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# Third World School Quality Current Collapse, Future Potential

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*Eager to boost literacy, economic growth, and national institutions, Third World governments and international aid agencies have greatly expanded schooling since the 1950s. Enrollments have quintupled since the late '50s, from 100 million children to now more than 500 million. The sharp economic decline felt over the past decade throughout the developing world, however, has led to deep cuts in education budgets. Child populations are doubling every 20 years in many countries. Popular demand for primary schooling, as manifest in enrollment rates, continues to skyrocket. This conflict between ever-rising enrollments and falling resources is severely eroding school quality. We detail and illustrate this collapse of educational quality, calling on North American educators to recognize this quiet crisis and to contribute to its remedy. In addition, we map out a strategy for attacking the problem, drawing on the growing body of Third World research and new initiatives coming from international organizations.*

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Luckily, the glass windows of this tiny mud classroom had long ago disappeared from their crudely carved frames. Otherwise, the steaming African heat would have felt even more oppressive. It was like walking into a warm, damp greenhouse. Then the human contribution to this tropical stuffiness hit us as well: 75 children, varying in height but all thin, packed this schoolroom, arranged in tidy rows. As we entered the classroom, the shuffling of bare feet against the dusty stone floor gave way to a loud and crisp, 'Good morning, sirs!'

This respectful greeting was characteristic of many other disciplined pupils and earnest teachers we had observed. The social cohesion of African classrooms is always striking, whether it stems from traditional respect for village authority, an old colonial headmaster, or perhaps a Western school effectiveness guru.

The rich social fabric of this second-grade classroom contrasted sharply with its most visible feature: material poverty. Only one in three children had access to reading material of any kind. Pupils without desks huddled together on the rock-hard floor. Five or six children passed a single pencil among themselves, jotting down brief phrases as dictated by the teacher. From outside, this mass of children sounded like a melodic chorus as the teacher energetically demanded that they repeat basic vocabulary words in unison. Despite their eagerness, fewer than half of these slight children would stay in school through the fourth grade.

## Rapid School Growth, Declining Resources

Since World War II, Third World political leaders and international agencies have counted heavily on the rapid con-

struction of schools, believing that strong social and economic benefits would result. In the 1950s, governments reported that one third of their children were enrolled in primary school. Today this rate exceeds 70%. Almost 800 million youngsters will be attending Third World schools by the year 2000 (UNESCO, 1983). With child populations doubling every 20 to 30 years, Third World leaders feel enormous political pressure to maintain this breakneck pace of school expansion.

Rocked by a hostile world economy and always-fragile domestic political conditions, government expenditures for education have, at best, leveled off in most developing countries. Many Third World governments now earmark up to one third of their annual budget for paying off foreign debt. The basic economic barometer, GNP per capita, has remained static in much of the Third World, or fallen in the case of Africa, over the past decade. Because of this economic crisis, the share of all government spending allocated for education in the poorest countries has fallen from 16% to 12% since 1970 (World Bank, 1987, 1988).

## Signs of Eroding School Quality

The conflicting forces of population and enrollment growth pitted against recurring economic decline pushes education ministries to spread scarce resources ever more thinly. The resulting free-fall in school quality is visible in many cases:

- In the African nation of Malawi, the pupil-teacher ratio in primary schools has climbed from 41:1 to 63:1 since 1970. Per-pupil spending has declined 4.1% each year in real terms. Only 50¢ is now spent annually per pupil on textbooks, writing pads, and other instructional supplies.
- In Nepal, one third of all teachers have no more than a primary school education. Education spending has remained stagnant over the past decade—equaling \$11 per pupil. Fewer than one third of all children reach the fifth grade (Cieutat & Pigozzi, 1988).
- In relatively affluent Latin America, the foreign debt crisis

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has decimated governments' capacity to support basic education. Per-pupil spending at the primary level has fallen by 40% in Mexico since 1980. In northeast Brazil, one third of all teachers have completed 4 years of schooling or less (Armitage, Batista, Harbison, Holsinger, & Helio, 1986).

- In Somalia, one fourth of the teaching force quits the profession each year. The number of textbooks printed last year equaled one fifth the number published a decade ago. The absolute number of pupils enrolled has fallen by 27% since 1980 (Smyth, 1987).

