retrain teachers (Tulic, 1996). Since a key area selected for improving pedagogy is reading and writing, UNESCO sponsored a 1992 international seminar for highlighting best practices in teaching these subjects (Wolff, Schiefelbein and Valenzuela, 1994: 68).

Chile has employed test data both to identify poorly performing schools and to extend its school schedule. In 1990, test results helped define the lowest 10 percent of schools in terms of average achievement scores (although the poorest rural schools were not included in the testing). A compensatory program was designed to provide these schools with textbooks, classroom libraries, assistants and teacher training. Some 70 percent of the schools raised their average scores from 40 to 50 percent of the correct answers, although questions remain about whether these scores measure relevant learning (Ogawa and Collom, 1999: 3). In 1997, test data was instrumental in convincing the Chilean Congress to approve the resources for expanding the annual school schedule by 40 percent in order to catch up with the quality deficit. This agreement was reached after the country was informed in 1994 that almost 40 percent of fourth grade students were not able to understand what they read. Unfortunately, that figure is still valid (SIMCE, 2000).

Since 1996, university quality has also been evaluated for the first time in the region. The Brazilian Ministry of Education has experimented with testing students in the last semester before graduation. In 1999, the ministry began administering the test to all students in engineering, management, medicine, chemistry, mathematics, law and journalism (de Moura Castro, 1999). The average result for each institution is published in leading newspapers so that universities have an incentive to improve and parents and applicants have relevant data for selecting the right institution (Wolff, 1998: 19).

Finally, countries are beginning to understand the ways that they can benefit from systematic analysis of education experiments and strategies. Testing makes it possible to evaluate impact and cost-effectiveness (Schiefelbein, Swope and Schiefelbein, 1999), and a growing number of assessments in the region have provided the baseline data for indicators that, for the first time, serve as a benchmark for the design of future programs. Given the $2 billion spent each year on projects designed and funded by international development banks, it seems worthwhile to commit resources to gathering evidence that the money is used in an effective way.

In most cases, evaluations have been built into the design of the project, but given that multiple interventions are carried out at the same time, the effects of specific strategies can be difficult to discern. More research will be required, especially given the increased number of national assessments of learning that provide clearly measurable targets. Another challenge will be to design evaluations that offer conclusions adequate for policy design (Schiefelbein, Swope and Schiefelbein, 1999). This issue is similar to what has been observed in the United States (Fashola and Slavin, 1998).

Future Challenges

Practically all Latin American countries now have some form of national testing (Casassus, 1997), with each country testing achievement levels at some part of its education system. There is a fair amount of technical exchange, and the Educational Testing Service (ETS) has played a key advisory role to support this process.

Compared to the United States, a gap remains in terms of technology and analysis of data. For example, there is little knowledge of new evaluation technologies that reduce problems associated with objective tests. Testing data has been only partially analyzed and further analysis (generating only a marginal cost with respect to total funds invested in their gathering) is required. Incentives for systematic analysis should be introduced, and scholars and graduate students working on doctoral theses should have access to data for external analysis. There is also the matter of differences between test experts and managers about how results can be used. While managers often stress action and results, experts are concerned with the possibility of fraud or error, and are often reluctant to use testing to take on sensitive areas such as teacher practices.

Overall, however, testing has proven its value in identifying effective strategies to improve learning. A prime example has been the changes in curricula and teacher training initiatives that have stemmed from the recognition of poor achievement in reading. This and similar findings have provided solid ground upon which a generation of education reforms have been implemented across the region. Obviously, much more must be done. The link between testing and better learning needs to be both more widely understood and more effectively used to inform decisions. Testing alone cannot improve learning, nor can it necessarily make education systems more responsive. But it does better attune societies and governments alike to the possibilities of their schools and education systems. And, if the past is any guide to the future, well-designed and applied assessments can change the course of education reform and the menu inputs used to promote it.

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CHAPTER 11

Is Education by Television Just an Old Technology?

Claudio de Moura Castro

Education by television? If we turn on cable television and surf though the many education channels, what do we see? Grainy images. Blackboards and stiff teachers. Talking heads with no life, no punch. An agonizingly slow pace. It is definitely not an uplifting experience, falling far short of the sophisticated presentation that is possible on television.

There are many examples of what could be called effective education programs. Kentucky Educational Television is a lively classroom linked by TV to other schools that lack teachers in subjects such as foreign languages. Korea has a similar program for high school dropouts. But these are cases of strictly conventional uses of television for education. Those seeking technological innovations will not find them here.

However, it would be premature to write off television as a medium of instruction that can excite, provoke or inspire. While wealthier countries cannot be expected to make much of an effort in this direction, since they already have adequate conventional school systems, poor countries certainly have an incentive. They often cannot afford better conventional schools, and they have an ample supply of people who do not finish either middle or high school (in many cases, less than half the population completes secondary school). It is this group of people who could benefit most from well-produced educational TV. Yet poor countries generally cannot manage the cost of exploring more creative uses of technology.

There are, however, two countries that are sufficiently poor to have plenty of students out of regular schools and sufficiently rich to do something different about it: Mexico and Brazil. Both produce high quality commercial television programming, and are among the largest producers and exporters of soap operas in the world. So it is not surprising that they have made serious breakthroughs in educational television by applying the costs and production approaches of world-class com-

mercial television. Being large nations, they can easily afford the higher price tag, since the programming will reach millions of students each year.

In Mexico, the Telesecundaria program enrolls close to a million students and is expected to grow—even neighboring countries are beginning to use it. Telesecundaria is strictly public, produced by the Ministry of Education and mostly operated in rural schools. The teachers must have higher education diplomas, but most are not career teachers. They undergo a short training course before being put in charge of classes. The responsibility for setting up a Telesecundaria school itself rests with the local community, which has to request the creation of one and provide the physical space. Recent evaluations showed very positive results in terms of higher promotion rates, fewer dropouts and respectable scores on student achievement tests. The costs are not too different from those of regular education—after all, teachers are always the overwhelming cost. But the formula delivers a quality of education that would not be possible with the teachers who can normally be recruited in rural communities.

How does it work? At 8:00 a.m., the parabolic antenna beams a signal to a satellite. Seventh grade students are already seated in a rural Mexican classroom, and the teacher begins the class by turning on the television set. The program focuses on a single subject—today it is the study of the acceleration of objects that fall. Masons drop bricks from a construction site and a stopwatch measures the time it takes them to reach the ground. The program is lively, emulating the style of commercial television. Workers, teachers, students and others come and go on the screen, as a variety of conventional television props and scenes flash across the background. The show is interspersed with video clips from other television programs that illustrate specific concepts or descriptions.

