ONE

Quality, access, and relevance in basic education

Ang pag-aral ay gintong tunay,
Bagay na dapat pagsikapan.
Karunungan ay kailangan lang.
Dunong *ay gamot sa*
kamangmangan...

— Florante de Leon's
Abakada

TO EXTOL the virtues of education among Filipinos seems superfluous, almost like preaching to the already converted. The highly-educated person (*may-pinag-aralan* or *nakatapos*) is a national icon that seems to require no extra veneration. Underscoring this pious concern for learning, the Constitution ordains that the largest share of any government budget should be devoted to education. The country prides itself in its high reported rate of adult basic literacy, 94.6 percent, a figure that exceeds even that of Singapore, Hong Kong, or Malaysia. Combined enrollment — the percentage of the school-age population enrolled in grade school, high school, or collegiate levels — is even more striking. On this score, the Philippines with an enrollment rate of 82 percent outperforms such richer countries as Thailand, Malaysia, Singapore, Hong Kong, and Chile (Table 1.1) not to mention even Switzerland or Italy.

An obvious puzzle is how and why a number of countries that are richer or more developed than the Philippines can have about the same or even inferior levels of educational achievement. The embarrassing question has already been asked [de Dios 1995]: "If we're so smart, why aren't we rich?" (Or, for that matter, more developed?) But the discrepancy between education and development levels is not the only puzzle in Philippine education. Tough questions must be asked about Philippine education itself. Consider the following:

- the Philippines ranked second from the bottom internationally in mathematics examinations and third from the bottom in science examinations conducted in 1996;
- of every 100 pupils who enroll in Grade 1 in public schools, 33 drop out of school before reaching Grade 6; about the same proportion of public high school students drop out before reaching Year 4;
- tests show there is barely any additional knowledge gained by pupils between Grade 5 and Grade 6.

For all the country's vaunted achievements in education, therefore, something is very clearly wrong. Many countries have lower educational achievements than the Philippines but are richer or have higher levels of human development. This strongly suggests two things: first, the Philippines may be doing a poor job in education, so that its academic credentials may actually be bloated. Second, however, it also suggests that the real foundation for development may possibly not lie primarily in society reaching out for increasingly *higher* and sophisticated education.

TABLE 1.1
Education, Income, and Human Development (selected countries)

	Adult literacy (percent, 1997)	Combined 1st, 2nd, and 3rd level gross enrollment (percent, 1997)	Real GDP per capita (PPP$ 1997)	Education index (1997)	Human development index (1997)
Philippines[a]	94.6	82	3,520	0.90	0.740
Thailand[a]	94.7	59	6,690	0.83	0.753
Malaysia[a]	85.7	65	8,140	0.79	0.768
Singapore[b]	91.4	73	28,460	0.85	0.888
Hong Kong[b]	92.4	65	24,350	0.83	0.880
Korea, Republic of[b]	97.2	90	13,590	0.95	0.852
Chile[b]	95.2	77	12,730	0.89	0.844
Mexico[b]	90.1	70	8,370	0.83	0.786
Argentina[b]	96.5	79	10,300	0.91	0.827

[a] countries with medium human development; [b] countries with high human development

Source: UNDP [1999] *Human Development Report*

From this viewpoint, even the widespread awe for the *may-pinag-aralan* must be viewed with suspicion. Wittingly or not, the juxtaposition of *high-school lang*, with the *nakatapos* implies a toleration of mediocrity in the former. It encourages an individualist and elitist attitude that is insensitive to the conditions of mass education. The subtext reads: it is all right for high school or grade four achievers to be inept and deficient — as long as *one's own child* goes on to college and is saved from the insipidness reserved for the rest of the population. The point that is lost is that under ideal conditions, being educated for ten years *can and should* be very good enough, indeed.

This point is significant, especially at a time when globalization seems to place governments under extreme pressure to produce highly-specialised and technical personnel in a very short period of time. But, as in sports, a steady stream of champions (as opposed to flukes) cannot be produced in hothouses — even the stunning success of Efren (*Bata*) Reyes was based on a virtual national nursery represented by the nationwide network of neighborhood pool halls. In the same way, highly skilled and expert scientific national innovation system cannot be sustained without a sound basis in basic education, that is, education from pre-school to high school.

Reaffirming basic education

Quite apart from possibly producing national Einsteins, there is a more important reason for reaffirming basic education. *It is a fundamental right as well as an indispensable requirement for a person's well-being.*

Nobel Prize-winning economist Amartya Sen describes well-being as the capacity *to do* and *to be*, that is, possessing capabilities as well as the freedom and opportunitiy to use these capabilities. No less than inadequate income, however, insufficient or poor education also deprives a person of the means of doing and becoming.

That minimum to which every person has a right is *functional literacy*, which educators in the Philippines define as the ability not only to read words ordinarily used in daily life but *to understand the message in simple paragraphs and perform simple numerical calculations of useful nature*. Other writers make a higher demand for *fluency in core subjects*, meaning the ability to integrate and decode what has been read and to identify and find the meaning of new words [Verspoor and Lockheed 1991]. Functional literacy entails the recognition of 1,000 words or so; fluency requires the recognition of 3,000 familiar words and derivatives.

People need at least functional literacy to participate fully in their social environment. Functional literacy opens up the world of words and numbers and hones a person's ability to

access and decode what that world offers. It introduces people to the vast knowledge contained in books and media, covering technologies and markets for goods, services, labor, education/training, assets, and entertainment, as well as social and political events. By contrast, the unfortunate who is unable to fill out forms, read signs, or to calculate the proper costs and returns for the goods she sells is almost certain to be victimized and exploited.

Functional literacy is attained within the first three to four years of primary schooling, where pupils also socialize, acquire self-discipline, and learn acceptable social behavior. Fluency is attained upon the completion of primary school (6-7 years). Most education throughout the world adopts a ladder system, where the completion of a grade qualifies one to enroll in the next grade level. Primary school is the indispensable step to higher levels of education. With few exceptions, the failure to complete primary education denies a person the opportunity for further education and all that implies. It is in this sense that deprivation may also be measured in terms of education.

Poverty in education

Poverty in education is the *failure to gain an elementary education* (Grades 1-6). The education-poor would include all people of working age who did not complete Grade 6, as well as all those who reached Grade 6 but failed the standard elementary examination. On this measure, the education-poor were estimated as constituting between 28 and 34 percent of the population [Tan 1999].

The benefits of a basic education are enjoyed not only by the persons receiving it but by the rest of the community. A minimum of education is required if people are to vote wisely, to observe the law, to understand major political and social events, and to possess a sense of nationhood and community. It is difficult to imagine how societies — especially democratic societies — could function effectively otherwise. This is why basic education is said to cause large "positive externalities".

The economic benefits to the community of a basic education are no less important. By enhancing people's ability to make decisions and by widening their opportunities, basic education improves the way markets function and hence resource allocation in the entire economy. The labor market is a good example. People with good basic education have wider access to information about careers, schools, and job openings. Even after they leave school — and without going to college — they benefit more from on-the-job training and adapt better to changing tasks at work, to changing jobs, or spells of unemployment. If need be, they are also in a better position to obtain higher education. Over the entire economy, production waste and disruption are reduced if the workers employed are better educated and therefore able to follow instructions more accurately and settle disputes more amicably. All these effects are reflected in basic education's contribution to economic growth.

Most of all, basic education pulls people out of poverty. This is most evident once poverty is regarded as an intergenerational problem. Many families are trapped in poverty because parents are unable to improve on their current livelihood. Lacking education, poor in health, and without savings, the older members are often too profoundly caught in the rut of securing their daily subsistence to even have the time to look for new opportunities, learn new technologies or skills, or move physically to more promising locations. In practice, the best hope of such "core-poor" families is for the children at least to acquire an education sufficient to qualify them in the future for better-paying occupations than that of their parents. This opportunity would not exist, of course, without publicly provided education. Without this outlet, poverty becomes perpetuated through generations, a vicious circle suggested in Table 1.2 below, which shows that children who drop out tend to be those from poorly educated parents themselves. Some 29 percent of fathers and 28 percent of mothers of drop-outs never completed grade school, while 62 percent of fathers and 63 percent of moth-

ers never finished high school. Conversely, a study of poverty in regions of the Philippines finds that the rate of poverty incidence falls by 3 percent for every one percent improvement in functional literacy [Balisacan 1999].

Size — all that matters?

One dimension of basic education, however, has dominated thinking about the problem of pedagogy to the exclusion of all other policy concerns: its sheer size. Public elementary enrollment has grown more or less steadily since the post-World War II period, increasing relentlessly from 2.2 million in 1944/45 to 12.5 million by 1998/99, or an average increase of 3.21 percent annually over the past 54 years (Figure 1.1). High school enrollment has grown even faster, beginning from only 162,028 pupils in 1945/46 to the current 5 million, or an even faster annual growth rate of 6.4 percent (Table 1.3). A major factor for this rapid growth must be ultimately traced to the country's high growth rate of population, among the highest in the region. One consequence is that enrollment in basic education has grown faster than population.

The number of elementary and high schools, as well as the number of teachers for these schools have increased to meet the growing enrollment (Figure 1.2). From some 13,500 elementary schools in 1945-46, these increased to 38,600 by 1997/98. High schools increased from 448 to 6,590 over the same period. The government, the dominant provider in basic education, now operates 92 percent of all elementary schools and almost 60 percent of all high schools.

From one viewpoint the Philippines appears not to have done badly. Ninety-five percent of children who *should be* in elementary school are actually enrolled. The participation rate for high school meanwhile is 64 percent. These figures for 1997/98 are significant improvements over levels of 1990/91 (Figure 1.3). The country therefore at first glance appears to have at least coped with growth of enrollment, which has swelled at more than 2 percent annually for elementary, and more than 3 percent for high school since 1981, together growing faster than population.

As sheer size and the concern for universal provision have come to dominate all other priorities, however, quality has been sacrificed. Overwhelmed by the prospect of an annual tide of enrollment, successive administrators and policy-makers have responded to the pressing demand of universal education by cutting corners, ultimately eroding quality.

