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EDUCATION FOR ALL AND THE QUALITY OF EDUCATION: A REANALYSIS

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The Economic Context Educational For All

Education represents both a right and need, and occupies a central role in the determination of individual standards of living. People's health and happiness, their economic security, opportunities and social status—each are affected by education. Education is also a major determinant of the welfare of nations, as the sum of micro-level individual educational experiences has important implications for macro conditions in the society as a whole. Because of its importance in these processes, education is often at the center of policy discussions about human development.

Part of the crucial role education plays in improving quality of life is manifested in the economic arena. This is especially the case today, where an increasingly globalized economy places a higher premium on economic competitiveness than before, and, increasingly, because of new information technologies, economic growth and social development depends on human knowledge rather than the availability of natural resources These new and rapidly changing conditions in an increasingly interdependent world economy require more flexible, easily trainable labor better able to access and interpret the mass of information available. This, in turn, requires higher quality, more adaptable education able to provide young people and adults with the knowledge and life skills to function effectively in the new environment. Nations with more educated populations are also more likely to develop better organized, more cohesive civil societies—the social capital underpinning economic and social development in the new information, global society.

Nations are therefore under much greater pressure than in the past to expand education and increase its quality to develop the highly skilled labor forces and social capital needed to compete in the global economy. Nations are also under pressure from families striving to give their children advantage in an increasingly competitive environment around getting good jobs. As such competition intensifies, there is an increasing tendency toward inequality and inequity of access to good education. International agencies are also pressuring countries to meet internationally set goals for universal primary education and adult literacy. And because most countries do not have the public resources to meet all these demands, they are under pressure to reduce costs or, at the least, to raise the cost-effectiveness of their public education investments. This often means turning to a mixture of financing (private/public), which has implications for both equity and effectiveness. In these conditions, what are the best strategies for meeting new demands in education? How should countries think about delivering higher quality

education and more years of education to their populations, especially their young populations?

Every country faces a different set of initial economic and political conditions as it confronts the global economy in the information age. Some economies are mainly agricultural, and others industrialized, already transitioning to a service economy. Some countries have highly developed civil societies. Others do not. So each situation demands its own particular strategy for educational expansion and improvement.

Globalization increases returns to higher levels of education, hence pressure for more education and for more rapid expansion of higher secondary and university education. Of course, in many countries with large rural populations, expanding and reducing dropouts in primary education will remain a major concern. But even there, the pressures for expanding secondary education will increase. Two of the main issues for planners will be how to expand these more expensive types of schooling effectively and how to assure that access to higher levels is not limited to the already most advantaged groups in society. Thus, for each level of economic development, investing in the level of education generally attended by youth from middle-income families in that country is associated with the greatest contribution to economic growth.[1]

Yet, a significant proportion of the youth population in middle-income and high-income countries attends lower levels of schooling. At the same time that economic competitiveness considerations are pressuring many middle- and high-income developing countries to focus on expanding higher levels of education, equity considerations are pushing them to focus on expanding and improving basic education. From an equity perspective, the social good (as measured, for example, by improved children's health and nutrition, lower fertility rates, a better functioning civil society) increases more from public spending on basic education than on higher levels (Carnoy, 1993). In terms of improving the social conditions of the greatest number of children, it is more 'efficient ' to invest scarce public resources at the primary level, shifting them away from subsidizing secondary and particularly university education. This is the position of the Education for All program, and many countries that are already competing in world markets in more technologically sophisticated goods and services (India and Brazil, for example), so are

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[1] Early theoretical work by Carnoy (1972), and recent research findings (Carnoy, 1995 and Mingat and Tan,1996) on the levels of return to education suggest that (a) for low-income countries, primary education is the best investment; (b) for middle-income countries, secondary education yields the highest social returns, and (c) for higher income countries, tertiary education yields the highest returns. Mingat and Tan's research accounts for externalities, not typically taken into account, that benefit society, e.g. the increased productivity of educated workers may increase the productivity of co-workers, and a rise in the general education of the labor force may increase the potential for innovations and adaptations leading to more long-term efficiencies in the workplace. But even without counting externalities, the pattern of rates of return over time as education expands and the economy develops, requiring increasing proportions of higher educated workers to produce increasingly sophisticated goods and services, shifts toward higher payoffs to higher levels of education.

very concerned with the quantity and quality of university graduates, also need to be concerned with bringing reasonable quality primary education to the majority of the school age population that is not completing that level.

Because work will increasingly be organized around multi-tasking and workers will hold a number of different jobs during their work careers, planners should also reconsider long-held views about the balance between vocational and general education. As education expands to ever-higher levels, the nature of different levels, particularly secondary, changes as well, becoming increasingly preparatory for post-secondary, and vocational education moves out of the secondary to post-secondary level. Both these shifts should alter the organization and objectives of secondary schooling.