Inferences about educational quality stem not only from such information on material resources (or inputs) available to schools but also from evidence on pupil performance. Findings from the first international evaluation of achievement, for instance, revealed that just 1 out of 10 Third World students at age 14 was as literate in the language of instruction as the average pupil from an industrialized country (Thorndike, 1974). Average reading scores in developing countries, such as Chile and India, were half the level found within industrialized nations. We must be sensitive to cultural differences in how curricula are organized and achievement is measured, yet schools around the world are charged with imparting such basic literacy skills.

In defining "school quality," we start with student achievement, then back up to specify those instructional materials and teaching practices that most effectively boost achievement. For instance, evidence on the consistent impact of adding more textbooks to Third World classrooms is summarized below. By focusing on materials and practices that make a difference, this definition emphasizes the concentration of instructional resources available to each student. As enrollments expand more rapidly than do available resources, quality erodes relentlessly. This threatens the potential payoff from schooling in terms of higher literacy, social gains, and economic returns. Empirical investigation of these school factors requires that we control on pupils' family background—which shapes cognitive proficiencies, health and nutritional status, as well as ongoing demand for children's labor.

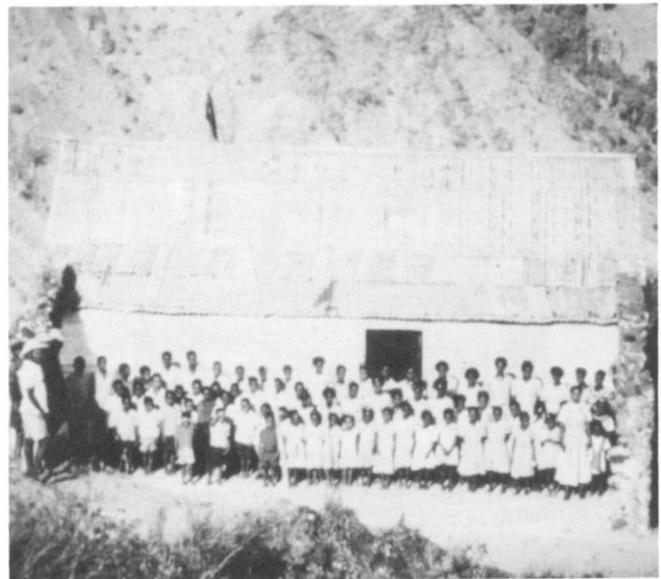
### The Potential Impact of School Quality

Some critics argue that efforts to improve school quality will not make a dent in low student performance. They emphasize that pupil performance is low in the Third World because of children's impoverished out-of-school settings and the resulting nutritional and cognitive harm done. Parents' strong demand for children to work in the fields, the household, or the streets also takes them away from the classroom. This diagnosis of the problem suggests that fundamental economic change is required before an independent effect of school quality can be observed.

In addition, did not the Coleman report (Coleman et al., 1966) and the British Plowden report (Peaker, 1971) conclude that variation in the material qualities of school make little difference in contributing to pupils' achievement, relative to the influence of family background? Two decades of research following this initial finding does point to social and pedagogical practices (not just material inputs emphasized by Coleman) that yield significant achievement effects. The teacher's use of instructional time, the amount and type of curriculum covered, and certain student questioning practices, for instance, all appear to boost achievement significantly (Ralph, 1988; Rutter, 1983). Yet Coleman's basic

conclusion still stands within industrial societies: The child's background explains a greater portion of the variation in youngsters' achievement and eventual occupation attainment than do qualities of the school.

This pessimistic finding continues to be generalized to Third World settings. One early and influential paper concluded that variation in school quality was not strongly related to pupil achievement, net the influence of children's family background (Simmons & Alexander, 1978). This review was based on just nine empirical studies from the Third World. Yet the authors' inference fit nicely into the intellectual climate: Because schools allegedly reinforce social



Courtesy of the Canadian International Development Agency.