TABLE 1.2
Educational Attainment of Drop-out Children and Their Parents*
(1997, in percent)

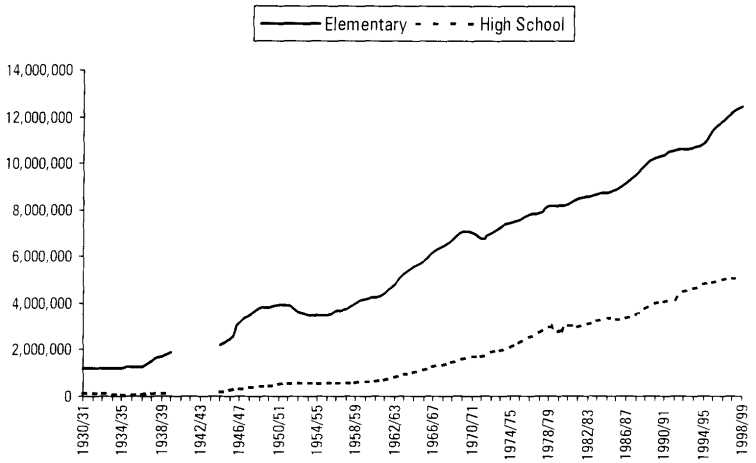
Grade level completed	Children	Fathers	Mothers
No schooling		3.8	4.4
GS 1-2	9.0	9.7	7.3
GS 3-5	17.0	15.2	16.4
GS 6-7	33.0	21.7	21.9
HS 1-3	38.0	11.4	13.4
HS Graduate		15.2	15.4
College 1-3		6.7	6.1
College Graduate		10.6	8.7
Postgraduate		2.7	2.6
Multiple responses	1.0	3.0	3.8
No response	1.0		
Total	100.0	100.0	100.0

*Based on responses of 84,864 PEPT examinees nationwide

Source: DECS-PEPT Report 1997 (Tables 2.8 and 2.9)

This began as early as the end of the Second World War, when it was decided to dispense with the seventh year in grade school (Box 1). School hours have also been allowed to shorten below international standards. Rather than combating mediocrity, the school system's own measures accommodate mediocrity. The "innovation" of "automatic promotion was adopted, pushing pupils on to the next level regardless of performance, in a mockery of stan-

FIGURE 1.1
Annual Elementary and High School Enrollment
1930/31 to 1998/99, in thousands



Source of basic data: *Philippine Statistical Yearbook*, various issues

TABLE 1.3
Annual Growth Rates of Elementary and High School Enrollment*
(1944/45-1998/99, in percent)

Period	Elementary	High school
1944/45 -1954/55	4.46	12.33
1954/55-1964/65	4.82	6.05
1964/65-1974/75	2.90	7.29
1974/75-1984/85	1.65	4.53
1984/85-1994/95	2.16	3.62
1994/95-1998/99	3.42	1.65
1944/45-1999/98	3.20	6.39

*exponential growth rates of levels at the beginning and end periods
Source of basic data: *Philippine Statistical Yearbook*, various issues

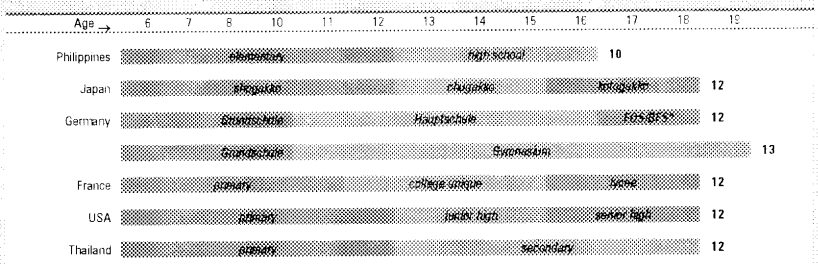
BOX 1

Quality time?

Publicly provided basic education in the Philippines catches attention for its remarkably brief duration — a mere ten years, as against the usual 12 years in most developed and developing countries. Elementary school lasts six years, followed by four years of secondary education. What is immediately noted is that this sequence is shorter by about two years than primary and secondary education in most advanced economies. The presence of a seventh grade gives graduates of private elementary schools a slight edge, but even this is notably less than the international norm. At the other extreme, the college-track in Germany is a full three years longer.

BOX TABLE 1

Years of pre-university education in selected countries



*Fachoberschule/Berufsfachschule

Interestingly enough, the elimination of Grade 7 in the public school system was supposed to be no more than a *provisional* measure immediately after the Second World War, a concession to limited funds at the time. However, even as private schools ultimately restored Grade 7, the public school system made permanent what was supposed to be transitional.

The already brief period of teacher-student contact owing to fewer years is aggravated by the shorter school calendar and fewer contact hours per day. Public grade schools in heavily populated areas may cater to as many as three continuous shifts of pupils daily, 6.00-10.00 a.m.; 10.00 a.m.-2.00 p.m., and 2.00-6.00 p.m. The situation is made worse by days lost to holidays, floods, and bad weather. For some inexplicable reason, the start of the school calendar (June-March) has been timed to coincide precisely with the storm season. Finally, in many areas there is the problem of teacher absenteeism.

Why not simply reinstitute Grade 7 in public schools to remedy the situation? Or add a fifth year to high school, as a current bill proposes? Things are no longer as simple. Problems of quality have in the meantime become so ingrained in the system that merely lengthening the period will not suffice. An extension of contact with mediocrity would probably merely aggravate it. Also disturbing are findings that, even with the present system, little additional learning occurs between Grade 5 and Grade 6. In the face of budget constraints, the government is better advised simply to use the funds to improve the current system across all levels. ◗

FIGURE 1.2
Number of Basic Education Institutions

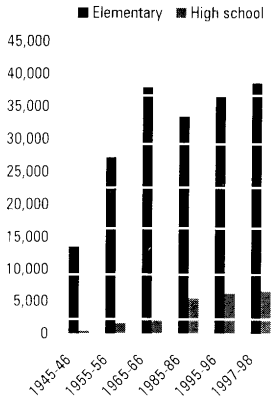
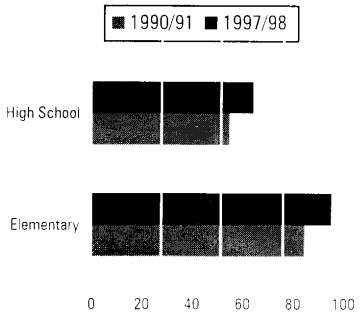


FIGURE 1.3
Participation Rates in All Elementary and Secondary Schools



Source: Maglen and Manasan [1999]

dards that makes failure an impossibility by definition. Hence, for example, the authorities blithely regard 36 percent as a passing mark in the National Elementary Achievement Test (NEAT), rather than the conventional 50 percent (not to mention the ingrained *pasang-awa*, 75 percent). More recently, calls in the same vein have been made in the form of suggestions to reduce school days to thrice in the week to accommodate large enrollment in limited infrastructure. The cost of these "quick and dirty" solutions is predictable — the erosion of quality and standards.

The quality deficit

The incontrovertible evidence of the unsatisfactory quality of basic education is found whenever standard tests are applied to measure pupils' achievements.

The Third International Mathematics and Science Test (IMST3) was administered in 1995 to 13-year old children in different countries. Table 1.4 compares the average scores in math and science obtained by the countries that joined. It is obvious that performances differ widely, with a range of 622 to 351 for grades in math and 576 to 322 for science. It was the tiger economies of Asia — Singapore, South Korea, Japan, and Hongkong — that topped the test. Also in the top ten were three small Western European countries (Flemish Belgium, the Netherlands, and Austria) and three Eastern European countries (Czech Republic, Bulgaria, and the Slovak Republic). The major industrial countries, such the US, UK, France, and Germany were near the median grade. Thailand was also on the median rung and ranked just above the US.

The Philippines ranked 39th — fourth from the bottom and above Kuwait, Colombo, and South Africa. Filipino students in both lower and higher secondary school obtained only 31 percent of the correct answers in the math portion. [See Box 2 for responses to sample questions.] The Philippine math average is only 78 percent of the world average and 42 percent of the score obtained by Singaporean pupils. In science, the scores of Filipino children in lower and upper secondary school were below the international median by 77 percent and 80 percent.

Nor is the quality problem evident only in international tests. Even the country's own tests reveal the problem. The National Elementary Achievement Test (NEAT) and the National Sec-

BOX 2

Would you do any better?

The following are some mathematics questions culled from the Third International Mathematics and Science Test (IMST3), together with an analysis of how Filipino pupils scored. The test was given to 13-year olds from 43 voluntarily participating countries. The questions give a flavor of the applied nature of the tests (e.g., estimation), which place many of the questions beyond those accustomed to sheer learning by rote.

Question 1: Proportionality

The Cruz family uses about 6000 liters of water per week. Approximately how many liters of water do they use per year?

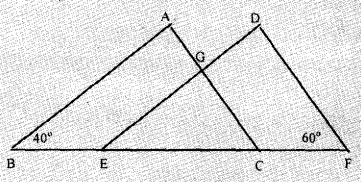
a. 30,000 b. 240,000 c. 300,000 d. 2,400,000 e. 3,000,000

The item aims to assess whether or not the student could approximate 50 x 6000 (= 300,000). Only 28.1 percent of the students correctly answered this question. The most frequent wrong answer was 2,400,000, which was chosen by 23 percent, followed by 3,000,000. Relatively lower percentages chose A or B. It is possible the students just guessed.

Question 2: Geometry ability

In the Figure below, triangles ABC and DEF are congruent, with BC = EF. What is the measure of angle EGC?

a. 20° b. 40° c. 60° d. 80° e. 100°



This item entails knowledge of angles formed by parallel lines as well as the sum of the measures of the angles of a triangle (= 180°). The student should also be able to visually separate triangles ABC and DEF from the figure where the two partly overlap. Only 20 percent got the correct answer. This percentage is not different from what could be theoretically expected from random guessing.

Question 3. Recognition and estimation of fractional parts

In the figure below, how many more small squares need to be shaded so that 4/5 of the small squares are shaded?

a. 5 b. 4 c. 3 d. 2 e. 1

Only 20 percent of the Grade Six and also of the First Year students correctly answered 5. The most frequently chosen (37 percent) was the wrong answer "3", which means the question was interpreted as asking for how many small squares are shaded. The answer "1" was chosen by 25 percent, who possibly just wanted to complete the 3 shaded squares and make them 4. This misconception is related to the wrong choice of 4 (picked by 6 percent). Those who chose 4 or 1 conceived of the numerator as the number of equal parts taken from a whole, ignoring the fact that the whole figure is divided into 10, not 6, equal parts.

The distribution of responses means that only one in every five 13-year olds understood the question and the concept of fractions, in this case the fraction 4/5. ◗ *Source: Ibe, M. [1998].*

ondary Achievement Test (NSAT) have been administered nationwide since 1994 and are meant to measure the objective competencies of the curricula for grade schools and high schools. Performance in the NEAT and NSAT has been generally poor, with pupils giving correct answers to less than 50 percent of the questions. Science and English have been particularly problematic. While there has been an upward trend in the mean score, long-time researchers believe this trend reflects of laxer standards in the examinations rather than an improvement in performance [See Box 3].

The quality deficit is evident in the glaring differences in performance between public and private schools. Performance after all has not been uniformly poor. A certain hierarchy is evident, where private schools run by religious generally perform better than private non-religious schools, while the latter perform better than public schools. A few private sectarian schools are of a quality comparable to the best in the world. Some of their teachers have in fact been recruited by Canadian and US schools. The only exception to the rule about public schools are the special science high schools, which national and city governments have established in an attempt to improve mathematics and science education. Enrollment is limited and highly selective, and budgets are more generously endowed than the typical schools run by DECS. It should be no wonder pupils of these schools performed way above average. But the problem of basic education is not really about developing an elite that can be showcased: it is about improving the lives of the many who, for better or worse, are relegated to the public school system.