Educational for All and the Quality of Education

Education for All was defined at the 1990 Justine Conference as primary school completion for all children in every country of the world. As it evolved, in its Dakar goals EFA had incorporated issues of educational quality, recognizing that six years of low quality primary education may translate into little learning, *and*, conversely, that offering low quality education results in far fewer children finishing primary schooling, working against EFA goals.

Quality of education is now a major issue, but how to define the operational meaning of quality? All schools assess students based on examinations, projects, behavior in class, and effort. Many pupils in low-income countries are judged by teachers to have "failed" this assessment. They are made to repeat grades and often drop out of school. Analysts have used these repetition and dropout data as an indicator of educational quality, arguing implicitly that teacher evaluations represent some "external standard" of student performance and repetitions and dropouts represent a measure of the system's ability to reach that standard.

In some ways, repetition and dropouts are good indicators of educational quality. If a teacher is unable to teach pupils to read or to add and subtract simple numbers in the first grade, those pupils in much of the world fail the grade and are made to repeat it. If they do not learn to read the second time around, they are likely to drop out. The higher the percentage of repeaters and dropouts, the worse the system is at reaching its academic objectives. However, from another perspective, repetition and dropouts are misleading indicators of the quality or efficiency of the system. I visited many schools in former French West and Central Africa with more than 100 pupils in each of several first grade classrooms. There were simply not enough or big enough classrooms in the school to accommodate those pupils were a high percentage of them to continue on to second, third, or fourth grade. Many rural multi-grade schools in Latin America have one or two teachers with students from first to fourth or sixth grade. The available space in those schools does not permit all students to complete all the grades. So, in those African or rural Latin American schools there is an expectation, even a need, to fail pupils. Even in cases where there is room for everyone, there may not be an upper primary (4th to 6th grades) or lower secondary school (7th to 9th grades) available in walking distance.

Students begin dropping out in primary school because pupils and their parents perceive correctly that there is no further education available. It is no accident that repetition and dropout rates fall in primary school when sufficient secondary school places start becoming available for the entire age cohort.

Thus, repetition and dropout rates can be in some sense accurate but also inaccurate measures of educational quality. If primary schools are unable to retain pupils, they are clearly failing to teach them the required curriculum. Yet, at the same time, there is little incentive for teachers to put out much effort or try to be effectiveness if there are only enough places for a few successful pupils to go on. And if there is no place for promoted pupils, the system may, in a perverse fashion, be "efficiently" pushing pupils out those pupils who cannot "get it" on their own. Is this a conspiracy? Not really. If not enough resources exist, the system becomes highly selective rather than one that tries to help everyone learn. Teachers become presenters of material and not much more. Michel Welmond's research in Benin, Cameroon, and Chad, for example, suggests that teachers in French-speaking West Africa see themselves primarily as civil servants responsible for *presenting* the curriculum to pupils and to act as a *phare* (light) for the community, not for pupils' academic success (Welmond, 2002). In their view, this is the family's role.

More recently, ministries of education in developing countries have begun designing and applying national and regional evaluations to assess how well students are performing in terms of national norms, comparing performance across regions, student socio-economic background and gender, and, in some cases, across schools. Nations are more conscious of educational quality in terms of how much pupils actually learn. Greater consciousness has been promoted by the steady drumbeat of international test results. Comparisons among 8th graders' achievement scores worldwide, first on the International Educational Assessment (IEA), then the Second and Third International Mathematics and Science Surveys (SIMS and TIMSS, and most recently, OECD's PISA test, have taken on symbolic meaning far beyond student test scores. Politicians and academics have related the results to nations' ability to compete in the world economy (Hanushek and Kimko, 2000).

Increasing numbers of countries are joining into these international tests at considerable cost, in part, according to education officials we have talked to in several Latin American countries, because they draw attention to the low quality of schooling and the need to take drastic steps to improve it. These officials believe that the political value of comparisons of student performance in their countries with students in other developing and particularly developed countries helps them raise the standards in their quest for educational improvement at home.

In tandem with the pressure to participate in the TIMSS or the PISA, and to take the heat when scores are low, many developing countries are testing their students using national instruments. Some (for example, Argentina, Brazil, Uruguay, Mexico, Peru, France) sample students in one or more grades, repeating the test every year or two, in order to determine whether the educational system is doing better or worse over time and to observe how pupils of different social strata or in different regions compare A few,

such as Chile and many states in the United States, test all students in several different grades every year or two. The purpose of these "censal" tests is mainly to check on how students in individual *schools* are performing and whether schools are improving or not over time. These testing schemes have somewhat different political goals, but both are intended to act as incentives for the system to improve (Benveniste, 2002).

