

Concerns and Problems

The Meaning of Education Quality

The precise meaning of education quality and the path to improvement of quality are often left unexplained. Examined within context, education quality apparently may refer to inputs (numbers of teachers, amount of teacher training, number of textbooks), processes (amount of direct instructional time, extent of active learning), outputs (test scores, graduation rates), and outcomes (performance in subsequent employment). Additionally, quality education may imply simply the attaining of specified targets and objectives. More comprehensive views are also found, and interpretation of quality may be based on an institution's or program's reputation, the extent to which schooling has influenced change in student knowledge, attitudes, values, and behavior, or a complete theory or ideology of acquisition and application of learning (Adams 1998).

As education systems grow and the numbers of stakeholders and clients involved in education decisions change, the potential for misunderstanding, disagreement, and conflict regarding the meaning of quality increases. Full agreement among parents, teachers, administrators, and students as to the ingredients of quality, how to measure it, and how to initiate and sustain improvement is unlikely. Nevertheless, as this booklet shows, many dimensions can be identified and addressed.

Education Achievements, Concerns, and Problems among DMCs

The increased concern for education quality has resulted from a variety of factors including: (i) inability to adequately staff and finance rapidly expanding education systems; (ii) research-based evidence of low levels of learning in basic skills; (iii) new demands for advanced language, mathematics, and, increasingly, computer skills, stemming from industrialization; and (iv) financial crises that have had an adverse effect on education budgets – in some cases reducing internal efficiencies and eliminating plans for qualitative improvement.

Generalizations about education quality are difficult across DMCs. The more economically advanced countries of Asia are among the world leaders in student achievement on core subject areas, as measured by comparisons of cross-national test scores. However, in the poorer countries many students even after several years of primary schooling may not have acquired basic literacy and numeracy. Moreover, the disparities in the quality of instruction

and learning across regions within a single country sometimes exceed the differences between countries.

Table 1 provides cross-country data on four grade levels of mathematics from the Third International Mathematics and Science Study (TIMSS). The extremely high rankings of Hong Kong, China; Republic of Korea; and Singapore in mathematics are perhaps reflections of the education progress of high-performing Asian economies. These economies also ranked high on parallel tests in science (Beaton et al. 1996). Thailand scored above the international average in 7th and 8th grade mathematics and somewhat below the international average in 3rd and 4th grade mathematics.

In contrast to the few Asian leaders, there are many DMCs in which the persistence of low-quality education is widely demonstrated. Policymakers in countries in South Asia and Southeast Asia, for example, point to the inability of the education systems to produce labor forces sufficiently literate and skilled to compete internationally. Children, even after several years of primary education, may not have acquired basic numeracy and literacy skills. Moreover, teachers, often with only a partial secondary education, may have difficulty in understanding the concepts and operations found in the curriculum. Box 1 summarizes concerns for education quality found in three DMCs.

A further sample of problems and constraints frustrating attempts at attaining higher education quality can be found in the Country Sector Studies (see Appendix for the list of Country Sector Studies referred to in this booklet):

Indonesia	Low general qualifications of some teachers; low mastery level of teachers in subjects taught; low status of teaching.
Kyrgyz Republic	Need to revise (and reduce) the content of instruction in order not to overload students; shortages of library facilities and books; shortage of new technical equipment; inadequate testing of students' knowledge.
Pakistan	Poor physical facilities; inadequate distribution of materials; high school fees; "ghost" schools that only exist on paper; shortage of trained teachers; high student/teacher ratio.
Philippines	Inadequate teacher in-service training; low teacher salaries; misallocation of teachers (teachers not teaching their specialties).
Papua New Guinea	Inadequately trained teachers; shortage of quantity and inadequate quality of textbooks; failure of innovations to result in improvement.
People's Republic of China (PRC)	In the past, too much emphasis on examinations; heavy teaching schedule of teachers; low salaries of teachers; inadequate supply of teaching materials.