On the aggregate, the test scores of public elementary schools are 27 percent lower on average than those of their private counterparts (Figure 1.4). Public high school test scores, on the other hand, are 20 percent lower than those of private high schools. In making these comparisons, however, it should be observed that private school scores are not particularly high either, suggesting that the problem of quality is pervasive. But performing poorly relative to

TABLE 1.4
Average Grade in the Third International Mathematics and Science Test

Country	Mathematics	Sciences	Current spending (PPP) per pupil 1995
Singapore	622	576	1,583
S. Korea	592	550	1,865
Japan	588	551	3,729
Hong Kong	576	508	1,377
Belgium (Flemish)	592	540	2,135
Czech Republic	544	554	466
Netherlands	529	539	2,783
Slovakia	528	527	1,510
Bulgaria	527	545	1,289
Switzerland	526	503	5,474
Austria	524	539	3,625
Israel	522	524	1,670
Slovenia	520	545	2,331
Hungary	520	536	1,563
Russian Federation	518	511	-
Belgium (French)	517	457	2,755
France	515	475	2,541
Australia	514	525	3,534
Ireland	514	517	2,639
Canada	511	515	5,698
Thailand	509	509	852
Sweden	498	512	5,017
Germany	497	515	2,241
United Kingdom (Engl.)	491	532	3,088
New Zealand	490	503	2,417
United States	488	521	3,510
Denmark	484	459	6,375
Norway	482	505	5,158
Scotland	481	493	
Latvia	478	460	-
Iceland	473	478	4,634
Romania	468	469	753
Spain	468	497	1,923
Greece	462	473	1,280
Cyprus	460	442	-
Lithuania	453	440	961
Portugal	439	454	2,281
Iran	415	453	384
Philippines	393	389	138
Kuwait	392	430	-
Colombia	377	399	572
S. Africa	351	322	867

BOX 3

A new math: 37.5 = 75

The release in 1996 of the results of the Third International Mathematics and Science Study (1995) shocked Filipino educators because among 41 countries, the Philippines ranked second and third from the bottom in the Mathematics and Science tests administered internationally. The percent scores of the Filipino sample of 13-year olds in the specific areas covered by the mathematics and science tests are as follows:

BOX 3 TABLE 1

Mathematics	Mean percent correct answers
Fraction and number sense	36
Geometry	30
Algebra	28
Data representation and analysis of problems	36
Measurement	20
Proportionality	25
Overall	31

BOX 3 TABLE 2

Science	Mean percent correct answers
Earth science	39
Life science	38
Physics	37
Chemistry	29
Environmental issues	38
Overall	38

These statistics should not have shocked us, since national assessments show essentially similar results as the TIMSS statistics, although without the additional information on how Filipino pupils compare with those of other countries. The National Elementary Achievement Test (NEAT) and the National Secondary Achievement Test (NSAT) show essentially the same achievement levels from our pupils in sixth grade. The 13-year olds tested in the TIMSS included both Grade 6 and First Year high school students from 196 elementary schools and 198 high schools in the Philippines.

The national mean percent scores in the NEAT by school subject from 1993 to 1998 are shown below:

BOX 3 TABLE 3

Subject	1993	1994	1995	1996	1997	1998
English	39.0	41.8	44.1	44.3	49.1	46.4
Science	40.4	46.1	50.6	47.7	52.7	49.9
Mathematics	41.4	41.1	45.1	49.1	51.8	52.5
Hekasi*	46.2	45.7	48.1	43.5	49.6	51.6
Aggregate	41.8	43.6	46.4	46.2	50.8	50.1

The aggregate scores in the four subtests of the NEAT show an apparent increase in the mean percent score each year from 1993 to 1997 and a decrease in 1998. It cannot be firmly concluded, however, that pupils' abilities were improving, since the tests were not established as parallel or equivalent over the years. The improvements in mean scores were possibly due to the diminishing level of difficulty of the test after 1993.

Regardless of the test instrument used, however, the national mean scores were below 50 percent prior to 1997. Over the period 1993-1997, scores were consistently below 50 percent in English and Hekasi. In Math the mean score in 1997 was slightly higher than 50 percent but not in the previous years. In Science, the 50 percent criterion for the national mean was met in 1995 and 1997.

Mean scores below 50 percent mean were not unusual, they were typical.

Yet, why has there been no public outcry over the low scores?

Simply because it was the percentage of pupils "passed" that was reported, not the percent scores. Also, what appeared in the individual feedback on how a pupil performed in the NEAT was not the percent score but the number of items correctly answered *plus* 60 points.

In short, to make the passing score of 75 in the NEAT, a pupil has to correctly answer only 15 of the 40 items in each of the 40-item tests, or 60 items out of 160. This means the criterion passing score is not 50 percent but 37.5 percent!

The cut-off score used in the National Secondary Achievement Test for high school students is analogous to the cut-off score used for the NEAT. The cut off score in the 250-item NSAT is 93.75, which is only 37.5 percent. This is transmuted to 75, the passing mark.

With regional and national mean percent scores of at least 45 percent, naturally the percentages of those who pass are in the 90s. The message conveyed and received is that we are doing well educationally to have such high percentages passing the test.

Whom are we kidding?

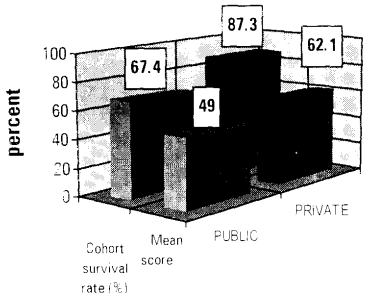
an already poor standard makes the performance of public schools appear that much more dismal.

Among private schools, of course, there are also distinctions. Particularly significant is the distinction between sectarian and nonsectarian private schools. A study restricted to Metro Manila schools [Cunanan and Po 1999] found average scores in the 1996 NEAT of 100 out of 160 items for private-sectarian schools, 96 for private nonsectarian, and 73 for public schools. NSAT scores were 159, 140, and 110 out of 250 items in the same order. In the same study, some 83 percent of public elementary schools had average scores indicating that their pupils gave wrong answers to 50 percent or more of the questions. Only 6.8 percent of private-sectarian schools and 9.9 percent of private nonsectarian schools had scores that low. In the NSAT, 91.7 percent of the public schools had scores of 125 (50 percent of 250 items) or less, as compared 26.2 percent for private-sectarian and 29.0 percent for private-nonsectarian schools. If 50 percent is used as the conventional passing score, only 16.7 percent of public elementary pupils passed the NEAT and only 8.3 percent percent passed in the NSAT in Metro Manila.

The quality gap between public and private education also stares one in the face if one compares cohort-survival rates, that is, the proportion of pupils entering elementary or secondary school who complete the final grade or year in the prescribed period. Among private elementary schools in 1997-98, fully 87 percent of those who had enrolled in Grade 1 completed elementary school without being delayed nor dropping out. By contrast, only 67 percent of enrollees in public school managed to complete the grades on time. About 80 percent of first-year enrollees in private high schools graduate in the required time; in public high schools by contrast, only 67 percent manage to do so.

Even as the quality differences between public and private education are marked, it is important to understand that there is also a close *complementarity* between the two. Public schools represent the quality benchmark or "default"-level relative against which private schools represent a premium. The market share and commercial viability of private schools therefore depend not on the absolute quality they provide, but on the size of the gap between them and the public schools. The higher fees charged by private schools are justified by the market only by the quality gap. Clearly, if public schools were in every respect as good as private schools, most of the latter would probably fold up. Meanwhile, the share of private schools would increase if the quality of public education were to deteriorate; some evidence of this

FIGURE 1.4
Private and Public Differences



1998/99 cohort survival rates,
1997/98 NEAT and NSAT mean score
Source: Maglen and Manasan [1999]

is found in the growing share of enrollment in private elementary schools.[1] Conversely, if quality in public schools is low, then private schools themselves do not have to exert higher efforts to retain or expand their market share, since their mediocrity in absolute terms can be disguised by the greater relative mediocrity of the public sector. The dangerous consequence of poor public education is a symbiotic downward spiral for both private and public education, which leads to the mediocre performance of the country as a whole.

Geography questions

Aside from the low overall level of the NEAT and NSAT scores themselves, a degree of geographical unevenness is also evident. Offhand, one would expect that for several reasons, more affluent and economically developed regions would tend to perform better in achievement tests. The interpretation of these geographical differences in performance, however, has become more difficult owing to changes in the test, its mode of implementation, and adaptive behavior on the part of schools, which have all probably affected the test's reliability as an indicator of geographical differences.

In 1997 only eight of sixteen regions obtained scores higher than 50 percent, namely Eastern Visayas, Cagayan Valley, Western Mindanao, Bicol, Metro Manila, Cordillera, ARMM, and Southern Tagalog. In the 1998 edition of the test, there was a surprising turnaround: ten of fifteen regions suddenly had scores of 50 percent or better. Another notable feature of recent NEAT results has been the high scores of some regions which their low development status suggests would understandably have performed much worse. In the 1998 NEAT, however, Eastern Visayas, Western Mindanao, and Bicol trounced Metro Manila and such regions as Southern Tagalog and Central Luzon.

It would be heartening and certainly tempting to see in this a hopeful sign that even lagging regions might perform well in at least some aspects of human development. Statistical realities and what is known about the tests, however, would urge a measure of caution in this interpretation.

First, large swings in performance of regions are to be noted. The improvements in performance are surprising, considering that as recently as 1993, Eastern Visayas was 14th, Western Mindanao was 10th, while Bicol was last in the NEAT rankings. The upward change in the scores appears to indicate the effects of an intervention. It is also possible that sample students in the region may have been given a review. If a worthwhile intervention or treatment is what explains the increase in the sample's performance after 1994, then the intervention bears close studying so that it might be replicated in other regions and schools.

Second, since 1996, the NEAT and NSAT exams have no longer been administered universally but only to a pre-selected sample of schools representing about 40 percent of the total cohort. Apart from the possibility that some of the selected schools can and have conducted reviews (at times perversely crowding out new material), there is a question whether the sample is indeed representative or is a case of school divisions putting their best foot forward.

Third, it is difficult to isolate true gains in achievement when the tests are not standard-

ized across the years. Well-respected educationists such as Ibe [1999] point out that "fluctuations in the mean scores indicate the possible influence of differences in the difficulty of tests in consecutive years. From all indications, the Science test in 1997 was easier than tests in the other years." Indeed, the apparent improvement in overall scores in the NSAT is belied by worsening performance in tests that *are* standardized, such as that administered by the DOST's Science Education Institute to potential recipients of science scholarships.

Finally, of course, one cannot totally discount the distasteful possibility of occasional leakages and cheating.

All these sources of shortcomings amount to a stricture against reading too much into the NEAT and NSAT performance of particular schools, divisions, and regions. They will remain as long as the conduct of the achievement tests is not improved (including among others, as Secretary Gonzalez suggests, returning to testing that is universal and intertemporally comparable). What is surprising, however, is that notwithstanding all these accommodations, the national mean scores are still surprisingly low, an average of only 50 percent for the NEAT and one even below 50 for the NSAT. This suggests the problem of quality is so systemic and deep-seated that it cannot be remedied even by test accommodations or the best remedial efforts of teachers.

Quality comes from many factors: curriculum, the qualification and number of teachers, available learning materials, the presence and quality of learning facilities such as libraries, laboratories, recreational facilities, and classroom space and quality. Quality of instruction and learning ability or "teachability" interact to determine what a pupil learns.

A pupil's "teachability" in turn comes from inherent ability, health, discipline, and motivation. For the last three, a child's socio-economic status is important. Where poverty prevails, good health cannot be presumed, so that socio-economic background is expected to have a strong influence on achievement. Many children go to school hungry and malnourished, and this is a reason they cannot keep alert and interested in the class.

Money, money, money...

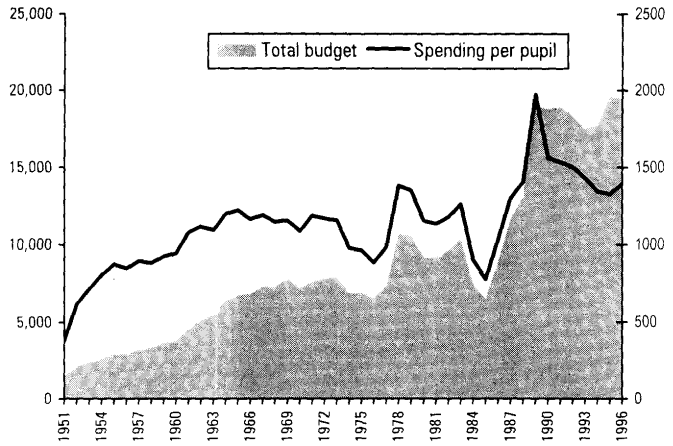
Up to now, the typical response to the problem of quality has been a desire to throw money at the problem. The basic objection to this, of course, has been there is not enough money to

Table 1.5
Average NEAT and NSAT Mean Percentage Scores, by region
(1998, in percent)

Region	NEAT 1998	NSAT 1998	NEAT Rank 1998	NSAT Rank 1998
Ilocos I	47.6	49.2	13	5
Cagayan Valley II	52.7	48.2	4	9
CAR	51.1	51.2	6	2
Central Luzon III	50.1	50.7	10	4
Southern Tagalog IV	49.0	49.0	12	6
Bicol V	51.1	45.3	5	11
Western Visayas VI	50.4	45.0	7	12
Central Visayas VII	50.4	48.3	8	8
Eastern Visayas VIII	61.0	51.2	1	3
Western Mindanao IX	54.6	48.7	2	7
Northern Mindanao X	50.2	46.6	9	10
Eastern Mindanao XI	45.2	43.0	15	15
Central Mindanao XII	39.0	40.8	16	16
ARMM	46.2	43.1	14	14
Caraga	49.3	43.4	11	13
NCR	54.4	54.2	3	1
Philippines	50.0	48.6		

*simple average of mean scores in four subjects
Source: Ibe [1999]

FIGURE 1.5
Total Education Budget and Spending per Pupil
(1950-1997, in constant 1985 pesos)



go around. Figure 1.5 shows how the budget of the Department of Education, Culture, and Sports (DECS) has progressed over four decades.