Whether or not student performance on tests is actually a good measure of educational system quality, it has come to *symbolize* quality. The main drawback to test scores in a *given* grade as a measure of educational quality is that it fails to account for school *attainment*, which also can act as a good measure of quality. For example, eighth graders in the U.S. score lower on the TIMSS mathematics test than their counterparts in Czech Republic. But a much higher percentage of the age cohort in the U.S. completes university than in Czech Republic, and, on average, four year universities in the U.S. are as good as those in CR. Which educational system is higher quality? Which helps its nation become more competitive economically? This is not a simple question, but we can say that simply because U.S. eighth graders don't do as well as Czech eighth graders on math tests does not translate into lower productivity for the average U.S. worker. Similarly, Brazilian 15 year-olds did much better on the PISA test than Peruvian 15 year-olds, but a Peruvian 15 year-old is much more likely to finish high school and continue on to university than a Brazilian 15 year-old. In which system are students doing better?

A second well-known drawback is that the quality of an educational system or a school should not be measured in terms of the absolute scores of its students, but rather in terms of what the school or the system *adds* to the students' learning. By the time they are six or seven years old, students have already leaned a lot. Some of that learning is relevant to schooling and much of it not. Children who come from families where parents are more highly educated, where there is reading material in the home, where siblings are doing well in school, and where behavioral patterns match those in school are more likely to do well in school. Schools and school systems that have mainly these school-ready children are able to produce high test scores with less effort than those that have children with less academic skills acquired at home. Therefore, it makes sense to compare educational quality among countries or among schools or regions within a country based on the "value added" by the schools. Analysts usually do this by comparing "likes with likes"—for example, comparing school X with other schools that have pupils with similar socio-economic background. The PISA report, *Literacy Skills for the World of Tomorrow*, compares the combined results of reading, mathematical and scientific literacy scales on tests given to 15 year-olds in a large number of countries against income per capita. Although this is a crude measure of students' socio-economic background, it suggests that the educational systems in countries such as Korea, Japan, northern and Central Europe tend to do better than Latin America, the United States, and Israel (OECD, 2003, Table 3.7a).

A third drawback is that the international tests measure a set of academic skills but not other skills that may be just as useful in doing well economically and socially in the student's environment. For example, the TIMSS test does not measure an individual's persistence, networking skills, or creativity. Educational attainment is a much better

measure of persistence and perhaps networking skills, but not necessarily creativity.[2] But how do we measure whether a school system does well in developing creativity in its students? This would be a real challenge.

The first two of these drawbacks can be taken care of by a more balanced analysis of educational systems and schools. If pupils in a country or a school do relatively well on tests compared to pupils in countries and schools in like socio-economic contexts, we could claim that that is a high quality educational system or school. If pupils from a particular school or country are reaching relatively high levels of education, we could also make a strong claim for high quality.

Is it fair to compare poor countries' educational quality using the same criteria (the same test, years of schooling) as in developed countries? There are obvious problems with such a comparison, but in a world that is so highly interconnected economically and socially, it is these criteria that measure what is valued on a world scale, and hence what results in high payoffs in national and even more local contexts, particularly as knowledge industries spread worldwide. High levels of literacy and problem-solving skills are increasingly highly valued globally. This is what modern educational systems have been charged with producing historically, and this is what most nations, for better or worse, want them to produce today. They also want them to produce other important outputs, such as young people socialized to behave in particular ways, and, in many countries, young people with democratic values. But the bottom line is academic skills, and a major issue is whether nations are better off stressing educational attainment or higher test scores in each grade, and how the two are related to each other.

Quality and Quantity of Education

The issue of test scores versus attainment is important for two reasons that we explore in the rest of this paper .The first is that EFA's original notion of setting educational quantitative goals for the world's children is almost certainly a more meaningful educational objective in terms of improving people's lives than raising test scores (quality) in a given grade. Raising quality in the poorest performing schools is almost certainly related to attainment among low-income children, but not necessarily otherwise. Further, the economy behaves as if it cares much more about the level of schooling attained than the test scores achieved by students *per se*. For example, estimates in the United States using longitudinal data show that the payoff in increased wages to higher achievement scores for high school graduates who do not go on to college is negligible, and for college graduates, only 8 percent more income for a full

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[2] Colleges in the United States that take the time to examine a broader range of indicators in their applicants' dossiers than just test scores and grades, generally seem to end up with a more diverse, interesting, and successful student body than those that put greater emphasis on test results. However, even the colleges that follow this more eclectic approach demand relatively high scores and good grades.

standard deviation higher achievement score (Carnoy and DeAngelis, 2000). As we would expect, the main payoff to higher achievement derives from the greater likelihood that those who score higher go further in school, hence earn higher income.

Second, raising test scores in a given grade, while certainly contributing to higher quality education and student learning, may be a more costly way to increase how much students lean than increasing the number of years they stay in school. If this reasoning is correct, the optimum strategy would be to find the least expensive ways to raise student test scores in the context of increasing student attainment. Using recent comparative research, we will argue that there may be some effective ways to do that, and also many dead ends.