Table 1: Comparison of Student Achievement in Mathematics in Selected Economies, 1994-95

<i>3rd Grade</i>		<i>4th Grade</i>		<i>5th Grade</i>		<i>8th Grade</i>	
<i>Economy</i>	<i>Average achievement</i>	<i>Economy</i>	<i>Average achievement</i>	<i>Economy</i>	<i>Average achievement</i>	<i>Economy</i>	<i>Average achievement</i>
Rep. of Korea	422	Singapore	484	Singapore	601	Singapore	643
Singapore	414	Rep. of Korea	471	Rep. of Korea	577	Rep. of Korea	607
Japan	400	Japan	457	Japan	571	Japan	605
Hong Kong, China	387	Hong Kong, China	447	Hong Kong, China	564	Hong Kong, China	588
Czech Republic	361	Netherlands	438	Czech Republic	523	Czech Republic	564
Netherlands	357	Czech Republic	428	Netherlands	516	Slovenia	541
Austria	351	Austria	421	Austria	509	Netherlands	541
Slovenia	351	Slovenia	414	Hungary	502	Austria	539
Australia	347	Ireland	412	Ireland	500	Hungary	537
United States	344	Hungary	410	Australia	498	Australia	530
Hungary	340	Australia	408	Slovenia	498	Ireland	527
Ireland	340	United States	407	Thailand	495	Canada	527
Canada	334	Canada	395	Canada	494	Thailand	522
Latvia	328	Israel	394	England	476	Israel	522
Scotland	323	Latvia	388	United States	476	New Zealand	508
England	321	Scotland	383	New Zealand	472	England	506
Thailand	309	England	376	Scotland	463	Norway	503
New Zealand	305	Cyprus	366	Latvia	462	United States	500
Cyprus	296	Norway	365	Norway	461	Scotland	498
Greece	294	New Zealand	362	Iceland	459	Latvia	493
Portugal	291	Greece	356	Cyprus	446	Iceland	487
Norway	287	Thailand	354	Greece	440	Greece	484
Iceland	276	Portugal	340	Portugal	423	Cyprus	474
Iran	245	Iceland	338	Iran	401	Portugal	454
Israel	—	Iran	294	Israel	—	Iran	428
Kuwait	—	Kuwait	267	Kuwait	—	Kuwait	392
International average	334	International average	391	International average	493	International average	520

Source: IEA Third International Mathematics and Science Study (TIMSS) 1994-95.

Box 1: Conditions of Low Quality**Case 1: Lao PDR**

A critical requirement is to improve education quality. The poor quality of education inputs and processes in basic education is evidenced by inappropriate curricula and teaching methods. Textbooks are scarce or nonexistent in many schools. Access to instructional materials is diminishing as parents have to pay. In addition to the problems of financing, the lack of instructional materials has been due to the absence of a reliable delivery/distribution system to the schools. Low levels of teacher qualification, and the absence of systems for teacher upgrading and professional support are endemic at all levels of education. Teachers' effectiveness in the classroom is low with 84 percent of teachers not being formally trained. More fundamentally, the instructional hours (estimated at 10 per week) is well below half of international norms. The majority of school facilities do not provide the minimum physical conditions required for teaching and learning. Buildings are deteriorating because of lack of maintenance (ADB 1993).

Case 2: Viet Nam

Schools are poorly furnished and equipped. Students lack textbooks, and the curriculum itself is largely irrelevant to contemporary needs. Assessment systems are poor. Teachers do not have sufficient training and are unaware of new and more effective methods of teaching. All these factors contribute to the decline in quality. Other factors contributing to this decline depend on the substantial economic changes that Viet Nam is undergoing and that clearly affect the demand for entering – or staying in – the education system (Viet Nam Country Sector Study 1997).

Case 3: Nepal

Lack of trained teachers is one of the burning issues of schooling in Nepal. The trained teachers, on the other hand, face a lack of opportunities for follow-up professional development programs.

The classroom instructional practices are still very poor, and schools are yet to be reformed to run properly. Teacher morale is yet to be enhanced; teacher training needs to be expanded and diversified in its mode of delivery to produce the adequate number of trained teachers conveniently and effectively; teachers need to be trained to become sensitive to emotional, psychological, as well as education needs of the children. There is also a need for curriculum reform to make it relevant and effective to the needs of society so that the opportunity cost of education for the population generally is not an issue.