The share of education in the national budget was highest in the 1950s and 1960s, when DECS received about 30 percent. This share decreased during the Marcos years (1965-1985), reaching a trough of 5.6 percent in 1976 and averaging 8.7 percent in the last decade under Marcos, even though the 1960s and 1970s were years when the economy experienced relatively stable growth. The Aquino government restored education's importance and provided it the largest share in the budget net of debt service, and the share has remained at about 11-12 percent since. Nonetheless, although large in relation to total government spending, the education budget is only about 3 percent of GDP, a figure much lower than the typical figure of 5-6 percent for East Asian economies. To this must be added the fact that Philippine GDP per capita is already lower than for the East Asian average. All this adds to low spending per pupil in absolute terms.

The budget per pupil has fluctuated noticeably as a result of fluctuation in budgets and enrollment (also in Figure 1.5). After adjusting for price changes, expenditure per pupil in 1996 (P1,396 in 1985 prices) was only minimally higher than the 1978 level. This budget for instruction is very low by either domestic or international standards. It is certainly low compared with the tuition fee in some prestigious private sectarian schools of more than P20,000 per year. It is destitute compared with the amounts spent on special public schools such as the Philippine Science High School, where the per pupil current operating cost alone was P36,899.[2]

This level of budget per pupil can buy neither good quality teachers nor adequate textbooks and basic facilities such as library and laboratories. Below it will be seen that even this meager budget was poorly allocated, going mainly to teachers and office workers. Allocations for books, libraries, and laboratories were minimal, an input choice that is extremely inefficient.

It cannot be denied that performance and quality depend on spending for education. International differences in the amounts spent per pupil in basic education indeed provides some

of the explanation for differences in countries' performance. This is seen from Figures 1.6.1 and 1.6.2, which show countries' math and science scores in the Third International Math and Science Test rising with amounts spent per pupil.[3] The Philippines' low rank in that test cannot be unrelated to the fact that — of the countries included — *it spent the smallest amount per pupil*, the equivalent of US$138. By contrast, Thailand, which was near the median, spent more than six times as much per pupil.

Yet, it is wrong to think that good basic education is simply a matter of spending more. Beyond US$2,000 per pupil, the influence of spending seems to taper off. Singapore, South Korea, and Hongkong, which topped the math test, spent amounts per pupil that were only half or less than half those spent by Japan and other developed countries. Thailand spent US$852 per primary pupil but performed better than Germany, the UK, the US, and New Zealand, which spent between US$2,241 and US$3,510 per pupil. The Slovak Republic and Bulgaria, like the three small Asian tigers, also spent modestly but performed relatively well. It is particularly notable that the Czech Republic spent roughly only three times what the Philippines spent per pupil but placed second in science and seventh in math. (In the same vein, the Philippines did better than Kuwait, Colombia, and South Africa, which spent more than twice as much.)

These observations suggest an important point: the problem may lie not only in *what* is being spent on education, but also in *how* these amounts are spent. That is, factors affecting internal efficiency, such as weaknesses in the curriculum, the mix and not only the amount of education inputs, the quality of teachers and books, and classroom atmosphere may have a great deal more to do with quality than sheer size of spending.

Some recent studies also bolster this observation. A study of 589 elementary and 233 high schools in Metro Manila [Cunanan and Po 1997] found that differences in NEAT scores among *private sectarian* schools were significantly influenced by the levels of educational

FIGURE 1.6.1
Spending per Pupil
and Predicted IMST Science Scores
(regression results)

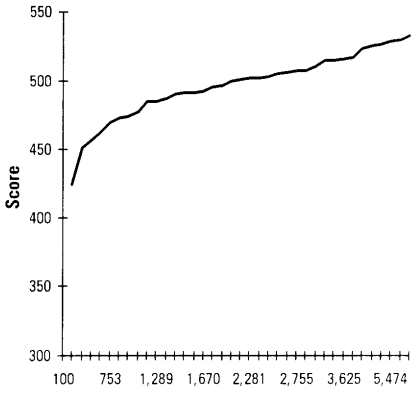
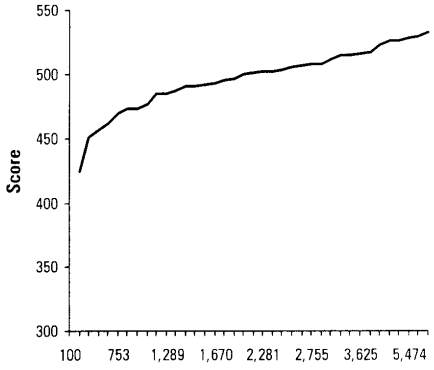


FIGURE 1.6.2
Spending per Pupil
and Predicted IMST Math Scores
(regression results)



input, such as amounts spent per pupil (represented by tuition fees charged), lower ratios of pupils to classrooms, the ratio of enrollment to non-instructional rooms, and larger enrollments. The same factors are important for *private nonsectarian* schools, although values are somewhat lower.

Curiously, however, the only input that seems to matter (negatively) for public elementary schools is the ratio of enrollment to classrooms. In particular, spending per pupil fails to affect performance. At the high school level, spending per pupil — tuition fees for private schools and budgets per pupil — are significant for both public and private schools. But the only other significant input variable is the ratio of enrollment to classrooms, especially for private sectarian schools.

The greater significance of spending per pupil among private schools — and not among public schools — suggests that private schools try harder than public schools to become internally efficient. With few exceptions, private schools are almost totally dependent on tuition fees for financing. Competition from other private schools, as well as from public schools, therefore compels them to deliver maximal quality for a given tuition, since the parents of potential pupils would themselves trade off tuition fees with the quality of education offered by these schools, however imperfectly the latter is indicated.

By contrast, public schools face little or no competition, since there is always a pool of poorer pupils who have little choice but to go to the nearest public schools. One result is that efficiency in the use of budgets becomes less important, so that spending levels do not always translate into better performance.

Another piece of on-going research [Solon and Quimbo 1999] into elementary pupils' NEAT achievement in the 20 poorest provinces is startling for what it suggests lies behind the poor performance in public schools. Pupils were asked to describe what commonly characterized their schooling and were given a choice from a long list of variables. These included teacher behavior (always absent, always late, uses appropriate materials, teacher punishes, etc.); learning materials are available in their school (books only, books, magazine, and newspapers, library, TV, and computer); and whether classrooms were monograde or multigrade. Detailed socio-economic information on the students was also obtained, including parental education and the availability of learning materials at home.

Achievement in NEAT, it turned out, was positively influenced by parents' education and the presence of learning materials at home. It was surprising, however, that the response of "teacher always absent" was frequent enough to show up as a strong negative impact on NEAT performance. This problem is more likely to be common in rural areas, where the teachers have virtually total power over their classes. Solon and Quimbo, the study's authors, observe that children who are

TABLE 1.6
Increase in Teachers in Public Elementary and High Schools
(1945/46-1996/97, in percent)

	Elementary	High school	Total
1945/46-1955/56	7.5	9.3	7.6
1955/56-1965/66	6.6	5.9	6.5
1965/66-1975/76	3.5	7.2	3.9
1975/76-1985/86	0.9	6.0	1.7
1985/86-1996/97	1.3	4.9	2.1
1945/46-1996/97	4.9	8.3	5.4

computed compound growth between initial and terminal years
Data from: *Statistical Yearbook 1971; DECS Statistical Bulletin,* various years

not given textbooks have no other means of learning except through the teacher, and therefore teacher's presence is critical.

The latter is a strong argument against the thin dispersal of resources and the absence of supervision implicit in the government's programme of providing a school for each barangay. Noted educators such as OD Corpuz, among others, have proposed instead that well-equipped and well-supervised central schools be established, with pupils being transported in (see also recommendations in Chapter 3).

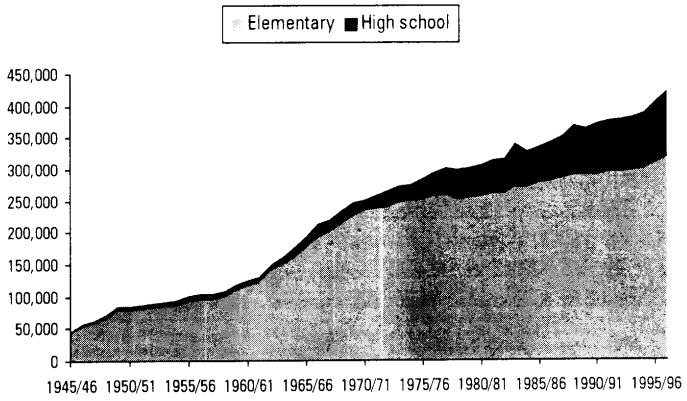
Quis docebit ipsos doctores?

Teachers remain the single indispensable input in all categories of schools. Their importance is magnified by the system's adherence to a traditional pedagogical technology that emphasizes the individual teacher's personal transformative role and social example.

Teachers have increased almost as rapidly as enrollment. Public school teachers increased from 46,826 in 1945/46 to some 424,000 in 1996/97 (Figure 1.7 and Table 1.6), a growth rate of 5.4 percent annually. While the increase in elementary school teachers has tapered off, that of high school teachers has remained high, pushed by the government's commitment to free high school education. Together with those in private schools, teachers today number 600 thousand and constitute the largest professional occupation in the country.

Despite the large increase in the teaching force, however, enrollment has increased even faster, so that the ratio of pupils to teachers continues to rise. In public elementary schools, the average number of pupils per teacher was 31 in 1981/82, rising to 35 by 1997/98. In public high schools, the increase was from 29 in 1981/82 to 34 pupils per teacher in 1997/98. These numbers are deceiving, however, since they represent only aggregate ratios of the population of teachers and pupils. They do not represent actual class sizes, which are more reflective of the learning conditions pupils confront. Classes in public schools are in fact fairly large to very large, with average class sizes of 41 in public elementary schools and 50 in public high schools [Manasan and Maglen 1999:17]. Unfortunately, there are apparently no data from DECS to monitor the growth of class sizes by

FIGURE 1.7
Number of Public School Teachers
(1945/46 to 1996/97)



Source: *Statistical Yearbook 1971; DECS Statistical Bulletin,* various years

type of school and by region through the years.

Part of the reason the pupil-teacher ratio does not reflect class size is that public school teachers are not always assigned primarily to teaching. Many of them perform staff and office functions not directly related to pedagogy. The recent ADB and World Bank [1999:30] study of the education puts it succinctly:

> First, it is important to let teachers teach — to make teaching their primary activity and to eliminate various distractions that remove teachers from classrooms on a regular basis. These include the current practice of assigning teachers to administrative and clerical functions in schools and local district offices, and involving teachers (as well as students in fund-raising activities for the school during school hours.