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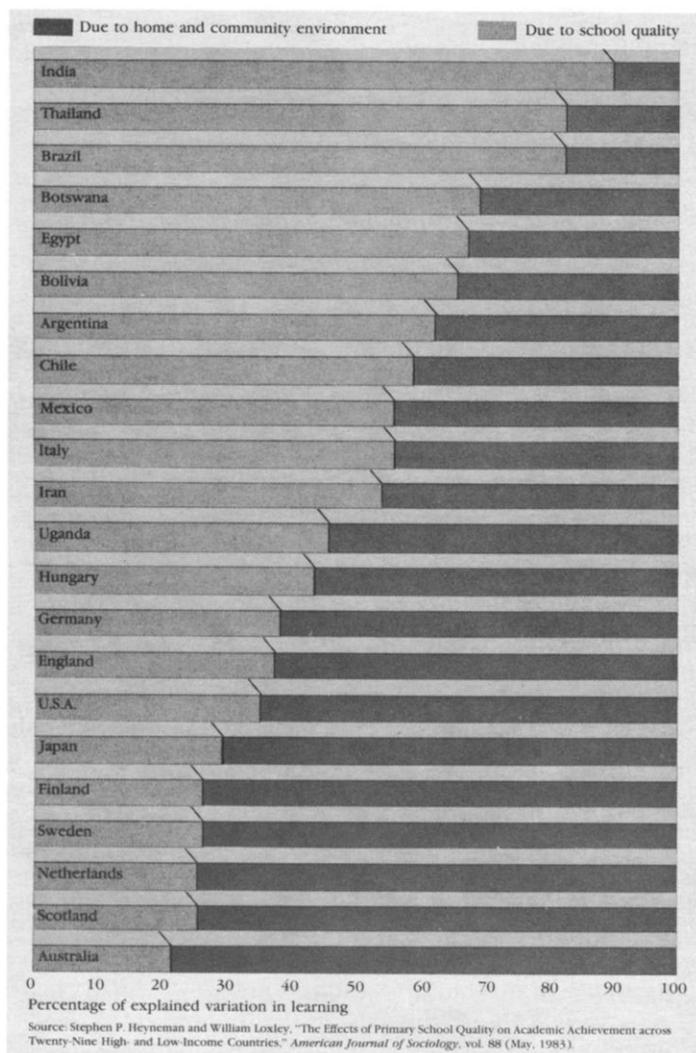
class inequities, variation in quality could not override differences in pupils' family background.

Yet evidence emerging over the past decade, grounded in more than 60 multivariate studies, now demonstrates that even basic school inputs (like textbooks or simple writing materials) exert a significant influence on pupil achievement in developing countries. Family background undoubtedly plays a role in determining children's school achievement. But the independent influence of school factors appears to be much greater in the Third World than within industrialized countries (for a detailed review of this research, see Fuller, 1987).

One study devised a school quality index based on survey data from 16 developing and 13 industrial nations. Straightforward indicators were used, including the number of textbooks and desks available, the length of the instructional program, and the educational level of teachers. For industrialized countries, the level of school quality tended to make little difference in shaping achievement after taking into account pupils' family background. Such basic elements

of quality, however, consistently exerted an influence on achievement within developing countries. For instance, nine tenths of the explained variance in the achievement of children in India was accounted for by differing levels of school quality. Family background and other preschool influences accounted for the remaining one tenth. The reverse

**FIGURE 1**  
**Influences on Primary School Science Achievement**



Note. From World Bank, 1986. Used by permission.

held true for industrialized countries, like Australia, where three fourths of the explained variance was attributable to family background and only one fourth to variation in school quality (Heyneman & Loxley, 1983). Figure 1 illustrates this general pattern.<sup>1</sup>

Recent evidence also suggests that the long-term economic

effects of schooling stem as much from quality improvements as from enrollment growth. One longitudinal study of 1,205 young Chileans found that the quality of school attended was related to the status of their first job, controlling for the effects of family background (Schiefelbein & Farrell, 1984). Quality was measured in terms of textbook availability, teachers' educational level, and the character of school facilities. A similar study of 6,171 young Brazilian males found that the quality of their schools influenced postschool earnings as strongly as did the length of their school attendance (Behrman & Birdsall, 1983). School quality may operate, not surprisingly, through the child's achieved literacy level to help shape eventual occupational status. For instance, a recent study conducted in Kenya and Tanzania found that reading proficiency levels attained in school helped explained later income levels (Boissiere, Knight, & Sabot, 1985). Cognitive skills nurtured in school also are related to later success in the informal labor market (Eisenmon, 1987). A historical study of school expansion in Mexico found aggregate economic effects from improvements in educational quality, not only from enrollment growth (Fuller, Edwards, & Gorman, 1986).