At 8:20, the television is turned off (at the same time that it is turned on in the eighth grade classroom). The teacher tells the students to open their books to the page corresponding to the program they have just seen and start following its instructions. There is a discussion of what was presented on TV, followed by drills and further discussion. The class ends with a review. All of the instruction follows a rhythm and sequence paced by the book. Note that this is not distance education—it is face to face education in a classroom with a teacher. It is not conventional education either, because the teacher has a different role. The television programming replaces the lectures, offering some of the highest quality instruction available.

In Brazil, a program called Telecurso 2000 takes a different approach. It is produced by the Roberto Marinho Foundation, which is part of the Globo Network, the fourth largest television network in the world. Globo is 100 percent private, and so is the funding for Telecurso 2000.

At 6:15 in the morning, Globo broadcasts the program across Brazil. Some households watch as children get dressed and have breakfast. But users often tape the show for use at a later, more convenient time—Telecurso was originally intended primarily for adults who have dropped out of school. Some can expect to catch the show at work. Every day, more than 200,000 employees in factories and offices walk to distance classrooms. They watch tapes purchased by their firms or re-broadcasts on education and cable channels. A teacher's aide is available to hold discussions, troubleshoot and provide support. Classes also take place in many other locations, including labor unions, civic centers, penitentiaries, ships and buses that transport workers to their jobs. At the end of the year, students must pass a public exam for the subjects they took, similar to the Graduate Equivalency Degree exam common in the United States.

In recent years, public schools have discovered Telecurso 2000. The data are not entirely reliable, but they indicate that nearly a million students in regular academic classes are using the show's materials and techniques. Initial evaluations have shown the results of incorporating the program in classes to be much better than the results from routine forms of education. Most of the students come from poor backgrounds, and their educational options are otherwise extremely limited.

Telecurso has three strong and well-defined features. The first is contextualized learning, the idea being to present all subjects and concepts in environments familiar to students. All the scenes take place in common situations: the street, offices, factories, small enterprises, at newspaper stands, etc. The English language class, for example, happens in a travel agency that receives English-speaking tourists and also in the apartment of an American family living in São Paulo that has a Brazilian maid. Unlike the Mexican program, no classrooms, students, teachers or chalkboards appear on the screen.

The second feature is an emphasis on basic skills that are important in life. Instead of saturating the students with a glut of facts, dates and other information, the emphasis is on reading, understanding the written word, writing and using numbers to deal with real-life problems. This goes against the grain of regular schools, which have little time to deal with the basics. They are commonly bound by esoteric and academic curricula designed more for nurturing geniuses than educating average students.

Third, Globo applies the quality standards of the rest of its commercial programming. There are no real teachers or students. All participants are professional actors, some of them known to the students for their roles in soap operas or commercials. The rhythm is fast and the production is slick. Images mimic the styles of

commercial TV. The program shows many interviews on the street that elicit responses to problems proposed in the class. The closest comparison would be to think of the sophistication of the best programs on American cable stations—such as the Discovery Channel or the Learning Channel—targeted to regular school subjects. Education is presented much like pizza or any other product, creating a demand that, similar to soap operas, stirs an interest in tuning in for the next installment.

Essentially, the producers have come up with a program that is fun, fast and entertaining, but also serious education. After all, it has to follow the regular curricula of junior high and high schools. Phone polls have shown that more than 5 million viewers—the majority of the audience for Telecurso broadcasts—watch "because they like educational programs." (Those preparing to take the examination generally view the videos in the special classes at work.)

If an ambassador, a university president and a journalist watch what is supposed to be a high school class —and I've talked to ones who do—then something quite remarkable is going on. It simply proves that when television is done right, it can produce a class that is vastly superior to any live class in the world. No real teacher can match the resources of television or approach its refinement, structure, variety of images and humor. The computer and Internet may be interactive, but they remain poor and primitive media compared to the shine and drama of high quality television.

Television is not a dead or an obsolete medium for education. It is alive and doing a lot of good. But, unfortunately, only in a few places.

CHAPTER 12

Economic Principles in Education Management in Chile

Viola Espínola and
Claudio de Moura Castro

Chile's education reform is generally considered one of Latin America's most interesting cases, not only because of its continuity and consistency, but also because it broke with traditional approaches. The reform involved nothing short of a minor revolution with respect to new management styles and control mechanisms, many of which were inspired by neoclassical economics.

Although Chile's reforms over the past 20 years were carried out under two very different political regimes and a succession of education ministers with different backgrounds, they shared a singular overall objective: to achieve cost-effectiveness, quality and equity. This chapter examines how new management instruments were introduced, and analyzes the decision-making process within the education system during each of the political periods. It tracks how the top-down and authoritarian approach of the 1980s yielded to political cooperation and negotiation—the "art of the possible"—under the elected democracies of the 1990s. Finally, the chapter looks at how Chile started trends in education management that later emerged in other Latin American countries, in some cases clearly influenced by the Chilean experience.

Reform of the Chilean Education System

At the beginning of the 1980s, Chile's education reforms were exclusively connected to an effort to make the education system more efficient. During subsequent stages, the focus shifted to content and processes, addressing issues such as pedagogy, curriculum and evaluation. Despite this difference in emphasis, both periods were strongly influenced by economic thinking in the area of education management. This weak-

ening of the boundaries between economic and education principles—whether directly intended or emerging naturally from the course of the changes that were made—is one of the most significant characteristics of education reform in Chile.

Before entering into a more focused discussion, it merits noting up front the complexity of this reform. Not all details will be captured here, only the milestones. It should also be noted that this was a sequential process, with initial steps concentrating on the institutions and structures responsible for delivering education. These reforms cut deep into the system, laying the foundation upon which subsequent phases were launched.

The First Period: Transferring Economic Concepts to Education

In the 1980s, as the reform movement gained momentum, a close relationship sprang up between the Chilean military, which was then in charge, and the group of free-market economists known as the Chicago school. For their part, the economists thought that they had a market model that could be applied to other arenas besides economics. The military had the authority and means to impose its will on the country. This combination turned Chile into a giant laboratory for neoclassical economics, and education became the first field to be influenced by these ideas.

Traditionally, economists have been concerned with costs, measurable results, the power of economic incentives, markets and efficiency. All of these concerns fall in turn under the paradigm of the rational distribution of scarce resources. When these ideas were collectively introduced to education reform in Chile, they had a revolutionary impact. They invaded a field that was highly polarized by discussions of duty, humanistic idealism, individualistic pedagogical visions and, above all, traditional models of public administration.