One of the most interesting results of the international tests over time is that no OECD country has made significant increases in their math and science scores in the period 1970-1994. Lance Prichett suggests that despite large increases in educational spending per pupil, scores have not risen.[3] Mathematics test scores have risen in recent years in the United States in both 4th and 8th grades (Carnoy and Loeb, 2003), and minorities made large gains in math and reading in all grades in the late 1970s and 1980s relative to whites (Carnoy, 1994), so it is possible to make gains, but apparently not easily. Similarly, test scores on the national SIMCE test in Chile in both 4th and 8th grades have not risen significantly since 1996, when the bi-annual tests were made comparable. Chile also made very large increases in spending per pupil during this period for very much the same reason—teacher salaries went up considerably.

Table 1. *Changes in Math and Science Scores on International Tests and Changes in Real Spending per Pupil, by Country, 1970-1994 (percent)*

Country	Estimated Change in Math and Science Score, 1970-94 (percent)	Estimated Change in Real Spending per Pupil, 1970-94 (percent)
Sweden	4.3	28.5
United States	0.0	33.1
Holland	1.7	36.3
Belgium	-4.7	64.7
United Kingdom	-8.2	76.7
Japan	-1.9	103.3
Germany	-4.8	108.1
Italy	1.3	125.7
France	-6.6	211.6
New Zealand	-9.7	222.5
Australia	-2.3	269.8

Source: Prichett, 2003 (see footnote for URL)

[3]See Prichett article at the following URL: http://www.educarchile.cl/modulos/noticias/constructor/detalle_noticias.asp?id_noticia=10009&esc=investigador

Why have countries had such a difficult time increasing average test scores? Prichett comes up with several possible reasons, including the impact of television on children and their use of time and changes in pedagogy toward "softer," less test-oriented teaching methods. However, our observations in a number of countries, both developed and developing, suggest three other major explanations: a student composition effect, a teacher capacity effect, and a managerial capacity effect.

The socio-economic composition of students is changing in every school system. As each level of schooling expands, more lower socio-economic background children are drawn into the level; and less educated parents have more children, on average, than more educated parents. In every country we have observed, the process has been the same. Enrollment increases rapidly in primary school, then secondary, then university, and in each level, as enrollment goes up, the average parental education of students in that level begins to decline. In addition, changing population composition of the young changes student composition in school. In the past 25 years in the developed countries, particularly in the more "open" ones, such as the U.S., Australia, New Zealand, Canada, and Great Britain, the enormous influx of immigrants from developing countries combined with declining birth rates among more educated natives has contributed to this effect. Now this immigration has spread to most of Western Europe and even Japan. In the developing countries, declining birth rates among the more educated has been a major factor in transforming the student population in school.

Other tendencies also exist. Continued emigration from rural to urban areas changes the average environment for developing nation schools. In general, this change seems to have a beneficial effect on test scores. For example, once parents' education and other resources are accounted for, children in Latin American rural schools tend to score lower than children in urban areas (Carnoy and Marshall, 2003). Better communications, more access to academic resources, and other factors in an urban environment seem to positively affect student achievement.

Given these compositional changes, it is somewhat remarkable that educational systems have been able to bring increasing numbers of pupils into ever higher levels of schooling *without* much decline in test scores. This accomplishment suggests that educational systems are able to absorb "higher cost" children into the system by spending more per pupil, but that spending more per pupil does not necessarily increase the performance of the average performing pupil. Thus, the difficulty of increasing the test scores of average students in a country should not be confused with increasing student performance of students at the bottom of the performance ladder. Systems can improve the performance of low-performing groups mainly by making the conditions of their schools more like the schools attended by higher performing children. We discuss this in more detail below, but there is good evidence from Chile and Argentina (Carnoy et. al., 2003) and from the *Escuela Nueva* program in Colombia, that more and better resources for low-income schools has a positive impact on student achievement.

The problem for the "average" student in a particular level of schooling is different, since that student already gets average resources. Apparently, improving this

student's performance requires changing something about the way the system delivers education, and this is where serious difficulties arise. The two main difficulties we have observed are teacher and manager capacity. Without improving teacher skills, including subject matter knowledge and pedagogical skills, it has proved difficult to improve teaching, and without better teaching it is difficult to improve student academic achievement. This is easier said than done, since increasing teacher content knowledge requires a large investment in teachers' math and language skills or recruiting a different group of people to be teachers.

The second major obstacle to improved student performance is managerial capacity. Teachers in most developing countries are largely autonomous, learn on the job without supervision, and are often absent from the classroom, especially in rural areas. Unlike other industries, education is not management intensive. School directors and even pedagogical coordinators rarely gather data on the performance of teachers, either directly, by observing their teaching in the classroom, or by analyzing student performance gains in each class. The reasons for this are complex, but the most persuasive ones are that school principals are usually not expected to be instructional leaders, and don't have the skills to take that role even if they were supposed to.