Why is school quality in the Third World a potent influence on student achievement and eventual economic gains compared to the more limited effect found within industrialized nations? First, the baseline level of quality in the Third World is very low relative to the U.S. or western European countries. Many schools lack basic textbooks, desks, and even simple writing materials. In these settings, incremental infusions may substantially improve students' opportunity to read, write, and discuss organized lessons. In industrialized settings, where the typical level of material inputs is much higher, the impact of marginal variation appears to be more limited. Second, written literacy and numeracy skills are relatively scarce in most Third World countries; the few young people who effectively obtain these skills are more frequently rewarded. Third, because the use of the written word in agriculture, commerce, and law is novel in many cultures or social classes, the school becomes the exclusive provider of this new form of competence. Within North America and Europe, literacy was actively taught by local churches and parents long before the advent of government schools. But these local sources of instruction are much weaker in many developing countries.

Recent concern over eroding school quality, and the recognition that ameliorative measures can yield strong benefits, have helped to shift educational investments made by development agencies and governments. Before 1967, the World Bank justified educational investments on the grounds that more highly educated "manpower" was required. This usually implied projects emphasizing school construction at secondary and university levels. By 1982, however, the proportion of World Bank lending for new school construction had fallen from 85% to 37%. Improvement in school quality has become the major focus of this one donor's portfolio. The number of projects financing textbook production, for instance, rose from 3 to 37 over this period.

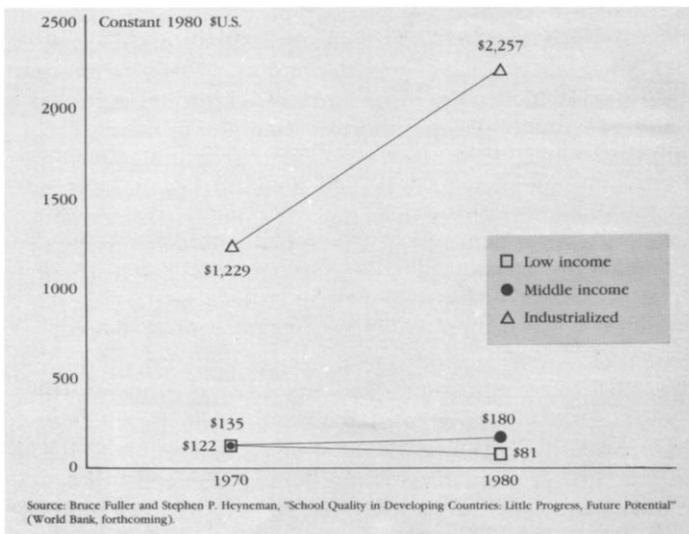
Despite this growing awareness of the problem, solid evidence is just beginning to emerge around related questions. First, what are valid indicators of "school quality," and how are they changing over time? Second, when gov-

ernments and development groups shift their focus from expansion to improving the quality of basic education, what material inputs and organizational factors most effectively boost student achievement? We turn next to these issues.

### School Quality Trends

Establishing clear international evidence on school quality trends is not an easy task. Longitudinal data are available from UNESCO and some governments, but this information pertains only to gross school inputs (such as per-pupil spending) or to outcomes (measured in terms of school completion rates). Central government data are not always reliable, especially under federal governments where local units provide most of the educational resources (such as In-

**FIGURE 2**  
Total Recurrent Expenditures per Student



Note. From World Bank, 1986. Used by permission.