The reform began by introducing economically influenced mechanisms, such as subsidies or vouchers for individual students, which gave rise to, among other results, a considerable number of publicly funded private schools. In addition, several technical schools were transferred to employee associations, a solution that was similar to that of Brazil's Serviço Nacional de Aprendizagem Industrial (SENAI—National Service for Industrial Apprenticeship), which is owned by private sector business associations and financed by public resources.

Competition and flexibility get high marks in the economic model; monopoly, market reserves and employee stability are graded poorly. Consequently, the reform eliminated many privileges of the teaching profession. Rather than presenting themselves as one monolithic national and monopolistic union, teachers had to nego-

tiate with each municipality, employer or private supporter. It thus became possible to transfer teachers, and their jobs were no longer secure.

Overall, the goals of the reform during the 1980s were to make the education system more efficient, to be vigilant of costs, to obtain more from the same resources, to eliminate obstacles to market functioning, and to provide information on student achievement as an instrument to mobilize demand. In general, the reform was successful: the system became more manageable and gained in transparency and efficiency.

However, by the end of the decade, the data indicated that no substantive improvements occurred in education quality, which suggests that improving the economics of education does not automatically lead to higher quality. The data also revealed how an unregulated market can easily worsen inequalities. In Chile, the market reforms actually contributed to the further stratification of an already-stratified education system.

Second Period: Using Economic Principles to Achieve Quality and Equity

Given that more efficient management of education failed to lead to improvements in quality and equity, it fell to Chile's new democratic government, first elected in 1989, to take charge of the shortfall. During this new era, the main actors were no longer concerned with the economics of education, but rather with viewing and analyzing education in terms of economic principles. Four of the great ideas introduced during the 1990s were inspired by notions of economic theory: the production function, targeting, cost recovery, and project-by-project competitive financing.

Economists speak a great deal about the production function, which dictates considering how a collection of inputs produces a result. In the context of education, the inputs include teachers, students, buildings and pedagogical materials, and the result is learning achievement. In keeping with economic theory, everything has to be measured. The inputs are gauged according to their costs and their results, which are in turn measured by indicators such as academic performance tests or promotion to the next grade or level. It was for this reason that the use of measurements such as the SIMCE (Sistema de Información y Medición de la Calidad de la Educación—Education Information and Quality Measurement System) began to be taken seriously by decision-makers.

The second new idea was the notion of targeting, a method of optimizing the allocation of scare resources. Under this principle, the same services are not offered to all students. Instead, the most vulnerable students receive more or different services. Concerned about the ineffectiveness of traditional social policies in alle-

viating poverty, the reform used targeting to integrate social and economic concepts and produce a concrete policy designed to reduce the gap between rich and poor. For instance, it was determined that there were insufficient public resources to provide all students with lunch. However, lunch could be provided to poor students, a practice that would enhance their chance of receiving a quality education. Good examples of programs that employed targeting included Program P-900, the PAE (Programa de Alimentación Escolar—School Food Program), and the rural MECE Program (Mejoramiento de la Equidad y la Calidad de la Educación—Program for Improving the Quality and Equity of Education).

The concept of targeting would seem innocuous enough if not for the public and systematic opposition to it by Latin America's well-organized leftist movements. However, in Chile, a highly articulate and flexible left wing was able to adapt the principle to the delivery of social services. The United Nations' Economic Commission for Latin America and the Caribbean (ECLAC), which is located in Santiago, also encouraged the adoption of targeting strategies by providing evidence that the universality of social services generally and ultimately benefits the people who least need such services. An ECLAC study published in 1992 entitled *Educación y conocimiento: Eje de la transformación productiva con equidad (Education and Knowledge: Basic Pillars of Changing Production Patterns with Social Equity*) reached an important political audience and therefore contributed to the acceptance of targeting.

The third economic principle embraced during the 1990s related to cost recovery, mainly through charging tuition fees of students in private subsidized schools who had the means to pay them. From an economic perspective, charging tuition had a positive effect on public finances. From the perspective that an economic policy should stand in the service of education, charging tuition created greater school autonomy and, as a result, improved governance.

The fourth and last new economic concept led Chile to initiate a policy of financing education on the basis of inter-school competition. Once again, economic principles were at the heart of the model: the break-up of centralized service monopolies, the individual expression of demand from each family, and competition between schools as an incentive to improve the "supply" of education.

In addition to these four approaches, the Chilean reforms also integrated economically inspired measures with more strictly education concerns in pursuing higher quality instruction. Good examples included the large-scale distribution of free textbooks, more instructional time (time-on-task) and curriculum reform.

By the end of the 1990s, the implementation of all of these changes had clearly improved the economics of education in Chile. Even by Latin American stan-

dards, Chile spends little on education (3.3 percent of GDP), yet its results are among the best in the region. Nevertheless, Chilean opinion is divided on the question of exactly how much has been achieved. The data on coverage at various levels have revealed progress, and the results of performance tests have shown some improvements. Systemic inequalities persist, however, despite targeted programs, and in general questions remain over which indicators and tools are most appropriate for measuring the success of the reforms (as in other countries in the region, there is concern over the technical reliability of the SIMCE). In general, Chile's experience has proven that the economists do not have all the answers.

Education Becomes an Issue of Public Interest

While the previous section considered the instruments and methods for implementing the most significant reforms, it did not discuss how any of this was possible. This section looks at how the country's social and political sectors were organized successfully to improve the education system.

The two periods of reform with which we are concerned were marked by two completely different policy approaches. The first coincided with the period of military rule and was similar to that of Cuba. It should be noted that in most cases, military regimes or dictatorships have seized and left power in Latin America without ever initiating any education reform, radical or otherwise. There was an abortive attempt in Nicaragua, and the military regimes of Brazil made enormous investments in public universities. But only Cuba and Chile have undertaken truly in-depth reforms. Interestingly, these reforms were instigated by dictatorial regimes from opposite ends of the political spectrum.

In Chile during the 1980s, the curiously close relationship between the neoclassical economists and the military leaders led to breaking the back of a teaching profession that was dominated by the corporate interests of the unions. This totally changed the ground rules, in part by opening the door for resource allocation on a demand-driven basis, which meant abandoning historical budgetary practices. These initial and politically difficult reforms were not reversed during the subsequent democratic period, but instead corrected with the new governments' focus on quality and equity. Under democracy, the Chilean model as we know it today emerged, typified by the continuity of reforms and the democratization of the education policy-making process.