Nonetheless, the rapid rate at which the teaching force has grown through the years has strained the capacity of colleges and universities to offer quality teacher-training programs, typically a time-and resource-intensive effort. As a result, the quality of education at the elementary as well as high school and tertiary education has been severely affected. Although private colleges and universities have proliferated since the 1950s to produce the teachers demanded by the public schools, teacher training has expanded rapidly only at great sacrifice of quality. Even today, there are only a handful of teacher-training institutions that offer relatively high quality programs. There is limited capacity for high quality graduate education in core courses such as language, mathematics, and the sciences which are important for future professors, education specialists (for curriculum development and research) and elementary and secondary school teachers. Only feeble attempts were made in later years to remedy the problem, as a result of which the quality of teacher training programs remained poor.

The real quality of present-day teacher training may be seen in performance in the Professional Board Examination for Teachers (PBET), a test which new hires have been required to pass since the 1970s (although exemptions are made in areas where there is a shortage of applicants). The percentage of takers passing the teachers' examination was 31.0 percent in 1972, 10.5 percent in 1976, 14.6 percent in 1979 and 24.6 percent in 1980. In the period 1987-1992 only an average of 20 percent of takers passed the teachers' examination. The highest passing rate of 89 percent was obtained by graduates of UP and St. Theresa's College-Cebu. The passing rate among 249 other colleges and universities was less than 10 percent. Eighteen institutions had zero passing rates. The great majority of institutions had passing rates below 50 percent (Table 1.7). The 1998 results of the licensure examination for teachers for elementary and secondary schools showed mean scores of only 38 percent for elementary school teachers and 43 percent for secondary school teachers. Would-be high school teachers' mean scores were lowest in English and Mathematics and highest in Values Education and in Filipino.

The government's approach to teacher quality is weighed down by the same problem as its response to basic education as a whole — sheer size. The poor quality of basic education is merely a downward transmission of the mediocrity pervading the country's entire university system, which is the ultimate source of elementary and high school teachers. The institutions from which teachers themselves graduate lack qualified faculty and have facilities that are inadequate and out of date [Cortes 1994].

Many of the measures relating to education budgets in recent years have focused on raising teachers' pay and securing teachers' rights (e.g. the Magna Carta for Teachers). This emphasis on the teaching force is primarily a political reality, arising partly from the large number of teachers themselves, who have undeniably turned into a constituency politicians find valuable to cultivate, as well as the awkward practice of using teachers in elections, which has unfortunately further politicized the profession. By contrast, the constituency to improve school conditions and

provide more books to students is only weakly represented. The result has been the lopsided share of personal services (almost 90 percent) in the total education budget.

The current education system appears to adhere to a paradigm inherited from the period of foreign occupation, when educators perceived themselves to be harbingers of the "modern" and "enlightened" in an environment that was otherwise backward and ignorant. In this view, the education system can and ought to promote itself as a fortress of knowledge, a highly centralized, self-contained, and paternalistic system with little to learn or benefit from parents or the community at large. If such a paradigm ever worked in the past, however, it is unlikely to work in the present.

In relying on a technology that almost exclusively emphasizes the teacher, the education system emphasizes precisely its weakest point. As already seen, the sheer size of the system prevents it from producing sufficient numbers of teachers at the required level of quality. It also means the neglect of other education inputs and techniques of instruction that may have become more cost-effective in the meantime, and therefore it is in many ways unfair to impose such a burden on the teacher.

More important, however, the current system fails sufficiently to harness the support of local governments, families, communities, and civil society in general in the process of education. There are times indeed, as illustrated vividly by education in Muslim Mindanao, where the system sets itself apart from and against culture, ethnicity, and community. It is also in such instances where the failure of the system is most vivid. More than simply a matter of sustainable financing, therefore, it is a question whether true education at present can be accomplished through neglect or in opposition to the prevailing cultural context. These two remaining questions shall be discussed in the next two sections.

TABLE 1.7
Distribution of Schools by Passing Rate in Teachers' Examinations (1990-1991)

Passing Rate[1]	Number of Schools[2]
67+	5
60-67	9
50-59	10
30-49	34
20-29	69
10-19	158
<10	249
Memorandum:	
Zero passing rate	18

[1] Number of passing as a proportion of total examinees.
[2] Number of institutions with passing rates within the indicated range.

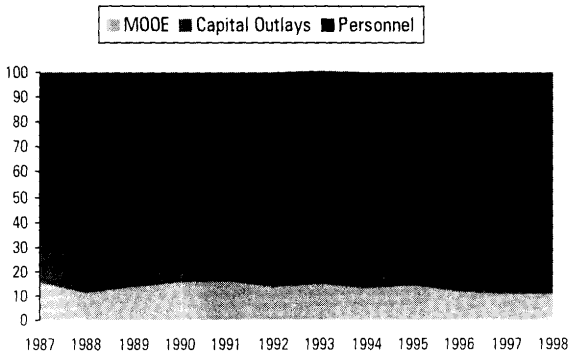
TABLE 1.8.
Top Schools in Teachers' Examinations (1990-1991)

Schools	Passing Rate
St. Theresa's College, Cebu	89.5
UP Manila and Diliman	88.6
Miriam College	75.0
St. Scholastica's College	70.8
P. ng Lungsod ng Maynila	67.3

The chosen mix of education inputs

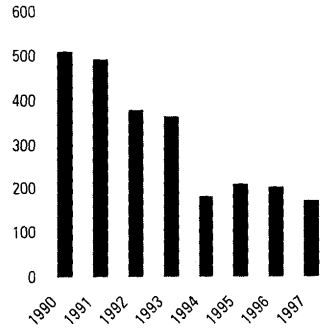
The instructional technology used by the public school system is reflected in the allocation of its budget to the major education inputs. Spending on personnel represents largely teachers' salaries. Maintenance and other operating expenses (MOOE) is an important item that includes office supplies, transport, repairs, utilities, textbooks, and library and laboratory supply. Capital outlays are devoted largely to the construction of buildings and basic classroom furniture such as desks and blackboards. Finally, there is an item for the operation of elementary, secondary, and tertiary/higher education under DECS. (The special high schools and the chartered universities and colleges are not under DECS direct authority and budget.)

FIGURE 1.8
Distribution of the Education Budget by Major Categories
(1987-88, in percent)



Source: *General Appropriations Act,* annual issues

FIGURE 1.9
MOOE per student in basic education
(in constant pesos of 1993)



Source: Maglen and Manasan [1999: 28, Table 2.19]

The allocation shows two very disturbing patterns. First, personal services (salaries and other forms of compensation) absorb the bulk of the budget, with the share increasing through time. The share of personal services in the budget rose from 68.9 percent in 1987 to 75.5 percent in 1993 to 89.1 percent in 1998. Personal services have crowded out both capital outlays and maintenance, operating, and other expenses. In the 1995-1998 period, as the share of personal services rose, the share of capital outlays dropped to less than 2 percent. Its share in 1998 was less than 1 percent. The budget per student for maintenance, operating, and other expenditure has fallen markedly throughout the current decade, from P510 in 1990 to P175 in 1997 [Figure 1.9].

The second cause for concern is that the allocation for actual school operations has been declining. School operations have had to compete with other expenditure items such as the Government Assistance to Students and Teachers in Private Education (GASTPE) and the institutions attached to DECS such as the National Library and the National Historical Commissions. Elementary education must vie with secondary education within the DECS budget, and indirectly with the proliferating state universities and colleges. The share of the budget directly allocated for the operation of elementary schools dropped from 76.6 percent in 1987 to 41.7 percent in 1990. The downward trend has been reversed, but the 1976 share was never regained. In 1998, elementary schools received only 66.6 percent of the DECS budget. The na-

tionalization of secondary schools in 1989 led to a large increase in their budget share. Until 1989, there were two categories of public high schools, the DECS-operated high schools and the local high schools that were jointly financed by tuition and the local government. The 1989 Free High School Act centralized local high schools, however, and transferred financial responsibility for them to the national government. As a result, the share of secondary education almost doubled from 10.6 percent to 21.7 percent between 1989 and 1990.

Of particular concern in recent years has been the supply of *textbooks*. The share of the budget devoted to textbooks has been negligible: 1.6 percent in 1976, 0.7 percent in 1979, and 0.6 in 1981. This rose in 1982 and remained at this relatively high level after the World Bank Textbook Project was implemented. The budget increases, however, consisted largely of the loan proceeds themselves.

These allocations resulted in much smaller absolute budgets that directly went to the schools and to pupils. Of the P1,342 total DECS budget per pupil in 1995-96, only P1,119 went directly to the elementary schools and P1,044 to the high schools, and only P10 to textbooks. On the average, this P10 book budget buys only half a book.[4]

The World Bank textbook project entailed the establishment of the Instructional Materials Council and its operating arm the Instructional Materials Corporation (IMC). They were given total control over the development, production, and distribution of textbooks. IMC's monopoly over textbook activities may have encouraged corruption and the allegations of corruption led to the deregulation of textbook activities in 1995. Apparently the monopoly structure has remained. Public school textbooks are not openly traded and sold in bookstores, and local schools are not free to prescribe and purchase their own textbooks.

Locally produced textbooks are generally printed on newsprint. With enough care, a book is expected to last four years.[5] Ideally, pupils should be supplied with one book per subject for use in the classroom and outside for homework and review. Table 1.9 shows that neither primary nor secondary pupils in the country have been provided with adequate textbooks. The textbook situation worsened in the 1990s. The degree of inadequacy was worst in math. There are also virtually no textbooks in science for the primary grades. The per pupil book ratio, which averaged about 0.60 in the first half of the 1990s declined to 0.33 in 1999, or one book for every three pupils. English had close to a one-to-one ratio in the early years, but this also drastically declined in the late 1990s.

Compared to elementary pupils, those in high school were provided with even fewer books and have always had to share their books. In the first half of the 1990s, the ratio was lower for science and math. As the budget was reduced, books supplied for all subjects decreased so that by 1999, there was only 0.6 book per high school pupil in all subjects, 0.11 in English, 0.11 in Filipino, 0.13 in Science, 0.15 in Math, and 0.11 in Social Studies.

It is inconceivable how literacy can be taught effectively without the use of books, and yet textbooks appear to be treated as an afterthought in basic education budgets. Virtually all the budget increases for education have gone to compensation, with teachers' salaries increasing quite substantially under the Aquino administration and the salary standardization law under the Ramos Administration. The adjustment in teacher salaries was primarily a political decision in response to the publicity about the poor plight of teachers, not in consideration of what would be efficient. There is no argument that teachers' salaries probably needed raising. What is at issue is that this has come at the expense of other education inputs which are probably more crucial at this time [See Box 4].

The announced policy of having one book per student per subject is arguably a good policy, provided it is within the budget constraint of DECS. An inexpensively printed book would cost only P60. With an average life of four years, a book would cost P15 per year, or P75 per pupil (P15 x 6 books). At a more modest book life of 3 years, the cost would be P120 per pupil. In 1998-99, however, DECS spent only P20 per student.

BOX 4

New thinking on literacy

Billions have been spent worldwide for literacy (i.e., reading, writing, counting, and computing), in the belief that literacy in individuals leads to economic growth and social development. Up to the present time, however, the international debate questioning this simple and direct relation between literacy and development goes on.

The new thinking, backed by solid research, suggests a more complex relationship. First, it was found that an important factor determining whether literacy skills and nonformal literacy programs can be sustained is whether literacy skills have become integrated or are discontinuous with community practices [Doronila 1996]. Similarly, Bernardo [1998], in his quasi-experimental study of the cognitive consequences of literacy, concluded:

> The most literate communities in the world do not only differ from other communities in terms of the number of literate individuals in their population. Instead, in the most literate communities, literate practices are integral to community life. In such communities, the most basic forms of employment, communication, business and trade, social interactions, religious activities, political exercises, cultural practices, transportation, entertainment, education, scholarship, and so on involve literacy practices. In such communities, literacy is an inescapable reality, an inevitability. It is in such a community context, and it is because of such a community context, that literacy can have the most profound effect on how people think about their experiences and their environment.