What We Know About Improving Educational Quality

In the past five years, we have achieved important insights into why children in some countries perform academically better than children of similar socio-economic background in others. International test score data and accompanying surveys of teachers, students, and school directors have helped us reach these insights, but so have much more sophisticated data collection in the United States, Brazil, and Mexico, for example, as well as studies of rural schools in Central America, and classroom observations and school interviews in Brazil, Chile, and Cuba. These studies have taken us far beyond the production function analyses of the 1970s and 1980s, which (incorrectly) deemphasized the role of teacher skills and argued (correctly) mainly for increasing non-teaching resources.

In addition, more sophisticated analyses of popular educational reforms have also allowed us to get beyond the rhetoric and ideology to the reality of how educational politics and educational systems really work (or don't work, as the case may be). I have reviewed some of these reforms elsewhere (Carnoy, 2000), so will not repeat my critiques of, for example, the push for computers and e-learning in primary schools (see also Carnoy, 2002), or of increased vocational education. But it is worth reviewing the case for decentralization and privatization because thanks to the World Bank and other international agencies they are the most ubiquitous "quick fix" for educational improvement being pushed worldwide.

Although there is considerable variation in decentralization schemes, two important forms are: the devolution of authority and responsibility for schools from central-level administration to intermediate-level organization and ultimately to schools, often relying more on local communities for school financing; and the removal of barriers

to private education (e.g., Bray 1996, 1999; Hannaway and Carnoy 1993; Rondinelli and Puma 1995; Benveniste, Carnoy, and Rothstein 2002).

Many countries have *constitutional* decentralization in which provinces or states have management authority over schools, and sometimes have authority to tax at the local level. Such *federal* systems of education (India, for example) have always depended on the capacity of state governments for shaping their primary and secondary systems, and sometimes even universities. Where financing is a mixture of local and central government funds, states with weaker administrations and poorer populations tend to be much less autonomous with respect to the central government, whereas states with high capacity administrations and ample resources are much more likely to have highly independent school systems (Rhoten, 1999).

Advocates argue that decentralization shifts decision making to those closer to the community and school, which in turn leads to decisions more responsive to local conditions and needs. They believe that it is a way to encourage greater community (parent) participation and financial support for schools. Opponents suggest that decentralizing authority and responsibility may only shift the same old problems to levels of the system that are less well prepared to cope with them, and that decentralizing management invites corruption and inefficiency, or at least spreads it. They point out that since communities do not necessarily speak with a single voice, decentralization has sometimes increased tension at the local level and allowed local majorities to create very unequal education for local minorities. Both advocates and opponents are probably right to some degree. Decentralization as a force for more relevance and allocative efficiency or an invitation to confusion and inefficiency depends largely on the leadership at the district, community, and school levels. Similarly, the efficiency of a centralized system depends on leadership at the central level. The wise use of resources to improve the quality of schooling will demand school managers who understand the elements of good instruction and who are not drawn off by pressures to spend money on show rather than substance. Unfortunately, this is precisely one of the scarcest resources in developing countries, and even in developed countries.

The more “extreme” form of educational decentralization is privatization, which effectively puts control of resource allocation and pedagogical management down to the school level. Proponents argue passionately that private education is more effective in bringing pupils to higher levels of achievement than public and is more cost-effective (see Benveniste, Carnoy, and Rothstein, 2002, for a review of this literature). However, policy makers have to be careful about claims that private schooling is the silver bullet that would improve the quality of primary and secondary education at relatively low public cost. Early studies of private education (Jimenez and Lockheed, 1990) that purported to show higher effectiveness-cost ratios for private schools were later shown to have seriously underestimated private school costs (Tsang, 1995), and the effectiveness estimates are not corrected for selection bias.

More recent and more careful studies analyzing Chile’s national voucher plan and New Zealand’s choice plan suggest that once socio-economic background of students is

accounted for, those in private schools do not achieve significantly higher than students in public schools (McEwan and Carnoy, 2000; Fiske and Ladd, 2000). One of the main arguments for privatization is to allow for more parent choice and more competition among schools. The argument is that if parents can shift their children from one school to another, all schools will exert more effort to improve in order to attract more students (clients). Yet, it is difficult to find evidence that competition has produced better schooling either in Chile (Hsieh and Urquiola, 2001) or in the United States (Belfield and Levin, 2002).

Furthermore, although parents who have educational choice for their children are more satisfied than parents who do not have choice, privatization schemes at public expense appear to produce more *inequitable* distributions of students among schools. The Chilean case suggests strongly that to have an effective large-scale private school system, a country needs the same teacher and managerial capacity in education as required to have an effective public school system. The Chileans claim that subsidizing private schools and allowing private schools to charge tuition has enabled the government to raise considerable private funds and save public resources. But the bottom line is that privatization has not improved the quality of education (Chilean test scores have not risen over time) and Chile does no better on international tests than other large Latin American countries, such as Mexico, with relatively small proportions of pupils in privately run schools.