It is worthwhile to examine the continuity of the Chilean model, which is one of its greatest successes. Successive ministers of education built on the achievements

of their predecessors, an approach that became deliberate and systematic beginning in the 1990s.[1] This decision stemmed in large measure from a political evaluation, as well as from a technical evaluation based on research that made it possible to identify the positive and negative aspects of previous reforms. As a result, Chile broke with an ingrained tradition in Latin America, whereby a newly-appointed minister denounces the failings of his or her predecessor and, using this as a justification, starts again from scratch, replacing the technical staff almost in its entirety. In Chile, the technical staff of the Ministry of Education has been very stable, remaining the same with only minor changes since 1990.

A more complex but equally important aspect of the second decade of reform was the democratization of education policy-making. The democratic governments transformed a technocratic process into a participatory one, similar to that which takes place in more mature governments. The bulk of the decision-making shifted to the public arena, where education results became a matter of public concern in such a way that a media debate on the quality of education replaced the historic focus on teacher salaries.

A range of interests had to be managed, and the minister of education was the primary broker in this regard. Ministers assumed the roles of idea-seller and maker of political compromises in order to gain widespread support for new policy initiatives. Politicians had to be convinced, along with church and business leaders and parents. New legislation had to be negotiated, which produced laws that were imperfect and differed from initial proposals. In the end, however, these laws had more legitimacy and gave policies a higher probability of continuity and sustainability.

"Social marketing" also emerged as a basic tool for achieving change, and short-term achievements were used to boost political legitimacy for the initiation of long-term reforms. Consensus became a way to counter those actors who had the ability to block reform. The teachers' unions were the most frequent adversaries, and ministers turned to the media and direct contacts with teachers to bypass stalemates. Throughout this process, students were the clearest winners.

Even while the debate moved into the public arena, Chile managed to avoid the type of perverse politics in which seeking political office is motivated by personal gain. Ministers of education were generally experienced politicians, and the emphasis on continuity ensured that while ministers came and went, the policies remained relatively stable. As a result, the reforms were more solid and lasting.

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[1] See Viola Espínola and Claudio de Moura Castro (eds.), *Economía política de la reforma educacional en Chile*, Inter-American Development Bank, Washington, DC, 1999.

Summing Up the Chilean Reform

In looking back on the Chilean approach to improving education, several innovations become apparent. Chile imported reforms and decision-making criteria from the field of economics. It also introduced management models inspired by ideas related to "quasi-markets," economic incentives, competition, cost recovery and demand-based financing. What makes the case of Chile different than others, however, is not so much what was done as how it was done. By emphasizing continuity and democratic policymaking, Chile contributed an approach to education that represents an exception in Latin America.

These characteristics, no longer innovations per se, have since appeared in most other countries of the region. Talk of education reform—whether from ministries, civil society or economists—routinely takes on technocratic and economic styles reminiscent of the Chilean experience. Far less replicable has been the continuity afforded to the reform in Chile. More often than not, changes in administrations bring changes in the scope and direction of reforms, as can be seen in any number of other efforts in Latin America, including the case of Minas Gerais in Brazil outlined in the next chapter.

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CHAPTER 13

Education Reform in Minas Gerais: Putting all the Pieces Together

Walfrido Silvino dos Mares Guia Neto

In the early 1990s, there was a successful education reform in the Brazilian state of Minas Gerais after several pieces of the political game came together and a number of initiatives were simultaneously enforced. As a state, Minas Gerais is representative of Brazil as a whole—large and heterogeneous, and having a similar socioeconomic profile. It is the second biggest state in terms of population and economic development, with 16 million inhabitants across 756 counties and a gross domestic product of $52 billion ($3,250 per capita). Just over 3 million children and young people attend 6,500 state schools, which are staffed by 230,000 employees, including 140,000 teachers.

Until the education reform began strengthening school autonomy and improving local management and teacher training, the problems affecting basic education in Minas Gerais were the same as those in other Brazilian states. Repetition rates were high—30 to 50 percent in the initial grades—and less than 40 of every 100 students finished the eighth grade. While parents and society at large were beginning to seek more places in the state schools, resources and channels to demand quality were not yet widely available or understood. Politically, any priority related to education rarely went beyond rhetoric, although expenses for the school system were vast. Networks of patronage guided the nomination of most principals and employees, as well as decisions regarding construction and expansion of schools.

With the administrative system completely bureaucratized, schools had little autonomy. The State Department of Education allocated all resources, and schools did not even manage cash expenses. Everything from school meals to books and stationery was the object of ad hoc and frequently unexpected decisions made by the State Secretary of Education and, in some cases, the Federal Ministry of Education. Training activities and the development of school principals and teachers had been abandoned long ago. Any assessment of schooling performance was strongly opposed, above all by teachers.

On the positive side, many issues related to access to schooling had been worked out, although a large number of schools, particularly those in rural areas, functioned without even minimum facilities and equipment. There were efforts to address the major problem of failure in the first grade of elementary school. And despite being poorly prepared, paid and managed by school administrations, a significant proportion of teachers believed in the importance of their mission and supported reform.

In March 1991, reform began in earnest under Governor Hélio Garcia's administration, and continued during Governor Eduardo Azeredo's subsequent term starting in 1995. The objective was to improve teaching quality in primary schools over the long term, an approach warranted by the serious situation of Minas Gerais' schools and limited institutional and financial resources. Five priorities were established based on available data: school autonomy, strengthening school principals, teacher training and career planning, independent evaluation of the education system, and integration of schools with municipalities.

School Autonomy

School autonomy was first on the reform agenda. This was not defined simply as decentralization of decisions to municipalities, for one main reason: the school had to be seen as the community's school, not as the government's school. It was immaterial if the government was the municipal or state branch. People needed to begin feeling that the school belonged to them and that it was in their hands to put the school to work in favor of their children's education. The autonomy program was to involve three basic initiatives related to finances, administration and pedagogy.

Financial autonomy was the first and easiest step forward, since this depended solely on the governor's willingness to decentralize. All money started going directly to the schools, which allowed them to begin using resources according to their needs and priorities. One effect of this shift was the allocation of investments for renovation of schools rather than the construction of new buildings.

The financial reform was implemented rapidly through a mechanism that was simple to operate: the school cash system. This was an institution set up in the school but governed by private bylaws, which gave it greater flexibility and the freedom to use public or other resources obtained in the community. Before the reform, there were absurd cases of over-regulation within the State Department of Education. For example, schools were not allowed to buy even a 20-liter cooking pot because it was classified as permanent material and the budget was for consumables. With the new

measure, schools could now purchase computers, overhead projectors, a telephone or even a school bus.