Of course, even this new thinking is not so new, as witness the following quote from Rizal:

> Do you want to know the obstacles to education? So then — in the circumstances we are in, without powerful assistance, learning can never be a reality; first, because in the children there is no stimulus or encouragement; and second, because even if there were, they are vanquished by the lack of means and by many preoccupations. They say that in Germany the son of a peasant studies eight years in the town schools. Who in this country would want to dedicate half of that time when the results are negligible? They read, write and commit to memory pieces and sometimes a whole book...without understanding a word of their contents. What benefit can the son of peasants obtain from the school?

Thus it is reasonable to propose that, in fact, functional literacy as an index of capacity for development in individuals is at the same time an index of a people's passage into a literate society. The new thinking on literacy therefore brings up a related proposition — that a people's passage into a literate tradition is not an autonomous process brought about by pouring all our money into literacy and education programs. It is anchored in the over-all development of communities and the nation; indeed, in the growth of the two other general indices of HDI, if you will — life expectancy and real incomes. The three indices together make good sense. They are not only outcomes but also factors of development.

TABLE 1.9
Textbooks per Pupil in Elementary and Secondary Public Schools
(selected years)

1. Elementary

Year	Total	English	Filipino	Science	Math	Social Studies
1983	2.39	1.11	0.73	0.16	0.26	0.13
1988	3.48	0.86	1.07	0.04	0.61	0.88
1989	3.12	0.93	0.89	-	0.65	0.65
1990	3.20	1.07	0.79	-	0.55	0.78
1991	2.59	0.74	0.63	-	0.51	0.71
1992	3.62	0.99	0.98	-	0.65	1.00
1994	3.72	0.88	0.97	-	0.62	1.24
1995	2.96	0.69	0.83	-	0.43	1.01
1996	3.21	0.76	0.86	-	0.47	1.12
1997	3.44	0.94	0.75	-	0.69	1.06
1998	2.50	0.72	0.81	-	0.54	0.42
1999	1.38	0.42	0.25	-	0.33	0.38

2. Secondary

Year	Total	English	Filipino	Science	Math	Social Studies
1983	3.25	0.61	0.77	0.45	0.58	0.83
1994	3.38	0.65	0.38	0.44	0.38	1.53
1995	2.52	0.49	0.28	0.31	0.29	1.15
1996	1.49	0.24	0.17	0.19	0.18	0.72
1997	1.21	0.18	0.21	0.19	0.20	0.42
1998	1.03	0.17	0.19	0.11	0.22	0.34
1999	0.60	0.11	0.11	0.13	0.15	0.11

Source: Instructional Materials Council, unpublished data

At P120 per pupil, it would require P1.848 billion to provide 15.4 million public school pupils a textbook in all six subjects, or more modestly P1.155 billion if a book is made to last 4 years. These amounts are equivalent to only 2.0-2.5 percent of the DECS budget for 1999.

Exacerbating the problem of education spending is the problem of corruption, which cuts cruelly into the benefits transferred to pupils and diminishes the redistributive effect of spending on education. In the case of textbooks, which have recently been in the public eye, some 50-60 percent of the budget are thought to be diverted as a result of bribes and uncompetitive pricing (*Philippine Daily Inquirer*, Chua's special reports, March 1999). Abetting corruption is the hierarchical structure of decision-making and lack of transparency in bidding. Private schools have been allowed since 1995 to choose their own textbooks, which are freely marketed in the thriving book industry. By contrast, books supplied to public schools are not marketed in regular bookstores but are supplied by publishers chosen by DECS officials in the regions. The great discretion this represents is a virtual invitation

to corruption. Ironically, despite the supposed "care" and selectivity with which public-school books are chosen, it is the general opinion that these are inferior to most that are chosen by the better-quality private schools in terms of both academic content and presentation. Considering the well-known quality differences, a more sensible policy in public-school text selection would have been simply to adopt those that private schools use, demanding volume-discounts for public schools.

Content and context: relevance

Difficult as they are, the problems of the scale and mix of inputs plaguing basic education, are at least tractable. They are ultimately questions of *how* and *how much*, and can be solved by the appropriate policy decisions regarding the allocation of funds and control over the means of their disbursement.

Even more profound questions can be raised, however, regarding *what is* or *what ought to be* taught, that is, the direction and substance of education and its relationship with the community's beliefs, practices, and values.

As already seen, much of present education policy is (understandably) pre-occupied with simply keeping pace with the size and scale of enrollment, i.e., the need for so many school buildings, teachers, classrooms, desks, and so on. In this mind-set, even the quality issue becomes reduced to a question of quantity, i.e., quality means building enough schoolhouses so that there is a grade school in every barangay, and a high school in every municipality, with so many classrooms and so many teachers, and so on. In other words, the problem of quality is seen as one of spreading the butter thickly enough on a piece of *pan de sal*. Wittingly or not, it adopts the one-size-fits-all approach (same butter, same *pan de sal*), reducing the problem to one of delivering a standard product to enough numbers of people. The question, however, is whether the "standard product" is desired by all.

Recent studies (Doronila [1996] and Bernardo [1998] and Box 4) have persuasively drawn a connection between functional literacy, on the one hand, and the specific context of social practice and community activity, on the other. This means that people are motivated to learn — and retain what they have learned — only to the extent that what they learn is relevant to what they do or want to do. Transmitted knowledge will remain abstract, alien, and passive to the extent that these fail to be relevant to people's needs and current activities. "Socio-economic background" and parents' incomes and education are powerful explanatory variables of individual performance not simply because they are associated with more "inputs", but also because these signify the motivation or "pull" elements for pupils to perform. In contrast to children of white-collar workers, children in an upland subsistence community will learn less, not only because books at home are fewer, or nutrition is poorer, but also because there is less practical motivation to do so. What they learn in school is not *demonstrably* applicable to the ebb and flow of their daily lives. Daily life in such a context provides no reinforcement, makes no demands for algebra or history, hence children and parents fail to see that these matter. Weak motivation, rote memory, poor performance, and high drop-out rates should be no surprise. In short, education cannot succeed in a development vacuum.

These findings have far-reaching implications for education reform. They invert the presumed causation: functional literacy does not "lead" to development. Rather, in a nontrivial sense, development itself is a condition for functional literacy to be relevant and regarded as desirable. This also means that the "one-size-fits-all" approach of the public school system is partly to blame for students' poor performance. The system is too rigid, unresponsive, and hierarchical to adapt itself to different local circumstances. At the very least, there is a need to distinguish the various communities to which curriculum and language are being addressed, e.g., traditional oral communities, transitional subsistence communities, Muslim Filipinos, and lowland Christians [Doronila

BOX 5

Education in Muslim Mindanao

Even today, Muslim education in the Philippines outside the state system is of a folk and religious nature. It begins from a religious base, instruction in the tenets of Islam, and the history of Islam, leading to the genealogical beginnings of local history (e.g., through either the Abu Bakr line of Sulu or the Kabungsuan line of Maguindanao). Filipino Muslims commit to memory the mythico-religious beginnings of their local history, internalizing and reflecting upon centuries of Muslim armed struggle against colonial rule. The historical consciousness that springs from both oral historical and written traditions is continuously sustained by the formal system of Islamic education through the *madaris* (plural of *madrassah*) and the non-formal system of learning such as the *pañgadji*.

The impact of Islamic education in the Muslim mind is maintained and enhanced by *gurus*, ustadz, and other local teachers who perform the task of teaching as a matter of spiritual and moral-religious obligations prescribed by Islam with or without compensation. Religious teachers derive material or financial support from Muslim charities or from their own small undertakings and business mostly from subsistence agriculture and fishing. There are no regular budgetary allocations such as those in Philippine educational institutions. Teaching is a solemn duty for those who know. The basic curricular content of Islamic education is derived from the sacred sources of the Islamic faith: the *Qur'an*, the *Hadith*, and the *sunna*. Such basic content has been concretely expressed in the Five Pillars of Islam: the *shahada*, prayer, fasting, alms-giving, and *haj* (pilgrimage).

Historically, the approach of state policy to the education of the non-Christian sector was anchored on the basic premises and aims of colonialism, which was conversion — for good or ill — to the worldview, way of life, and concept of state of the occupying force. This was true for both the Spanish regime and the American occupation, with the possible exception of a brief period of enlightened policy under Najeeb M. Saleeby until 1913.

The cultural-economic aims of colonialism were adopted by the leadership of the Filipino republic. It was the predominant belief that what the Muslim communities needed most were more opportunities in political participation and enjoyment of economic benefits. Appreciation and respect for Islamic culture was rhetorical at best. Instead education sought to expose Muslims to the influences of Christian values and ideals through predetermined curricula at all levels of learning. This has largely remained the state of Philippine education for the Muslim sector today (the integration of the madrassah system notwithstanding). The religious and folk character of Islamic education is bound to come into conflict with a formal state education system that was rationalist, assimilationist, and (at least nominally) secular. The content of the curriculum that has negligible input from Islamic sources provides no cultural incentive to Muslims to seek state education as the key to social progress. Rejection is more often the result.

The continuing failure of such policies is easily apparent. The provinces of Muslim Mindanao are today among the provinces with the lowest enrollment rates and literacy rates in the nation (see Table below). These results override even unusual results in the NEAT and NSAT showing respectable scores for individual schools and divisions in some Muslim Mindanao provinces.(*)

It is important to realize that the matter is not as simple as throwing more money at the problem and still seeking to deliver the same product. What the formal education system needs is to work *with* rather than *against* folk-Islamic education.

BOX 5 TABLE 1:

Ten Provinces with Lowest Functional Literacy and Combined Elementary and High School Enrollment (1997, 1994, in percent)

	Functional literacy (1994)		Combined enrollment rate (1997)
Agusan del Sur	71.8	Agusan del Sur	73.3
Apayao	70.4	South Cotabato	72.0
Kalinga	70.4	Davao Oriental	70.4
Davao del Sur	68.8	Lanao del Norte	69.6
Maguindanao	68.7	Basilan	69.4
Lanao del Sur	59.3	Tawi-Tawi	67.5
Sulu	57.7	Bukidnon	67.3
Tawi-Tawi	52.7	Sarangani	63.8
Ifugao	51.1	Maguindanao	51.7
Basilan	48.1	Sulu	43.5
Memorandum: Philippines	83.8	Philippines	83.0

N.B. Lanao del Sur's basic enrollment rate is higher, 78.8.

Source: National Statistical Coordination Board

How can state education approach the issue of folk-Islamic education? It must begin by recognizing the distinct culture and identity of the region rather than trying to homogenize it, just as folk-Christian traditions that have developed are also studied and appreciated in, say, mainstream education. The Indo-Malay pre-Islamic and pre-colonial Christian heritage is the common cultural denominator of the national community. The curricular content of basic education must have this thrust in social science and humanities components. The aim must be to allow common appreciation of the roots of the Filipino heritage as the source of national pride, identity, and advocacy. This social science thrust can be augmented by the science and technology component of the curriculum for modern development, but it cannot be replaced.

The next important problem is the educational mechanisms and systems the state may use to realize the folk-Islamic thrust without negating the desired modern direction.