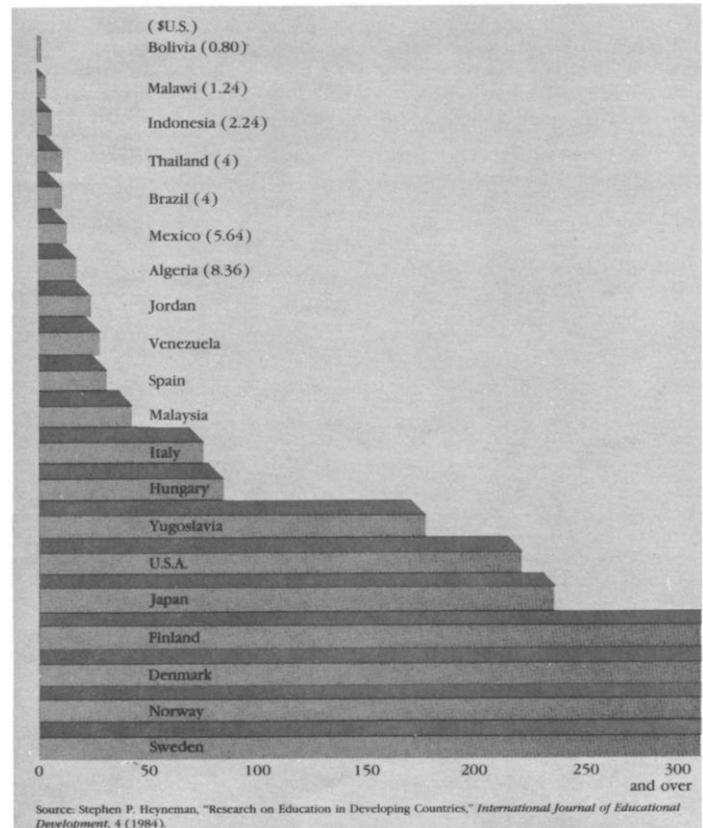
dia or Brazil).<sup>2</sup> Despite these limitations, one can see general trends by looking across different indicators and types of countries.

The erosion of school quality is starkly apparent at the primary school level. Figure 2 plots per-pupil spending levels for Third World and industrialized nations since 1970. Per-student spending in the poorest developing countries (GNP per capita less than \$450) has declined from \$122 to \$81 (in constant 1980 dollars). Some countries in this category have been hit particularly hard by economic decline and high rates of child population growth. Per-pupil spending in Uganda, for instance, has fallen from \$50 to \$3 since 1975. Spending has improved slightly in so-called middle-income countries, from \$135 to \$180 (particularly in countries like Venezuela, Chile, and Hungary). But even these resource levels are far below those of industrialized coun-

tries where per-pupil spending rose from \$1,229 in 1970 to \$2,257 in 1980 (Fuller, 1986).<sup>3</sup>

Because the lion's share of recurrent spending goes for teacher salaries, budget declines largely indicate falling real income of teachers. But fiscal pressures also are driving down resources spent on nonsalary items—especially textbooks and instructional materials. This is particularly dis-

**FIGURE 3**  
Spending on Classroom Materials and Other Nonsalary Recurrent Expenditures per Student Enrolled in Primary School



Note. From World Bank, 1986. Used by permission.

turbing in that these basic materials appear to have a consistent impact on student achievement, as we detail below. The mean percentage of education spending allocated by governments to instructional materials fell from 9% to 4% among the poorest Third World countries between 1975 and 1984 (Komenan, 1987). The median country now spends just 1.7% of its education budget on books and writing materials. Differences among countries in absolute expenditures on basic materials are illustrated in Figure 3. Bolivian primary school teachers have at their disposal just 80¢ per student

each year, whereas Brazilian teachers spend four times as much, about \$4 per pupil, on instructional materials. By contrast, annual expenditures on learning materials in industrialized countries, like Sweden, exceed \$300 per student.

A commonly employed indicator of "school efficiency" in the Third World is the share of pupils that persist to the fifth grade. This indicator does not really pinpoint the school's independent effect because school-leaving may be more related to parents' demand for their children's labor and cultural practices (especially with respect to gender differences) than to qualities of the school itself. Nevertheless, the statistic is telling. Among the poorest developing countries, just 54% of all pupils persist to grade 5. In sub-Saharan Africa and south Asia, just one third of all entering students make it this far in primary school (Komenan, 1987; UNESCO, 1983).