Local school collegiate councils took responsibility for fund allocation decisions. The councils were made up of 13 people: the principal, six parents or students over 16 years of age, and six representatives of employees and teachers. Each council had a term of one year and was chosen in the beginning of every school year. One of its most important functions was to ensure that financial resources were used in an effective, efficient and honest way. After only five years, the vast majority of schools became reasonably well equipped. And there was no news of scandals, corruption or deviation of funds.

The second step toward autonomy addressed issues of administration, which were much more complex. This was not just a question of reshuffling organizational charts or passing functions of the state to the municipalities. Administrative autonomy involved the serious task of helping schools learn to function independently and to shoulder their own responsibilities.

Under the existing system, administration was completely centralized. Even the rental contract of a public building had to be signed by the state governor. Elected politicians ran personal promotion schemes, with appointing a school principal being one of the most eloquent ways a deputy could show his local influence. No human resources policy existed, and all school employees, including teachers, were managed through 41 regional managers—some of whom were located 300 kilometers away from the school. These regional managers had little knowledge of teacher wages or employee rights.

The reform aimed to change this entire picture, starting by altering legislation to allow schools to organize their administrative actions. The schools then started keeping their own documentation and managing their own personnel. This meant, for example, that a mistake in the teacher payroll could be immediately detected and corrected. It no longer required a four to five month wait, a complex revision process, and the loss of time and energy for the teacher and the principal. In some cases, collegiate councils even developed systems for monitoring and assessing the performance of principals and teachers and could recommend discharging teachers whose performance was considered inadequate.

The third part of the autonomy process addressed pedagogy, a challenging step because it relied on developing a high level of maturity and understanding. Each school began by learning to build its own pedagogic project, which reflected everything the school intended to do to develop autonomy. While the formal model used to present a project was very simple, the process of discussion and elaboration required a long period of building awareness and training. Once the project was complete, the collegiate council approved it and oversaw its implementation.

Pedagogic autonomy also presumes the existence of a curriculum and minimum pedagogic resources, particularly textbooks. The reform established a new curriculum, but didactic books posed a complicated challenge. Policy for these books had been conducted in an erratic way under the control of the federal government. States and schools were simply kept waiting for a book that often did not arrive, and the system fell into disrepute.

In Minas Gerais, the reform considered the availability of books as a point of honor. Teachers undertook efforts to make more conscious and informed choices regarding the books. But a real advance occurred in 1996. During Minister Paulo Renato's term, the Federal Ministry of Education decided to transfer the resources for book acquisition directly to each state. It became possible not only to buy the books at lower prices, but also to increase the participation of teachers in choosing books that were consistent with the school's pedagogic approach.

Strengthening School Principals

The success of the autonomy process was essentially tied to strengthening the authority of the school principal, which was the reform program's second priority. Under the reform, school management had to work with two elements: the school principal and the collegiate council. Previously, the nomination and dismissal of principals followed political criteria, although some also were technically qualified. Autonomy, in contrast, presumed that the school had not only the right but also the duty to manage itself, first and foremost by choosing its manager.

The principal has a key role in the school. A bureaucrat follows orders; a leader in the education community moves the school forward. The reform project sought principals who would be agents of transformation, capable of assuming responsibilities and sharing them with the school community. The first step in this direction involved approval of a new law authorizing a process for the community to choose its principal. Subsequently, a system of competitive selection was created that was overseen by the collegiate council on behalf of the community.

The selection process followed a series of guidelines and presumed the fulfillment of some important requirements. Application was open to teachers who had been serving for over two years. Applicants had to pass a written test that was based on a previously announced bibliography and involved the solution of concrete problems. The bibliography included books and articles covering subjects related to the school's autonomy, administration and leadership. For the first time, applicants for

principal positions had to learn about subjects related to school management and current affairs—topics that some had never read about before.

Candidates achieving results of at least 60 percent could continue in the selection process. Among those approved, the three candidates who achieved the highest rating were given 10 days to present their platform before the collegiate council. The platform spelled out the candidate's vision for the school, including specific projects, and explained his or her beliefs and values. Each platform was first presented in a written document, and then candidates publicly defended their ideas before the council, which could ask questions. At the end, the council voted for its candidate. The winner was appointed for a three-year term.

In tandem with this new selection process, salaries for principals increased to 2,000 reias per month by June 1996. This was a substantial amount compared to the wages paid to other school staff.

Teacher Training and Career Planning

Since the smooth operation of a school depends on teacher performance, the reform program's third priority was personnel training. This took shape in an ambitious program for the training of teachers and the establishment of career planning, which opened the way for provision of appropriate and attractive wages.

The program focused at first on the training of principals, teaching them how to lead their pedagogic project. Practically all of the principals went through this procedure, but the process was continuous because principals were re-elected every three years. Other forms of training involved the few hundred schools that implemented a total quality program, which required the training of all the members of the school community. In 1996, for the first time, selection of textbooks was preceded by the training of all teachers in the state through educational TV.

However, the most ambitious move consisted of retraining all teachers to adopt the new curriculum. This took place in four reference centers—one for each discipline (Portuguese, math, natural sciences and social sciences). The reference centers were supported by 20 regional centers, which organized training programs for each school through a contact person who supervised each teacher. Over 90,000 teachers went through this process between 1996 and 1997.

Changes were also introduced to teacher salaries, which were raised at all career levels based on the figures in 1986, a year when wages were relatively high. However, it was only after the economic stabilization plan of the mid-1990s that infla-

tion stabilized and the real impact of the increase was felt. Subsequently, progressive raises increased salaries by more than 50 percent in relation to inflation. These increases were made possible, to a great extent, by productivity gains that resulted from the elimination of thousands of extra administrative positions in the State Department of Education and the reduction of overstaffing at some schools.

A more complex initiative was the establishment of a new career planning system. Career progress has traditionally been based on two variables: schooling level and service tenure. The reform aimed to shift the focus to merit and performance. Without this emphasis, the best employees become discouraged because their performance was never recognized. Ongoing negotiations took place with the unions, which objected to merit evaluations. The reform process also examined alternative mechanisms to put in place a more effective system, but did not develop a model for implementation.