Muslim society possesses traditional systems or institutions that have become the channel of folk-Islamic learning for 90 percent of the population. Two systems of Islamic education in particular are zealously employed by learned parents and trained gurus:

- the *pangadji* which is learning to read the Qur'an correctly, properly, and reverently by a child at home and usually heard audibly by passersby. (The time is dependent on the learner who usually tries to finish the entire Qur'an for its special spiritual value) and
- the *madrassah* system which is the method for group learning of Islamic tenets and practices according to prescribed materials usually well-prepared by recognized *sunni* specialists from abroad.

Besides these Islamic systems, there are regular annual festivities based on the Heijira calendar and the numerous rituals where indigenous local pre-Islamic traditions are popularly observed with color, meaning, and seriousness. They are integrated into the Islamic system through the use of Qur'anic passages or surahs especially Surah I "Al Fatihah" which is the heart of the Qur'an. Thus, the entire Muslim community is involved as a unit in the formal and non-formal learning process without any state certification.

Such local systems can and should be studied and harnessed by state education if it is to become relevant to Muslim aspirations, especially the search for identity. Before taking any concrete steps, however, the State must take a clear, definite and sincere stand of *making Islamic education a basis for education in Muslim Mindanao with only a small measure of the secular curriculum incorporated.*

Once Islamic education is officially adopted, Muslims must in turn accept the State education package without reservation, otherwise the prospect of failure is predictable. The psychological and political approach to education is as vital to success as curricular innovation. Achieving this goal is contingent on the following:

- the realistic attainment of Muslim autonomy through the revival of indigenous institutions as mechanisms for political, social, economic, and cultural decision-making;
- the abandonment by Christian missions and institutions of their soteriological (salvation) goals in Mindanao to remove Muslim suspicion that state education still pursues the colonial aim of Christianization in Muslim Mindanao; and
- the establishment of a system of state subsidies for regular faculty development of Islamic schools with counterpart aid from world Islamic sources, government or private.

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(*)It should be remembered that the NEAT and NSAT are not universal but given to pre-selected schools. Hence they may not be representative. Apart from real improvements in achievement in selected schools, other factors to consider must be remedial intervention in the schools pre-chosen to take the achievement tests, including reviewing for the examinations, and the more unpalatable prospect of tainted examinations.

1995]. The curriculum delivered to lowland Christian communities with urban orientation cannot be identical in all respects with that which will be relevant and acceptable in predominantly Muslim areas.

With respect to the curriculum proper, there is general assent (e.g., ADB-WB [1999]) that the current standard curriculum, especially for Grades 1-3 is overloaded, with as much as seven subjects taken in a day. This is bound to lead to a lack of focus and — given the marginal relevance to most communities of the topics taken up — is bound to contribute to the practice of rote memorization. It is particularly urgent that distinct modules of instruction be developed for the large traditional Muslim communities and for communities of tribal Filipinos, where the current approach can be said to have failed demonstrably [See Box 5]. These communities have been left out of the education system precisely because they cannot be shoe-horned into the iron boot that the system delivers. Nor is the idea of culturally differentiated curricula an entirely new idea: as early as 1991, the Congressional committee on education (EDCOM) had already proposed that the entire formal basic education curriculum be constructed on the basis of functional literacy [Box 6], and that the content of the formal curriculum should have a mix of a national "core" curriculum and a regional and local curriculum to accommodate cultural differences as

well as specific needs, problems and aspirations [EDCOM 1991, Annex 2, Book 1, Vol. 1]. Up to now, however, this has recommendation has not been acted on in earnest.

Language is a second major area where these observations have a bearing. The question of language continues to be plagued by confusion and indecision. It was a major change in the elementary school curriculum to replace English by Filipino and later by the major local language as medium of instruction. As a result, three languages are taught at the elementary level in the non-Tagalog-speaking areas: English, Filipino as national language, and the local language. This obviously crowds out other core courses. It also presupposes the production of textbooks in the local language.

English is introduced as a foreign language in Grade 4. Secondary and higher levels still use English as the main medium of instruction, although teachers are encouraged to use the major languages on a voluntary basis. The deteriorating quality of English instruction has led to the popularization of "Tag-lish", not just in personal communication, but also in the classroom, a trend now encouraged even in the mass media. The NSAT performance in English is sometimes lower than in math and science. English is also the subject with the worst scores in the teachers' licensure examination.

At one level, an important reason that the language issue has been left unsettled is simply the government's failure to allocate funds for the production of textbooks and other learning materials in Filipino and other Philippine languages. Books used in college and graduate studies are largely imported, since few good local textbooks have been produced.

But the more fundamental dilemma that confronts educators in the language issue, however, has to do with the tension between the need to indigenize knowledge to make it accessible and relevant and the need to raise knowledge levels to those required by global challenges. Study after study has confirmed that learning among the young is facilitated by learning in their own language — a complicated enough matter in a country where there is not just a single "native" language but more than 70. On the other hand, there is the felt imperative on the part of educators to rise to the challenge of mastering English as the emergent world language (e.g., as seen in its use as the internet lingua franca and the equivalent of Latin in scholarly work).

Caught in this dilemma, the education system has opted to adopt a non-policy. A concession is apparently made to indigenization by adopting the policy of teaching the lower grades in the local languages and in Filipino; but this is unsupported by appropriate training of teachers in the local languages and by quality teaching materials. The predictable result, as argued cogently by Secretary Gonzalez, has been mediocrity and the phenomenon of semilingualism [see Chapter 2]. The result falls short of the needs of people who are willing and able to absorb more of the science- and technology-oriented global culture; at the same time, the result flies over the heads of communities for whom the concerns and biases of global culture are irrelevant or even threatening.

The mistaken assumption on which the debate thus far has been founded is that people in different social contexts demand or require indigenizing and globalizing influences to the same degree. They do not. It is obvious that the priority given by pupils and their families to learning English — not to mention formal schooling — will differ according to whether they are in an urban and media-dense environment, or in an isolated, traditional agricultural or fishing community. The same imperatives simply do not apply, and therefore it is foolhardy for the education system to design a single solution and expect it to work effectively in all contexts.

What should be possible instead is to offer various models of basic education that are sensitive to local culture and local needs. Larger or smaller communities should then be allowed a certain measure of choice over the methods and content of education, including choice over language of instruction. Apart from Filipino, which is predominantly Tagalog-based, certainly Cebuano and other major Philippine languages could also sustain teaching in geogra-

BOX 6

Sample Grade 1 curriculum content by functional literacy areas and contextual level

CONTEXT	COMMUNICATION	QUANTITATIVE	SCIENTIFIC	CIVIC	SOCIO-ECONOMIC	HISTORICAL/ CULTURAL	VOCATIONAL	SPIRITUAL
Home and family	My family and me: naming members of the family	Conducting a survey of favorite food	Identifying parts of the body; taking care of the body	Identifying and describing my duties at home as a family member	Describing a typical day in the family	Identifying who make up my family	Describing my chores at home	Trusting and loving my family
School and community	My school and my neighbors: writing about activities in school	Adding money: *baon* and expenses; computing change	Helping keep the school clean; conserving water and electricity	Understanding symbols of my school, community, and country	What pupils do together in school and in the community	Identifying who make up my school and community	Helping keep my school a safe place	Learning to study and play in trust and goodwill
Country	Sharing legends, riddles and folk songs of the Philippines	Keeping a record of the month's weather in the community and making a summary at the end of the month	Describing the day's weather and relating it to weather in the rest of the country	Relating national symbols and others like me	Identifying people who make up the Filipino nation and where they live	Identifying similarities and differences of people who make up the nation; physical characteristics and dress	Knowing the people who feed us	Feeling one with other Filipinos
Regional and International community	Sharing legends, riddles and folk songs of Southeast Asia	Telling time	Observing the sky at different times of the day or night	Getting familiar with national symbols of Southeast Asian countries	Identifying SEA neighbors and where they live	Similarities and differences between Filipinos and other SEA neighbours; physical characteristics, language, dress, and food	Knowing the major products of our SEA neighbors	Respecting other nationalities

Source: Doronila [1999]

phy, history, and civics, not to mention literature; and they would present no greater difficulties than Filipino in the teaching of science and mathematics. Barring any cultural biases and legal obstacles, therefore, it should be no great experiment but rather an almost certain improvement to reduce the language load in the elementary grades to only one major Philippine language (the closest to the pupil's local language) and the world language, English.

It is obvious, however, that the education system as presently constituted is not geared to these changes. The most important upshot of these observations, therefore, has to do with the entire structure and goals of DECS itself as an organization. The inability of the country's education system to adjust to local needs and circumstances and its failure to impart greater relevance is at least partly traceable to an almost century-old but still tenacious legacy of a department established by foreign occupiers primarily as a tool for assimilation and cultural homogenization. The education bureau or department has always been built as a bulwark or bastion of knowledge, an image that justifies its hierarchical and inflexible organization and rationalized its exemption from devolution. Even today the perceived relationship between the education system and local culture and practices operate on dichotomies (modern, scientific, and global — versus traditional, superstitious or religious, and indigenous) that leave little doubt about the only direction knowledge can flow — downwards from the bastion to the huddled and benighted masses. Little room is left under these circumstances for the possibility that universal principles can actually be evinced from community practices and from efforts of civil society and local governments. What is ironic, of course, is that the image of a knowledge-bastion cannot even be maintained, given the inferior and deteriorating standards and abilities of teachers and officials alike.

An alternative paradigm would perceive the value from a *pedagogical* viewpoint of delivering education in coordination with development efforts that motivate the community — both pupils and their parents — to become functionally literate. By contrast, the prevailing knowledge-bastion paradigm regards education-delivery as a stand-alone affair. It ignores the observation that basic education is most effectively delivered not in isolation but in conjunction with development efforts, e.g., livelihood, health, etc. For the same reason, there is no imperative to cooperate with other departments, agencies, non-government and people's organizations in the delivery of education.

A way forward

The important policy changes that have been adopted in the post-Marcos years have focused primarily on two things: expanding the scope of basic education provision and enhancing the rights and pay of teachers. Under the first one finds constitutional provisions on universal basic education, nationalization of barangay high schools in 1988; the nation-wide application of GASTPE; lowering the school entry age. The second encompasses Magna Carta for Teachers and grant of large salary increases to public school teachers. Ironically, however, although these changes entail larger budgetary requirements for ever new rights and entitlements, they are not geared towards achieving quality, so that the entitlements promised are themselves devalued in the process.

Its sheer scale means that the basic education system can no longer rely on resources exclusively provided, utilized, and supervised by central government. Education is already the largest component of the national budget. To seek quality improvements simply by spending proportionately more on the same priorities will quickly push the entire economy against budgetary ceilings. Furthermore, it has already been seen that the highly centralized and insulated structure of the education system has proven unresponsive to local needs and prone to corruption.

Improving the quality at all levels in the coming years requires nothing less than a complete overhaul of the government view of and intervention in education financing and instructional technology.

Achieving internal budget efficiency. Priority must be given to achieving internal efficiency. This means identifying and adopting the most effective instructional technology and allocating available government resources specifically to implement it. This means first of all that the proportions on which the education budget is spent must be reexamined. The current situation cannot be efficient, where almost 90 percent of the education budget is spent on salaries and benefits alone and only 1-2 percent on textbooks and virtually nothing on libraries and laboratories.

Future moves to improve teachers' salaries relative to the rest of the government bureaucracy will be counterproductive in two ways — first, it will crowd out learning materials and capital outlays; second, the large increments in public school salaries will hurt many private schools (who generally serve quality better than public schools), since they will have to raise teachers' salaries to compete against the public schools in the market for teachers. It is not obvious, however, that raising the salaries of the permanently employed but inadequately-trained teachers will improve the quality of instruction in public schools, especially if other education inputs are crowded out. In addition such measures also increase the private school requirements for GASTPE and further crowd out the other inputs for the public schools, since some 60 percent of GASTPE goes to teacher salaries.