### Efficient Strategies for Boosting School Quality

Given this evident crisis, what effective remedies can be pursued? Above all else, one must recognize and work within tight resource constraints facing developing countries. To assume that we can simply improve school quality by

**TABLE 1**  
**What School Factors Boost Achievement**  
**in the Third World?**

School factor	Number of studies	Number confirming achievement effect
Highly effective		
Textbooks and instructional materials	24	16
Years of teacher training	31	22
School library activity	18	15
Length of instructional programs	14	12
Pupil feeding programs	6	5
Less effective		
Reducing class size	21	5
Science laboratories	11	4
Teacher salaries	14	5
Pupil repetition of grades	5	1

Source: Fuller (1987). Used by permission.

spending more money is hopeful but quite unrealistic within the economic environment of most Third World countries. Therefore one must carefully target investments on those facets of the school that most efficiently raise pupil achievement. Research has contributed significantly to this latter issue over the past 15 years. Elsewhere we detail the findings from more than 60 Third World studies on what school factors do and do *not* appear to contribute to student performance (Fuller, 1987). These studies employed either

multivariate models that controlled for family background or experimental groups within a planned intervention (where textbooks or other instructional programs were introduced). Here we briefly outline the lessons learned from this growing body of empirical evidence.

First, teaching materials and related material inputs that are linked directly to teaching are related consistently to higher pupil achievement, after controlling for the influence of family background. Textbooks have been related significantly to higher pupil achievement in 16 of the 24 empirical studies that looked at this factor (Table 1). Note again that variation in these fundamental inputs is not as strongly or as consistently related to higher achievement in the U.S. and other affluent countries. Yet given the scarcity of basic instructional materials in the Third World, even slight infusions can yield substantial learning gains (in Nicaragua, Jamison, Searle, Galda, & Heyneman, 1981; in the Philippines, Heyneman, Jamison & Montenegro, 1983; in Thailand, Lockheed, Vail, & Fuller, 1986).

Second, teacher quality often is related to higher student performance. Research thus far is limited by the use of proxies for "teacher quality," rather than more precise measures of specific pedagogical skills. But findings are instructive. For instance, in two thirds of all studies that examined the length of teachers' pedagogical training, significant effects on pupil achievement were found, net the influence of students' family background (for example, in Ghana, see Bibby & Peil, 1974; in Colombia, Arriagada, 1981; in Botswana, Heyneman & Loxley, 1983). Researchers have yet to isolate the elements of teacher training or classroom conditions that contribute to the competencies that teachers exhibit. One initial study from Malawi did find that teachers' knowledge of the math curriculum was related to the number of textbooks received, net the influence of their own social class background and other classroom conditions. Teachers were apparently becoming more numerate by reading and teaching from their pupils' texts (Fuller & Kapakasa, in press).

Third, research in developing countries is about a decade behind U.S. school-effectiveness literature in examining school management and classroom processes that may boost achievement. However, 14 Third World studies have included the length of the instructional program (expressed as hours per day or days per year) within multivariate models, and this factor has been consistently related to pupil achievement (in Tanzania, see Psacharopoulos & Loxley, 1986; in Thailand, see Lockheed et al., 1986). Only 8 studies have included the frequency with which homework is assigned to pupils, yet pupil achievement effects are found rather consistently. Beyond investigating these structural aspects of the school, little work has been done. Much remains to be learned as to how headmasters and teachers mobilize and organize scarce instructional materials.

Fourth, this body of research shows that the basic nutritional and health status of children can be a forceful determinant of achievement. A recent survey in Malawi found that one third of all pupils reported being hungry at least part of the school day (Mundangepfupfu, 1988; also in Uganda, see Heyneman & Jamison, 1980). Primary school headmasters in the Third World at times organize lunch for their pupils. These feeding efforts pay off in terms of higher achievement (in Guatemala, see Balderston, Wilson, Freire, & Simonen, 1981; in Egypt, see Hartley & Swanson, 1984).

Finally, several facets of the school may appear to signal higher quality, yet are not empirically related to higher levels of student performance. As mentioned earlier, more than 95% of many a Third World education budget is allocated to teacher salaries. However, only 5 of 14 empirical studies have found that variation in teachers' salaries is related to pupil achievement. Governments and international agencies are often eager to lower average class size, presumably as a way of raising school quality. Unfortunately, incremental reductions, though quite costly, appear to yield little return in terms of higher student achievement. This does not mean that large reductions in class size, such as those in many African classrooms, will not help. Yet smaller reductions from, say, 40 to 35 students per teacher are often debated. These decrements are not likely to yield significant gains in pupil achievement. Science laboratories hold enormous status in Third World secondary schools (just as a computer room does in U.S. schools), but they do not consistently boost student achievement and may not be relevant to teaching basic scientific concepts. Similarly, complex vocational curricula, though popular even at the primary level, also have proven to be very costly and hold little empirical impact on achievement (Heyneman, 1987).