Thus, the motives for decentralization privatization are not necessarily related to improving education. It is often undertaken to increase community financial contribution as a means of easing the financial burden on central government. There exists no empirical evidence that decentralized school systems are more effective or efficient than centralized systems. Further, there is relatively little evidence to suggest that decentralizing an education system changes the experience of children in classrooms. This is not to suggest that decentralization is not a desirable goal, but only to suggest it may not address education outcomes. Indeed, as we suggest below, many countries have had *de facto decentralization* for a long time due to weak management at the central level or poor communication across all levels. In these settings, local schools have always had to rely on their communities to provide what central government has been unwilling or unable to provide, and most teachers are unsupervised in their classrooms and receive almost no technical support.

Those who argue for decentralization also argue for central state "regulation" or monitoring through student testing—standard setting, as it were. But nations that regularly test all students in all grades, such as the U.S. or Chile, have found that although schools pay attention to student test scores, they cannot be counted on to improve teaching and student outcomes unless there are sanctions for not doing so (Carnoy and Loeb, 2003). Even then, the results may be uneven unless the state takes effective action to increase teacher and managerial capacity to change what goes on in classrooms. If states are already willing and able to identify problem schools and teachers and help them improve, why bother to decentralize and privatize?

The bottom line is that decentralization of management can work well in countries where there is already sufficient capacity at the local level to allocate resources efficiently and to produce effective education. Ironically, it is precisely in those countries with good management at the central level that we can expect to find more capacity at the local level. The advantage of schools well run locally is that they are indeed rooted in the community and can be flexible to community needs as well as providing a sound basic education. The advantage of a well run centralized system is that it can provide effective schools across socioeconomic strata, reducing the negative consequences of unequal management capacity in different regions and localities.

No Silver Bullet: The Long March to Better Teaching and Educational Management

Recent research makes it possible to identify strategies that can work to improve schooling. Yet, they also show that this is not a simple task. There is no quick fix—no structural change, such as shifting from central to local administration, creating educational markets, or simply publishing test scores, that induces educational improvement. The problem of quality is not lack of competition but lack of quality teachers and management. Whether private or public, schools cannot implement challenging curricula if teachers have low levels of subject knowledge and have little understanding of how to teach those curricula. Whether private or public, schools will not deliver a good product if management lacks instructional leadership and management skills. Who sets the standards in schools? Who defines quality and sets expectations for good teaching and student learning? If it is to be parents, as market advocates insist, then parents must be able to discern good from mediocre education—they have to be able to identify demanding curricula, challenging math problems, and good writing.. Yet, most parents seek the same education for their children that they had themselves (Anyon, 1983). In countries trying to reach goals set by EFA, a high percentage of parents have had little of no experience with education. How are they to be high standard setters?

Our comparative study of educational organization, primary schools, and third grade math classrooms in Brazil, Chile, and Cuba provided answers to some of these key questions (Carnoy, Gove, and Marshall, 2003). We found, first, that the socio-political context of schools has a significant impact on student outcomes and on the types of policy measures taken by governments to try to improve educational quality. The socio-political environment in which schooling takes place may be as important as individual families in affecting how much students learn..

The contrast between Cuba, Chile, and Brazil brings this influence into sharp relief. Brazilian and Chilean social structures are much more unequal economically and ideologically than Cuba's. This has important implications for schooling, even if, in all three societies, education is viewed, ideologically, as the great social "equalizer," both transforming class structure into meritocracy, and binding pupils from different social classes to each other through the common experience of national education. In Cuba, this ideology is much closer to reality than in Chile or Brazil. The difference is especially evident in Brazil, where, even after a major financial reform, children in low-income regions go to schools with far fewer resources. Access to schooling is also still more

limited than in Chile or Cuba. Thus, for Brazilian education even to *represent* itself as playing an equalizing role, it has to get to closer to Chilean educational reality, and Chilean educational reality continues to reproduce inequality when compared to Cuba's.

The socio-political environment also differentiates the way schools operate in the three countries. In Chile, which has had a national voucher plan since 1981 and where 46 percent of basic education students attend privately managed schools, he Ministry of Education develops the national curriculum, required in all schools, public and private, that accept funds from the government. However, the Ministry only uses indirect means to enforce the implementation of its curriculum. These indirect means consist of testing students every two years in the 4th, 8th, and 10th grades, publishing the results for each school, and monetarily rewarding the 25 % of schools (primarily their teachers) that make the largest gains in each region. Principals of schools have the autonomy to take steps to improve their students' performance. Public school principals do not hire and fire teachers (municipalities do that), and public school teachers have tenure contracts, but private school operators have essentially full power to make staff decisions from year to year. For other matters besides curriculum and teacher hiring and firing, public school principals also have considerable leeway to experiment, mobilize other resources, and be resourceful. On the whole, then, besides being required to teach the subject elements defined by the national curriculum, principals have a great deal of autonomy and decision-making power in Chile.