The authorities must instead seriously consider ways of increasing the share of the budget devoted to the maintenance and improvement of school facilities such as science and computer laboratories (not to mention plumbing), and the provision of books and school supplies to children. This is not a proposal to cut existing salaries, of course, but to devote future increments in resources to operating expenses and capital outlays. Incremental resources may come either from the national government or, as suggested below, from local governments and parents' contributions.

Among the most significant but neglected alternatives to teacher-classroom techniques is a greater resort to information technology (IT), which, properly applied, could be a more effective response to the annual tide of enrollment than simply increasing teachers and buildings proportionately. The insignificant use of IT until now is almost anomalous, considering the numerous TV and radio stations and other IT infrastructure already in place, and can be partly explained by the insularity of the education system already noted, which now runs the risk of parochiality. Singapore and Hong Kong are models of the extensive use of IT but are by no means the only ones. Many successful experiences with the IT for basic education and teacher training have been documented, together with the strong impact of textbooks and library on achievement [Verspoor and Lockheed 1991].

Delivery systems based on appropriate and available IT need to be seriously studied, to take advantage of the large scale economies and nation-wide outreach which IT affords and traditional methods do not. Nor do new methods need to replace teachers completely; they may instead supplement classroom teaching and enhance teacher training itself. They may also be adapted to the different types of communications infrastructure extant in various localities (e.g., radio or TV broadcasts, audio and videotapes, or materials over the Internet). While there have been experiments and pilot projects on IT education in the Philippines (e.g., Philippine Women's University, Meralco Foundation, UP Open University, and others), these tend to be diffused; no single national program exists that is geared to a nationwide objective. This type of IT-supported education must be developed that is geared solely to quality improvement (Box 7).

The lowering of the entry-age from seven to six at the elementary level and the proposal to increase high school duration from four to five years, if implemented under the existing conditions of the public school system, will be counterproductive. Again these measures will definitely increase enrollment, which must be provided with the minimum inputs of teachers and classrooms, but they will also likely dilute

BOX 7

Information technology

Considering the mammoth size of the educational system, the applications of modern information technology (IT) may offer the only feasible medium for delivering high-quality instruction to the millions of pupils in so many schools and places. It may also prove to be the only medium for upgrading the teachers. Simple audio-visual (AV) learning packages for television delivery can reach all the schools with as little as two years' preparations. The methodology for developing IT courses is well known. An IT learning package generally include both materials for IT delivery and written text and exercises supplied to the learner. The best minds in the country can be mobilized to write and tape the packages. The packaging of the learning materials will be organized and edited by pedagogy experts and IT technical specialists. The packages have to be piloted and revised until perfected. Once it is satisfactorily finished it can be delivered to any number of places.

The start of an IT-based technology for basic education must begin with the production of modules for core courses such as English, mathematics, and science for each year in the elementary, high school, and college levels. The program may then proceed to other courses like economics, history, geography.

Packages from the US and UK may be reviewed for direct adoption or adaptation, especially if translation into the local language is required. The initiation of IT programs will also force the production of good written learning materials since IT packages necessarily consist of both audio-visual instruction and written material supplements.

Teacher training IT packages also need to be produced. The many training programs that are offered each year by ESEP and some private schools like the Ateneo de Manila have very limited outreach. The teacher-training packages will have to supplement the learning packages for students to enable the teachers to monitor and assist the students. Needless to say, higher education can benefit from IT. The first two years of first degree programs are devoted to general education which contains mostly core courses such as English, mathematics, science, social science, and history. Developing IT packages for these courses would be efficient considering the large college enrollment. ◗

quality and worsen internal inefficiency. The additional budget could be used more efficiently by improving the quality of instruction within the existing 6-4 sequence instead of lengthening the duration along the existing instructional technology.

Accountability, responsiveness, and community involvement. Budgets and technology aside, the major change required is to break down the insularity and hierarchy of the central education system and to make it more accountable to parents, communities, and local governments, in that order. This is an essential step if other reforms are to succeed. For example, part of the problem of education budgets might become more tractable if communities and local governments saw fit to share in some of the costs. This will likely occur, however, only if local communities perceive that they participate in some of the decisions regarding the use of such resources. As another example, the scope for corruption in the department could be reduced if administrative discretion were replaced by a transparent process of awards and procurement, which means giving the clientele responsibility for review. The operating principle should be to place accountability closest to the direct beneficiaries of officials' actions.

The basis for local participation is already

provided by the Local Government Code, which makes local governments responsible for school building and repairs under the Special Education Fund, which is administered by the local school board. This of course lessens the national government education burden and strengthens local governments' interest in the education of their constituency. From an efficiency viewpoint, moreover, it has been suggested (Chapter 3) that local government units are able to construct school buildings at lower cost than the national government. Unfortunately, however, the law has not been effectively enforced since DECS has reported serious classroom shortages. Moreover, local government contributions to education have gone largely to personal services, particularly those for supervisors (Chapter 3). This merely reinforces the tendency of the central offices to spend on personal services instead of learning materials and classrooms.

Part of the reason this occurs is the composition of the local school boards. The Local Government Code (Sec. 99) fixes the composition of these boards among the local chief executive (e.g., governor, mayor, or barangay chair) and the education department executive — as co-chairs — and the chair of the education committee of the sanggunian, the local government treasurer, the chair of the sangguniang kabataan, the president of the federation of parents' associations, and the representative of the teachers' organizations as members. Unfortunately, such a composition is too heavily skewed in favor of elected politicians, ex-officio bureaucrats, and vested interests to become a real watchdog for reform and a true motive force for academic change. What is needed is a return to the original concept of a civil society-dominated provincial board of education as recommended by the EDCOM in 1991, which draws its members from the provincial council, the parent-teacher associations, socio-civic organizations, and professional and alumni associations. A better representation among the principal clientele of schools, namely, pupils through parents and the wider community, is likely to result in less waste and corruption and a better allocation of resources among the community's true priorities. These reconstituted local school boards would be mainly responsible for maintenance of assets and equipment, as well as the acquisition of new school sites and buildings, procurement of books, supplies, and equipment.

Community involvement should be reflected and indeed is more effective at the level of individual public schools. Principals, of course, should be accountable for performance at the school level. But parents, teachers, administrators, and alumni, with the support of local governments, can undertake common projects that can lead the way to improved performance in school. These can take more direct and traditional forms such as raising outside funds to improve school facilities and supplies, or the organization of a corps of education volunteers recruited from the local community or academe to assist in promoting quality basic education and ensure its relevance to the overall development of the community. Nor should such projects always deal exclusively with the formal aspects of learning. It is important for DECS not to conceive its mission narrowly as pertaining only to children in the formal school environment, but also to comprehend the entire socio-economic context that is an important influence on pupils' performance. Documented experience with early childhood education projects in Valencia (Negros Oriental), Dauis (Bohol), and Lopez-Jaena (Misamis Occidental) [Doronila 1999] suggests, for example, that communities participate more readily in literacy and numeracy programs and find more value in formal education when they see its relevance in their daily lives.

It is not the point of this recommendation, of course, to change the mandate of DECS from one of providing formal education to one of community organizing. The local government and other social agents and organizations are probably better at doing that. What it does stress, however, is that the formal education system should recognize how an atmosphere of vigorous local development can stimulate the desire to learn. Hence it must be prepared to

cooperate with other agencies and organizations to bring this about.

Costs can be shared, of course, not only between national and local governments, but also between schools and parents. Basic education, like all other education, after all produces benefits to the recipients. What typically prevents the mobilization of parents' efforts and their contributions is first, the traditional philosophy of treating basic education as an entitlement to be provided free. Deeper than this, however, is the perception that formal education fails to deliver a product that is relevant to their daily lives. It is fairly certain that, as and when they can, parents who perceive a value in education will be willing to shoulder more of the costs of that education, either individually or as a community.

Nonetheless, some parents do pay substantial out-of-pocket costs for public elementary schooling in the form of uniforms, transportation, and learning materials (Chapter 3). As much as P3,325 is spent on school fees, learning materials, transport, uniforms, and other items. Together with cost of board and lodging the cost reaches P6,903. Transport takes up an average of P1,209, while P105 or 1.6 percent is spent on textbooks.

In the matter of textbooks, however, some parents would even now probably be willing to spend somewhat more if the choice to buy books were readily available to them. But it is not. Textbooks in public elementary schools are exclusively supplied by the schools and directly by the teacher. The said books are not marketed in bookstores. (The liberalization of textbook production and distribution is limited to private schools.) This limitation is a recipe for corruption and could allow some personnel to have a monopoly in the development, production, and distribution of public school textbooks. Since DECS books are not marketed, there is no competition in production and pricing. Allowing parents to buy their children's textbooks would not only relax the department's budget constraint but would also foster competition in the textbook industry. The DECS role would then be restricted to helping develop good textbooks and approving those of good quality and adapted to local conditions. At a later stage, local school boards may then choose from a list of approved textbooks those that suit them in terms of price and content.

Greater interaction between local authorities and DECS should also constitute the approach to more technical academic reforms, such as those in the curriculum and in the policy on language of instruction. The current curriculum, especially for the earliest grades, is in need of review from two aspects, as already suggested above. The four Asian economies — Singapore, Korea, Japan, and Hong Kong — that topped the international mathematics and science test given to 13 year-olds deserve emulation. Japan's curriculum in particular has been cited for its focus on core courses and the careful structuring of its textbooks.

As for the language of instruction, the start of the new century should signal the end to the indecision regarding this problem. There is a need to take advantage of the ease of using local languages as a means of introducing students to new concepts; reduce the confusion among pupils as between competing demands of their local language, Filipino, and English; and refocus energies on learning English as the global lingua franca. The concrete proposal made here is to develop *options* to use any *one* of the major Philippine languages (not only Filipino), or English, (or both), as languages of instruction for all of elementary education. Needless to say, these options should be fully supported by the required textbooks and reading materials. In the end, pupils need to learn content, which all studies suggest is best done in their local languages, and they need to be linked to the outside world through English. The choice of language must then be made with the active participation of local governments and the communities they represent.

Beyond determining the content of the core subjects and language of instruction, however, a great deal of work must be done in conjunction with local authorities and communities to design curricula that are regionally and culturally specific, moving away from the iron-boot,

one-size-fits-all approach. This is especially important for regions and groups of the country, such as Muslim areas of Mindanao, that have been marginalized by the formal education system. The education plans and curricula of a province, city, or municipality may include additional curriculum content and require additional competencies and skills of pupils within its jurisdiction.

In the end, therefore, the most radical and effective reform that can be proposed to break the impasse of basic education is to empower communities and their representatives so that they can claim for themselves the amount and the type of education that they want, instead of these being prescribed from above.

NOTES

1 The growth in the public share of secondary enrollment, however, cannot be interpreted as an indicator of quality improvement but an outcome of the relatively recent provision for free high school education.

2 The figure of $139 per capita expenditure quoted in the international comparisons is not far from the budget figure here when adjusted for the purchasing power parity of about 2.5, i.e. ($139 x P26/$1 exchange rate/ 2.5PPP = at P26/$1 exchange rate is P1,444.

3 Performance in the IMST3 is measured by averaged grade. Cost per pupil at the primary level is estimated as the product of per capita income in US$ GDP in purchasing power parity and the ratio of current expenditure per pupil in primary education to GDP per capita. The regression of log of performance to log of per capita cost gives a significant coefficient of 0.022 with 2 of 0.16 for Mathematics and regression coefficient of 0.059 and 2 of 0.19 for Science.

4 P10 constant x GDP deflator of 2.56/average price of P50 = 1/2 book at the price of textbooks of about P50 in 1996.

5 Teachers are responsible for the care of the scarce textbooks and there are anecdotal wisdom that some teachers store the books intended for their classes to minimize wear and loss.

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