Dissatisfaction with the costs of rapid expansion of education systems, disillusion with the apparent growing lack of fit between schooling and the world of work, and a general concern over the low level of basic education, have given impetus to the search for new, more effective, and more efficient models of education. The increased interest in education quality, typically defined in terms of student achievement, has been further stimulated by ripples of optimism flowing from a body of empirical research which, in developing countries, suggests that certain manipulable school inputs can significantly affect student performance, and which, in industrialized countries, seems to conclude that the characteristics of high-quality schools are not only known, but to a degree, are common across a range of cultures (Nepal Country Sector Study 1997).

Empirical evidence of limitations of schooling to produce basic literacy and necessary skills can be found in several DMCs. A study, involving a nationally representative sample of 11-12-year-old children in Pakistan (Pervez 1993) assessed children's mastery of a number of basic competencies: life skills knowledge; rote reading; reading with comprehension; writing from dictation; writing a letter; numeracy and arithmetic; mental arithmetic; and reading of the Holy Qur'an. Results were highly variable throughout the country and across the various tasks (Table 2). In general, there are serious grounds for concern about quality of teaching issues, especially in tasks that require application of school learning to life-relevant tasks.

All DMCs, even high-performing ones, have reported dissatisfaction with the quality of their education systems. Often mentioned or implied are inputs such as teacher training, the lack of teacher motivation, the need for curriculum revision, inadequate facilities, and insufficient textbooks. Strategies proposed to improve quality include improved inputs such as the use of more technology, incentives for productivity of teachers, establishing or clarifying national standards, and increased in-service training of teachers. Strong evidence is not presented that these strategies can be cost effective. Moreover, little consideration is given regarding the possible trade-offs of choices by decision makers seeking to weigh their options. The recommendations do, however, reflect prevailing assumptions about what important, relevant strategies are available to policymakers for increasing schools' contributions to learning.

The Country Sector Studies and most international agency literature tend to assume a common, but nonexplicit, meaning of quality that usually seems to be a measure of student achievement. Some comments are also made regarding the need for teachers to be more conscious of the psychological needs of students and the multiple social skills and commitments required in society. Usually, however, the examination of quality problems has been in terms of deficits (Agarwal and Harding 1997a). Recommendations for improving quality have been presented in terms of reducing deficits by providing more funds, materials, and additional training. The Country Sector Studies further suggested that quality could be improved by altering the role of teachers to become more reflective of their practice, the further use of evaluation techniques in the classroom, more innovative and piloted experiments in school organization, more effective allocation of teachers, developing in-service training in actual class situations, and performance-based incentives for teachers and administrators.

Table 2: Percentage of Children in Classes 1-5 with Basic Competencies

<i>Competencies</i>	<i>Classes</i>					<i>Percentage of competent children</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	
Life skills knowledge	8.1	7.0	17.4	27.0	29.4	26.1
Rote reading	32.4	36.6	68.7	84.7	90.9	63.7
Reading with comprehension	2.7	7.0	15.9	22.9	33.5	26.8
Writing from dictation	0	23.9	59.0	81.8	88.5	61.7
Writing letter	0	0	2.1	6.7	17.4	18.1
Numeracy and arithmetic	18.9	32.4	66.7	86.9	91.9	69.6
Mental arithmetic	8.1	16.9	17.9	40.8	52.7	67.7
Reading of Holy Qur'an	6.7	8.8	7.7	40.0	67.9	44.2

Source: Pervez 1993.