Whether they choose or know how to use this power to improve instruction is another matter, however. In both public and private schools in Chile, teachers have considerable autonomy in the classroom. Private school teachers can be fired for doing a bad job, but the principal of the school does not necessarily intervene to help them do a better job. There is little culture of the principal as instructional leader and there is a strong culture of classrooms as teachers' sanctuaries.

In Brazil, educational administration is highly decentralized to the state and municipal level, but only about 10 percent of students in basic education attend primary school. The central government has developed curricular frameworks and approved textbooks. States and municipalities choose the curriculum they will use in locally run schools. Like in Chile, school administrators have considerable autonomy in how they run the school, but teachers in public schools are hired and fired by state and municipal governments, not school administrations. The trend in Brazil is to put more emphasis on parent participation in the school (a consumer cooperative model of decision-making), on the theory that parents will pressure teachers to exert more effort. Since most parents have little information about how to measure teacher or school quality and do not have the opportunity to observe teachers teaching, parent participation has, not surprisingly, had little effect on instruction or administration in schools.

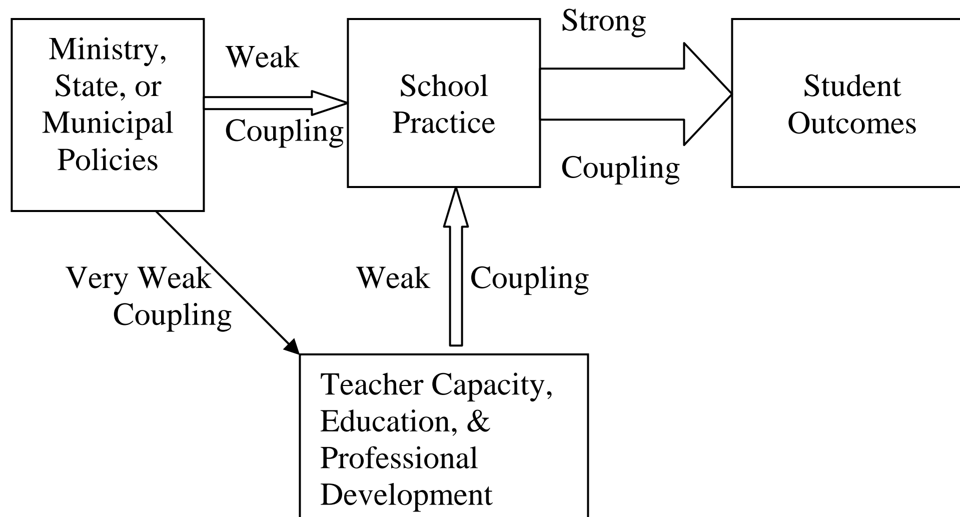
Cuba is very different from Brazil and Chile. Cuban society is tightly controlled and regimented. Individual choices exist but are narrower than in Chile or Brazil. The issue of choice is complex, since children in poor families in Brazil and Chile may have more "choice" than, say, rural or low-income urban children in Cuba, but many of those

choices are not positive—to work at odd jobs or hang out rather than going to school, to engage in illegal activities or not, or to join a gang or not.. The state in Cuba provides a rigid structure for family and youth choices, much as organized religion does in orthodox religious families and communities. In the Cuban restricted choice model, educational "success" is part of that rigid structure: the state "requires" children to be as successful in school as their ability permits.

Beyond the direct effect of socio-political structure on the context of schooling, the content knowledge and formation of teachers is much more tightly organized and controlled by the central state in Cuba than in either Brazil or Chile. Whereas in everyday life, this degree of state control impinges on individual freedom, in primary and secondary education, when combined with a commitment to high quality outcomes and the drive for equity, the result is much greater quality control, more instructional leadership setting high standards in classrooms, and a well-defined and well-understood alignment between curriculum and teaching.

Comprehending how Cuba delivers such high quality education at the primary and middle school levels in both urban and rural schools cannot be totally separated from Cuba's socio-political conditions, but there are many elements of the Cuban system that could be used to improve greatly schools in other countries. Figure 1 outlines the nature of the problem in the typical developing country educational system.[4]

Figure 3.1. *Relations Among Components of the Educational System in a Typical Developing Country Educational System*



[4] This is a schematic of educational delivery by the state, and consciously does not include the influence of parents, which, top various degrees, affects Ministry policies. school practice, and student outcomes. The figure is meant to represent the main variables affecting outcomes *controlling for* parent socio-economic background. Student outcomes include not only achievement scores, but also student attendance, student promotion and student attainment.