Independent Evaluation of the Education System

The fourth step of the reform program involved evaluating the education system. As is typically the case in Brazil and Latin America, evaluation of student performance through standardized tests was practically nonexistent. In Minas Gerais, a universal evaluation either of the schools or the education system had never been undertaken. Each school evaluated its own students, who passed or failed. On the last day of the year, the principal would close the school, teachers left for vacations, and months or years later somebody would arrive from the State Department of Education to collect statistics on pass and repeat rates and attendance. This data would most likely serve as the basis for some rare research work by a student in an academic master's course, four or five years later. There was no commitment by the State Department of Education to evaluate or otherwise use the school results. Moreover, a significant portion of teachers and teacher unions strongly opposed the idea of evaluating school performance.

Under the reform program, an evaluation system was developed with the support of the Fundação Carlos Chagas, a private foundation that has been the country's leader in education testing since the early 1960s. Professor Heraldo Marelin Viana, one of the most distinguished experts in the field, was the key player in this process. The State Department of Education also appointed a task force of high level administrators and experts to manage the implementation of the testing program. This group acted as a shield to protect the evaluation effort from outside and inside pressures.

The system included the evaluation of student performance and a description of the schools. Every year, schools evaluated grades four, eight and 11. The objectives were to test all schools, not just a representative sample; to verify what students had learned by the end of the basic school cycle; and to assess their ability level on finishing the fifth grade in Portuguese, math, sciences and general knowledge. The state collected the test results and returned them to the school with statistical analyses of the averages, standard deviation, variance and other performance indicators for each question and each subject. In this way, the school could be compared to itself and to other schools in the county, the area and the state. All state schools participated from the beginning. As of this writing, 90 percent of the schools run by municipalities had voluntarily joined the evaluation system as well. This has fed a massive quantity of data to the State Department of Education, with the large numbers yielding greater objectivity and pointing to concrete solutions for learning and quality problems. Major problems detected in the evaluation have also been given special attention in teacher training.

Integration with Municipalities

The fifth priority of the reform emphasized the integration of state and municipal schools. Until 1995, Brazilian legislation was ambiguous in delegating responsibility for basic education. Historically, under Brazil's federated system, each state has run its own schools, with the federal government in charge only of some technical schools and the federal universities. But municipalities also run school systems, mostly focusing on the primary level. The lack of a clear division of labor has often created controversy and competition. Some high level schools have proclaimed to be better than others—one has texts and the other doesn't; one offers free school meals while the other doesn't.

The education reform program in Minas Gerais started with the assumption that both municipal and state schools form part of the public school system. If they were united, synergy would result and everybody would benefit. In 1993, a simple six-page municipal plan of education was prepared. The document offered data on the network of schools, dropout rates, repeater rates and other basic statistics. It was a way of encouraging municipalities to recognize and reflect on their education realities.

The reform program went on to develop guidelines for a progressive and voluntary municipalization process. It called for municipalities to run the primary

schools and the state to concentrate on secondary schools. As a result of this initiative, the share of municipal schools rapidly increased, covering almost 30 percent of primary school students by 1996. The programs for distribution of textbooks and free school meals were integrated, and resources for meals were sent to municipal administrations (replacing the old system where the state controlled the purchase of food). The municipalities took charge of distribution in both state and municipal schools.

After 1995, the division of responsibilities for schools became much clearer nationwide as well. Constitutional reform emphasized municipal governance of primary schools and gave the states the mandate to operate secondary schools.

Conclusions

From the political-institutional point of view, the reform program in Minas Gerais was possible thanks to the support of two state governors. During the administrations of Hélio Garcia and Eduardo Azeredo, education was the government's number one priority. Both governors lent their political weight to approve difficult legislative changes and to hold back the counter pressures of lobby groups and teacher unions with vested interests in the old system. In spite of the state's economic difficulties, resources for education were increased to 40 percent of the state's public budget in 1996.

Other crucial factors included the stability of the team managing the reform process and continuity at the State Department of Education. Except for half a dozen new staff members brought in at the beginning of each administration, the reform was implemented with in-house personnel, who stuck to the program and offered their experience and skills. The State Department of Education relied on the support of external consultants who collaborated consistently from conception through implementation of the program.

The initiatives taken in Minas Gerais caught the attention of the World Bank from the very beginning. Bank staff, working with officials from the State Department of Education, drew up a loan project entitled Proqualidade. This resulted in a highly successful $300 million loan that provided key technical and financial resources to some of the five priorities of the reform.

It is still too early to evaluate results for a program of this scope. Some indicators suggest that the reform is moving education in Minas Gerais in the right direction. While much remains to be done, school communities are now, more than ever before, conscious of their role and equipped to exercise it. With this shift in perception and capacity, it is clear that the reform has gained an irreversible momentum.

A Postscript

As this book is being readied, a new state administration has taken over in Minas Gerais. Led by the opposition party, it is strongly antagonistic to the political group that undertook the reform. Since the new administration's disdain for past efforts to improve education is clearly detrimental to education in Minas Gerais, this will be an acid test for the reform. If it can withstand the tenure of a hostile new political group, it will show its strength and deep roots.

Two major changes have already been introduced. The first was to disband the group that managed the testing of schools and students. This decision was a regrettable blow to continuity and the efforts of several years. Subsequently, the Secretary of Education was forced to return to testing, for reasons not well known to us. In order to reinstate the tests, the administration contracted the services of INEP, the Ministry of Education agency in charge of educational statistics and achievement testing. So while the original testing group was lost, the idea of testing has survived.

The second change was a reversal in the procedures that were introduced to choose the school principal, with a regrettable return to the older methods.

National statistics on school achievement for the year 2000 show that Minas Gerais has already lost momentum, compared to other states. It has shed points in a few tests, failed to gain in any other, and fallen from first place.

In conclusion, two comments seem to be warranted. The first is that the reform in Minas Gerais so far has not been able to resist the hostility of the new administration toward its achievements. But the second and equally important point is that the drop has not been catastrophic. Minas Gerais has not fallen even close to its low pre-reform rank in education. This suggests that some of the reform's accomplishments are quite resilient and have become an ingrained part of the system.

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PART IV

Lessons from a Diagonal Dialogue: HIP Asia and Latin America

Claudio de Moura Castro
Aimee Verdisco

When dialogue between continents occurs, more often than not it takes place between the north and the south, or the east and the west. In the latter case, the flow generally remains concentrated north of the equator, between the northeast and northwest. Exchanges moving between the northeast and southwest are rare. Yet in presenting the lessons that the education policies of the northeast (particularly high-performing or HIP Asia) hold for the southwest (Latin America), this volume reflects the main issues of what is indeed this type of "diagonal dialogue."