### Future Research Issues

School quality research in the Third World continues to be constrained by the troubling question raised in the 1966 Coleman report: Do schools make a difference in boosting children's achievement after one takes their family background into account? Governments and aid agencies, faced with criticism of their investment in education, continue to support research that documents the school's discrete effect. Large surveys are mounted, focusing on easily counted material inputs. Multivariate models are then constructed, building on the production-function metaphor from economics, to identify which school factors efficaciously raise achievement.<sup>4</sup>

The importance of this broad agenda should not be underestimated. Research in developing countries should, however, provide more textured portraits of life in classrooms. Production-function models emphasize learning that results from the simple insertion of physical goods into the classroom. In the Third World, this representation is accurate in some instances, as we have seen. Yet students of school effectiveness in the U.S. stress the importance of how resources are mobilized and managed by teachers and how these instructional tools are embedded in the classroom's social rules to motivate students (Ralph, 1988). These factors may be particularly important under conditions of material scarcity.

Anecdotes abound regarding the chalk-and-talk pedagogical method employed by many Third World teachers. But we have few concrete descriptions of how teachers interact with pupils, how student exercises are structured and evaluated, and what forms of knowledge are communicated (from accepted facts to debates over, for instance, normative issues in social studies). In short, we know very little about how teachers try to motivate children, or whether they attempt simply to maintain order when confronted by 50 or 60 young faces.<sup>5</sup>

As we get deeper into the social rules of schools and classrooms we run into normative as well as technical issues. The beauty of school-effectiveness research to date is that

it sticks closely to the technical task: Once a government decides its learning goals, this work helps define which material inputs best contribute to pupils' acquisition of this knowledge. Yet culturally defined social rules, in part, determine how headmasters manage and how teachers teach. These rules of social organization are often a hybrid of colonial and indigenous forms of authority, blended with some image of what "modern" pedagogy and knowledge should look like. These beliefs and practices define how the teacher

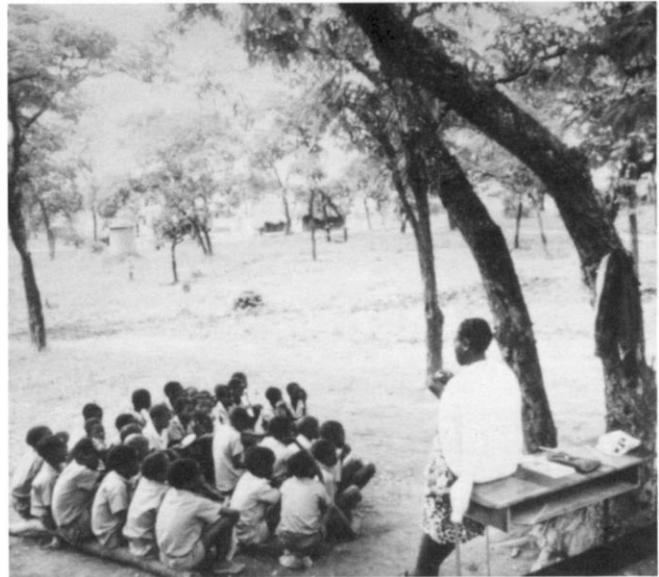


Photo by Bruce Paton; courtesy of the Canadian International Development Agency.

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can legitimately act in the classroom, including the frequency with which questions are asked of pupils, whether questions call for a single fact or require more complex cognition, whether students work cooperatively on tasks or follow Western norms of individualistic competition. Yet we have very little evidence on how these deep social rules interact with the use of instructional materials to shape pupil achievement.

A final question remains: How can governments, local schools, and international donors signal more sharply the importance of improving educational quality? When a new school, replete with concrete floors and glass panes, goes up in a rural Bolivian village, people take notice. When a middle-class child in urban Nairobi attends a secondary school with a laboratory, his or her parents eagerly tell their neighbors. Rapid expansion of schooling, and the corresponding symbols of modernity and progress, hold significant currency. Finding equally persuasive signals of improvements in school quality is a more difficult task, especially for political leaders.