Demographic and Economic Contextual Influences

The ability of nations to expand and improve education systems is strongly influenced by demographic and economic contexts. The demographic change taking place in Asia is basically a transition from high mortality and fertility rates to lower mortality and fertility rates. Fertility and mortality declines have followed a pattern of demographic divergence, with East Asia (Hong Kong, China; Republic of Korea; Malaysia; Singapore; and Taipei, China) entering demographic transition early and South Asia, later. Variations in demographic structures help explain economic and education growth rates. They have consequences for quality education, and have given East Asia an advantage over South Asia. For East Asia the change has meant more citizens of working age, paying taxes, saving, and contributing to the economic development of their countries (ADB 1997, 21) and fewer children entering school and, presumably, drawing down on those taxes and savings. This demographic shift had two consequences. First, more money was available to finance both the public and private costs of education. Second, there were fewer children to educate. This “breather” allowed countries the opportunity to extend access to those still not in school and, eventually, to direct more funds to quality improvement. One consequence was that much of East Asia has had nearly universal primary education since 1975. In that subregion, the decline in the size of the school-age cohort compared with the previous decade resulted in about a 3-4 percent rise in secondary school enrollments since the mid-1970s and a 10-13 percent increase in expenditure (ADB 1997, 161).

Favorable demographics and increased industrialization were important factors in fueling the economic growth enjoyed by much of the region, and led to sharply improved health and nutrition, a reduction in poverty, and widespread extension of education opportunity. Not all countries have enjoyed this growth, and there are sharp disparities across the region and within countries. Between 1985 and 1995, the growth of gross domestic product (GDP) per capita in South Asia was approximately half of that of East Asia. Economic growth did not necessarily eliminate poverty, nor were education benefits equitably distributed between boys and girls.

Lewin points out that the quantity and quality of schooling are particularly sensitive to the size of the school-age cohort. He notes (1996, 50):

Richer DMCs with lower dependency ratios have been able to invest more per child at similar allocations of funds. High dependency ratios in poorer countries, by forcing choices as to which children go to school, tend to be associated with suppression of female enrollments and, thus, indirectly, may reduce the number of opportunities in the labor market for girls.

Moreover, the level of prosperity of the high-growth countries may not continue. As Table 3 indicates, some of the leading economies in Asia experienced a sharp downturn in GDP during 1997 (Samuelson 1998). The financial problems sweeping the region may foreshadow a new trend – or at least a new level of caution in making predictions. The money that financed education growth in the past may not be there in the future.

Within-country differences in certain education inputs, particularly between urban and rural areas, can be great in most DMCs. The Viet Nam Country Sector Study (1997, 16-17), for example, noted that:

Discrepancies exist between the northern and southern portions of the country. Internal efficiency of primary education (as measured by input-output ratios) between 1987 and 1989 in the north was 64.5 percent and in the south 49.8 percent. (For secondary education, the figures were 55.9 percent in the north and 28.8 percent in the south. For upper secondary education they were 58.5 percent and 32.1 percent, respectively.) Highland areas have the lowest internal efficiency ratios and the lowest enrollment rates. Minority groups inhabit these highland areas.

Another case of within-country disparities is described in the Pakistan Country Sector Study (1997, 29):

Various studies done on education facilities and quality of education suggest a growing quality gap [within] Pakistan's school system.... [A]bout 25,000 primary schools are without school buildings and many schools are without walls. In rural areas most schools are one room without water and latrine facilities. Books are expensive and do not get distributed on time, implying that 40 percent of the poorest households have little or no access to textbooks in primary and lower secondary schools.

Such conditions stand in stark contrast to the more affluent schools in Islamabad, Karachi, and Lahore.

Generally, the pattern of education expansion and, by some indicators, quality follow the pattern of economic growth with high levels of economic growth associated with high levels of literacy and education attainment. Fluctuations in the economy can have quick education repercussions. A sharp economic downturn in the early 1990s, for example, hit former countries of the Soviet Union (Kazakhstan, Kyrgyz Republic, and Uzbekistan), which had a long tradition of high literacy and high levels of school enrollment. There is, however, at any given economic level a wide variation in levels of education development. Positive education outliers in terms of their economic development include Mongolia, Philippines, and Sri Lanka.

Table 3: Changes in GDP Growth Rates
(percent)

Country	1996	1997	1998
Indonesia	+8.0	+4.6	-12.5
Malaysia	+8.6	+7.8	-2.0
Korea, Republic of	+7.3	+5.5	-5.0
Thailand	+5.5	-0.4	-7.0

Source: Samuelson 1998.