Making Education Work: Latin American Ideas and Asian Results may be based on a seminar held in Okinawa, Japan, but the case studies presented here have been fine-tuned over time to capture the key subject of discussion: the trade-off between innovation and performance. Definition of this innovation-performance continuum, in turn, has provided an analytical framework to assess and draw meaningful insights from the great degree of variation within and between Latin America and Asia. Latin America is the equivalent of a baseline case, falling more or less around the midpoint of most indicators used, while Asia runs the gamut from high to low. Asia's poorest countries, largely concentrated in South Asia, show levels of education and socioeconomic development that are dramatically below the poorest Latin American countries. By contrast, no Latin American country even approaches Japan, South Korea or any other of the HIP Asian countries in any meaningful indicator of income or education. Other countries—such as the Philippines and Thailand—come quite close to

Latin America in terms of their levels of education performance and socioeconomic development.

Building from these generalizations, it becomes clear that the most insightful and interesting comparisons are between Latin America and HIP Asia (defined as Japan, South Korea, Singapore, Hong Kong and Taiwan). It is in the broader gap between the two regions that a number of striking observations emerge. Insofar as less stellar Asian performers face many of the same problems and challenges as Latin America, there is less variation between the policies and programs used from one region to the next in attempting to mitigate problems of access, quality and equity in education. For example, as the case studies on primary education in Bangladesh and the Escuela Nueva in Colombia illustrate, when government bureaucracies in these regions prove to be unresponsive or unable to reach populations in rural areas, alternative delivery mechanisms—such as NGOSs—may be the best, or only, means of moving towards universal coverage.

In contrast, HIP Asia diverges widely from Latin America on almost every level, starting with being way ahead on just about all quantitative indicators of economic performance and quality of life. HIP Asia's education performance is superlative—in enrollment rates, internal efficiency, and quality as measured by international education achievement tests. Most notably, however, the region's performance is higher than would otherwise be predicted by economic and quality of life indicators. HIP Asia lies at the higher end of the world's socioeconomic distribution, for example, as measured by the UNDP's Human Development Index (HDI). But in terms of the indicators drawn from international achievement tests, Japan and South Korea fall on the very top end of the distribution, not just the higher end.

Much the opposite situation occurs in Latin America. Those countries for which international achievement tests in education are available—Colombia, Brazil and Chile—are above the HDI average, with comparatively favorable levels of per capita income. Yet they fall close to the bottom when it comes to education performance. (Notice, however, that few poor countries participate in such tests. Therefore, the bottom refers to those less impoverished countries that actually have participated.) In other words, while HIP Asia does better in education than would be expected from overall levels of development, Latin America does worse.

The question then becomes: why is it that by the same international standards, HIP Asia overperforms in education and Latin America underperforms?

The most important difference between the two may be the ability of the state to implement public policies that produce the expected and desired results. HIP Asia has long believed in centralization. Education in these countries remains effectively

and forcefully managed by ministries of education. Central governments have ample power and wield it to get things done at the local level. Centralization works, above all, because the rules are enforced and because central authority is taken seriously (and not confused with authoritarianism, a permanent bone of contention in Latin America). Financing and personnel rules are uniform, thereby alleviating regional differences in wealth. In sum, HIP Asia has implemented with a vengeance just about all the conventional recipes for good education, making only minor adjustments along the way. And these traditional methods have worked; the numbers leave no doubt.

Latin America has its own long track record of trying to establish traditional systems of education similar to those found in HIP Asia, yet it has failed to get good results. Like HIP Asia, Latin America historically has emphasized central control of education; unlike HIP Asia, it has not ensured adequate and consistent links between central policies and programs and actual classrooms. The discrepancies have become so acute that Latin Americans have begun discussing and proposing decentralization as the only way to escape from the chronic pattern of bad education. A few serious attempts at decentralization have already produced impressive results—witness the cases of Chile, and Minas Gerais in Brazil.

Centralized structures have been weak in Latin America partly because they have done little to address the underlying sources of structural inequalities in the most disparate region in the world; in turn, education systems have even come to be seen as perpetuating these inequalities. Even when the process of allocating public resources is done with the best of intentions, the process is still often compromised and distorted as implementation goes from one bureaucracy to the next, from one desk to the next. Those with resources or power or both are able to twist the direction of the funds in their favor in a cumulative process. At the last lap, where disbursements to operate schools actually take place, original intentions have been transmogrified into plain inequity. As the ugly face of such inequity surfaces, governments and politicians invent endless lists of ad hoc programs to alleviate it and to redistribute resources—with greater or lesser success. HIP Asia takes the opposite approach: countries start with the inequalities and make sure expenditures from regular government budgets are used to mitigate them. This is a practical solution, but, for a number of reasons, Latin America has failed to adopt or to implement it.

Another basic difference also relates to education expenditures. The Latin American press is full of angry complaints about how little is spent on education; the solution is always to throw more money at the problem. However, this solution confronts overcrowded budgets and well-organized stakeholders elsewhere, clamoring for their share. Japan and South Korea teach Latin America some lessons on this sub-

ject. The public sectors of these two countries do not spend more than the world average on education. And what they do spend is not substantially more than what many Latin American countries spend. But since they get superior results, prima facie reasoning suggests that they spend better and more wisely. For one thing, very clearly, they allocate the lion's share to primary education, the declared and real priority for education systems across HIP Asia for a long time. In contrast—and notwithstanding the fact that horrendous problems of illiteracy, low-quality education and premature termination of studies have been with them for centuries—Latin American nations spend disproportionately on higher education.

But while modest public spending on education is the hallmark of South Korea and Japan, family expenditures—that is, private spending on education by families—are astonishingly high, and all the more noteworthy when we consider that most formal education, regardless of level, is public. *Juku* and similar types of private cram courses intended to give children an edge up in class—and, perhaps more importantly, on high-stakes and traumatic entrance exams for the prestigious public universities—have become the norm across Japan and South Korea. These "extracurricular" activities are taken seriously, as reflected by the total amount of resources families spend on them. In South Korea, for example, families spend more money on private tutoring than the public sector spends to operate all schools. Japan is not much different.

This private decision to invest in extra-class preparation brings home one of the most critical dissimilarities between Latin America and the HIP Asian countries: the commitment of families to educate their children at high cost and sacrifice. Regardless of whether religious or cultural considerations are what drive this powerful commitment, the fact of the matter is that Asian families are willing to make extraordinary sacrifices in the name of educating their offspring. Parents not only spend all they can and often forego basic creature comforts, but they also invest a considerable amount of their own time helping their children with their homework and studying for their tests. Similar behavior has also been observed in Asian immigrants—often from poor countries, such as Laos—living in the United States. It is used as a hypothesis to explain why Asian-Americans "overachieve," often significantly so, when compared to other immigrant groups.