One positive example is the recent interest in reforming national examination systems, as found in China, Kenya,

and Malawi. Exams provide a tool for raising the visibility of government efforts aimed at boosting school quality. They also offer a potential lever for moving the curriculum away from the memorization of facts, so common in developing countries, toward more complex forms of knowledge and ideas (Heyneman & Fagerlind, 1988).

### How Can American Educators Help?

When famine hits in Africa or an earthquake rocks Latin America, North American doctors organize quickly and head to the scene. When the Third World debt problem reaches a boiling point, the American banking community rises to lend (at least) a hand. Here self-interest melds with a broader concern for the developing world. Yet the much quieter collapse of educational quality in the Third World has attracted little attention among educators in the U.S.

What can American educators do that will make a difference? The U.S. educational community could provide desperately needed books and simple writing materials to English-speaking developing countries. Here national education associations could play an important facilitative role. Local school boards and principals also could encourage sabbatical programs, allowing teachers to work in the Third World for a year. A variety of private international organizations are able to facilitate such volunteer work. The expertise of American school administrators could greatly aid Third World education ministries, especially by working within governments that are moving toward greater local control of schools.

Encouraging signs are coming from Western governments and international agencies. The World Bank's president recently declared that his institution would give greater priority to education, signaling increased assistance for school improvement from this and other major donors. U.S. foreign aid legislation just earmarked greater support for improving basic education in Africa. What role American educators and researchers will play in these new initiatives will emerge over time. But opportunities for American educators to contribute are growing.

Scholars (from all disciplines) have shown a significant level of interest in figuring out how to boost the effectiveness of North American schools. A similar commitment to research on school quality in developing countries could yield important results. In some ways, U.S. research is far ahead, especially in pinpointing school management and classroom practices that yield strong achievement effects. Yet Third World schools present researchers with novel conditions: vast variation in instructional resources, teaching behavior, classroom structures, and family situations. Recent work on Japanese education has exposed the dangers of generalizing from North American assumptions and models regarding classroom organization and learning (see, for instance, Holloway, in press). Entering Third World classrooms, one is presented with even more surprises, puzzles, and intellectual challenges.

Finally, Third World families and educators have much to teach North Americans about how to make schools more effective when material resources are abysmally scarce. In the U.S., we have come to take schooling for granted. When educational quality appears low, educators often argue that more money is the best remedy. In contrast, Third World families' earnest commitment to education and teachers' extraordinary efforts persist, even in the face of material pover-

ty. The richness of this deep motivation and social cohesion, so evident in Third World schools, could provide important lessons for American educators.

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### Notes

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<sup>1</sup>Apportioning variance-explained between pupil background and school quality can be misleading when these two sets of exogenous factors are colinear. However, Heyneman and Loxley (1983) found that they were not significantly correlated for most developing countries. This has been confirmed in other studies (for instance, Lockheed, Fuller, & Nyirongo, in press).

<sup>2</sup>Fuller (1986) and Komenan (1987) deal with school quality trends in more detail. Their work is based largely on data assembled by UNESCO (1986).

<sup>3</sup>Komenan's (1987) analysis, using a slightly different method, found that per-pupil spending fell by 34% between 1975 and 1984 (in constant 1983 dollars) for the poorest developing countries. Spending for middle-income countries improved somewhat. Expressing expenditures in constant U.S. dollars requires first an inflation adjustment in each country's own currency, then a conversion to dollars using official exchange rates.

<sup>4</sup>Production-function studies have illustrated how the magnitude of achievement effects stemming from alternative school inputs can vary. For example, Jamison (1982) estimated that the achievement gain resulting from the use of radio instruction in Nicaragua also could have been accomplished by lowering class size. But a reduction in class size from 35 to 15 pupils would be required to realize the same gain in pupil achievement.

<sup>5</sup>One classroom observation study done in Nigeria and Thailand revealed that, on average, teachers spent two thirds of their time lecturing at the entire class. When teachers did ask questions of pupils, these utterances, usually requesting a simple factual response, were directed at all students (Anderson, Ryan, & Shapiro, 1987).

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