Whatever the source of their great emphasis on education—culture, religion or pure rational choice—parents across Asia, particularly HIP Asia, exert enormous pressure on their children to perform well and to work hard. This was witnessed first-hand by Neville Postlewaite, an expert on international testing, who was once asked to visit Singapore to check on some unexpectedly high scores on tests administered by the International Association for the Evaluation of Educational Achievement (IEA).

Among other observations, he reported the extraordinary sight of grandmothers of students standing outside and peering in classroom windows to see whether or not their grandchildren were paying attention.

In Latin America, there has also been great progress recently in terms of the importance families attach to education. When asked what are the most pressing problems in their country, Brazilians (a consummate laggard in this area) put education among the top three or four. However, the high standing of education among their priorities does not seem to have translated into the type of household discipline found in HIP Asia. Education remains something that schools—not parents—take charge of. Parents devoting several hours in the evening to helping their children with homework has yet to become standard fare in Brazilian households. But to be fair, the increased perception of the relevance of education is not without practical consequences at the political level.

Other variations between the two regions relate to pedagogy and curricula, which in HIP Asia are straightforward. Students work hard and long. At the secondary level in Japan, for example, school "days" often extend from sunup to well past sundown, and are jam-packed with regular school, private tutoring, sports and cultural activities. Learning goals and curricula are streamlined, with a sound emphasis on mastery of the basics before moving on to more complicated subjects, and teachers teach accordingly. Latin America, on the other hand, has a marked preference for ambitious and encyclopedic curricula, where esoteric tasks designed more for nurturing geniuses than educating average students crowd out time and instruction dedicated to mastering the basics. Time-on-task remains low.

The more social nature of teaching and learning across HIP Asia also merits note. Compared with their counterparts in Latin America, teachers in HIP countries tend to spend more time discussing how to teach specific subjects among their peers. This approach is then applied in the classroom, as students are encouraged to work in groups.

In so many words, then, the keys to HIP Asia's stellar education performance seem to be straightforward and consistently applied policies from the top that are whole-heartedly endorsed from the bottom. What differences exist seem to emerge on the margins. The state, through fiscal and compensatory policies, creates and maintains a level playing field, and puts a premium on instilling in all children a set of durable and lifelong skills. Families, whether through private investments, monetary and otherwise, do what they can to tip the balance in favor of their children, but education systems themselves do not reinforce basic inequities, as is the case across Latin America.

Latin America has made some progress in improving the implementation

process, and in reducing waste and inefficiency in the delivery of public services. Some of the initiatives giving schools more autonomy and discretion in making decisions are described in this book. Yet, taking these processes further to change how resources are allocated and distributed among various populations and levels of education, particularly to favor basic education, is a tougher act to follow. Challenging the lobbies of higher education and impinging on the budgets of other sectors has been tried, without much success. Attempts at reform also run into cultural considerations that may be even harder to change. Discipline, relentlessly hard work and acceptance of authority are not commodities that can be imported from Asia, packed in the same containers that bring consumer electronics. In Latin America, mistrust of government remains strong. To some extent, the proverbial "*Si hay gobierno, estoy en contra*" (If there is a government, I am against it) continues to haunt even the most democratic Latin American governments.

Given these factors, the balance sheet may appear depressingly grim for Latin America. But there is the other side of the coin. Latin American countries progressively have come to understand that their education systems, as traditionally operated, are not easily fixable. Nor is more of the same likely to lead anywhere; coaxing old, tired and distorted bureaucratic machinery into doing its job has not worked in the past, and it is not likely to work in the future. Added to this is the clear realization that, absent a sound and efficient education system, economic growth will stagnate. In short, Latin Americans are learning that better-educated countries perform better in economic arenas, and have healthier and wealthier populations. Witness the experience of Brazil, a superstar in growth but an underperformer in education. Its low education standards have become in recent years a significant obstacle to its potential for economic development.

Cases like these have forced Latin America to embrace the need for new solutions, new formulae, creative fixes, patches, and bypasses. The region gradually has become a major incubator of education innovation. Experiments, big and small, have started to mushroom in many countries. This book has showcased some of the most noteworthy innovations: techniques for social mobilization, formulae for popular education and literacy, the use of television for mass education, creative applications of testing to troubleshoot educational problems, new management tools borrowed from economics, new models of rural education, and well-rounded education reform packages. And these are only a few of the burgeoning number of experiments being tried.

If necessity is the mother of invention, then the shortcomings of Latin American education have unleashed a flow of innovations that is impressive indeed. It is in this respect that Latin America outshines even the most highly performing HIP

Asian countries. Latin American educators who visit HIP Asia and talk to their peers there are struck with awe by the region's high achievements, but they also note its conservatism and resistance to innovation. These tendencies are perhaps most evident when it comes to bringing computers and other technologies into the classroom. Latin America has seen an upswing in the use of technology to expand access and improve quality—issues that, admittedly, have already been resolved in HIP Asia. But, even in Japan, a country clearly recognized for its technological prowess, computers are just making their way into schools. In this regard, the country is a latecomer. Notably, resistance to change across HIP Asia is not unique to government ministries. Parents, a powerful force in shaping schools, resist curricular innovation out of fear that their children will lose their cutting edge in examinations.

Both HIP countries and Latin America need high-quality education systems that can also adapt quickly to new demands. In fact, economies and societies are changing at ever-faster speeds. No system of education—even the best performing ones—can remain idle. With flexibility, creativity and commitment, all systems must respond to the needs of the future.

EDUCATION AND CULTURE

While Latin America and Asia remain worlds apart in terms of education policy and results, both must strike a balance between educational performance and innovation that can be adapted quickly and creatively to the demands of the global economy.

Making Education Work compares the superlative educational performance of Asia's conventional systems—as measured in enrollment rates, internal efficiency and achievement tests—with Latin America, where poor quality, illiteracy and high dropout and repeater rates persist, despite disproportionately higher spending on education.

Asia's enviable achievements, however, have offered little incentive to reform education systems based more on rote learning than on developing creative and critical thinking. In contrast, Latin America's shortcomings have unleashed an array of educational innovations showcased in this book, including social mobilization techniques, approaches to popular education and literacy, the use of television for mass education, creative testing applications, management tools borrowed from economics, and new models of rural education.

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