In most countries, including Brazil and Chile, well-intentioned Ministry (or state or municipal) policies, such as curriculum frameworks, are weakly coupled (as shown in Figure 1) to actual school practice, because there is no supervisory/instructional assistance structure to ensure that the reforms are being implemented as anticipated in the reform program. The "educational market" in Chile, including a high degree of parent choice, many privately run schools, and information for parents and schools provided by national testing, has apparently not improved teaching or raised average student performance. Further, teacher education is very important in influencing the nature of school practice, but Ministry policies are weakly coupled to teacher education, so university preparation of teachers does not necessarily conform to the improved capacity required by Ministry curricular reforms. Finally, school practice is important in influencing student outcomes, so the weak implementation of Ministry policy results in little improvement in school practice, hence results in little improvement of student outcomes.

In Cuba, on the other hand, the links between the various components of this model are much stronger. Teachers have the advantage of higher levels of content knowledge thanks to the greater amount of content they learn in primary and secondary school. *The Cuban education system also has the enormous advantage of being able to recruit young people into teaching with relatively higher standing in their secondary school cohorts because markets do not determine Cuban salary structures.* The absence of market pricing of labor services creates problems elsewhere in the Cuban economy, but public services such as education and health care benefit from the artificially lower costs of high quality labor.

Ministry reforms and the national curriculum in Cuba are tightly linked to teacher education and professional development because they are both run directly by the Ministry and focus on training teachers to deliver the national curriculum effectively. Beyond teachers' initial education, most teacher training takes place on the job, where new teachers are closely mentored by experienced teachers and school principals and vice principals. These supervisors' job is *defined specifically as ensuring that teachers in their school are teaching the required demanding curriculum effectively, and that students are learning it.*

Our observations of teacher education, teacher supervision (on-the-job training), and school practice (including video tapes of 10-12 third grade math classrooms) in the three systems leads us to conclude that Cuba delivers more opportunity to learn to children in its schools than either Brazil and Chile, and does it mainly in four ways:

- The Cuban math curriculum is more comprehensive and more theoretically integrated than Brazil's or Chile's. But Cuba's literacy curriculum does not differ appreciably from the other two.

- Cuban primary school teachers have a higher level of content knowledge, particularly in math, thanks mainly to the higher levels of mathematics they attain in secondary school. This can be labeled the “virtuous circle” effect. Students are better prepared in subject matter knowledge, so the curriculum they teach when they become teachers can be more demanding.

- Teacher education in Cuba is strictly organized around teaching the required national curriculum. Pedagogical theory and child development are also an important part of the teacher education, but not at the expense of focusing on teaching teachers how to reach curricular objectives.

- Teachers are closely supervised in their classroom teaching by their principals and vice-principals. Every Cuban school is focused on instruction, and the primary responsibility of school administrators is to assure that children in the school are reaching clearly specified academic objectives.

These are precisely the elements that every country has to introduce in order to improve quality and assure student completion of at least basic education. Countries need to improve teacher content knowledge, improve the level of the curriculum, make sure that teachers are taught to teach the high level curriculum, and make sure that they implement the curriculum. In addition, of course, the educational system must expect that every child can succeed, and organize the system to assure that every child *does* succeed.

The Skeleton in the Closet: Teacher Absenteeism

An especially serious issue in teacher supervision and support concerns the actual number of days and hours per day school is in session. Parents who have never gone to school or who have not completed their primary education may not know much about the quality of teaching or the teacher’s subject knowledge, but they do know that children don’t learn much if the teacher is not in school. Many primary school children, particularly in countries trying to reach EFA goals, attend schools where teachers are often absent. Absenteeism is a major problem in many rural schools, but it is also a problem in urban areas. Absenteeism is not necessarily caused by low salaries. Teachers in South Africa and Honduras, for example, are relatively well paid, but absenteeism is widespread. High teacher absenteeism automatically means lower quality of education, and there is evidence that parents are more likely to keep their children home to work if they perceive schooling to be of low quality.

In a study just completed, Jeffery Marshall observed classroom teaching, measured student performance gains and absences, and estimated teachers’ absences from school records in 58 isolated rural schools in three Guatemalan. provinces (Marshall, 2003). He also selected a sample of almost 1,100 pupils from the first grade roles in these schools two years earlier and traced what happened to them between the first grade and the present. From these detailed data on attainment and achievement, Marshall was able to estimate correlates of attainment (probability of continuing on to a higher grade), student absence, and achievement. The official school calendar requires

140 days of school, but Marshall's sample of schools averaged only 110 days. He found, using careful econometric analysis, that teacher absences (or rather, the number of days school was in session) had a significant effect on all three of these dependent variables, particularly for boys. Indeed, an increase of ten days that a school were open (one standard deviation of school days) resulted in one-third of a standard deviation of test score increase for boys, and one-fifth of a standard deviation in attainment, again for boys and somewhat less for girls. The shorter the distance to a middle school, the greater the attainment as well, suggesting that access to higher levels of schooling influences how long parents send their children to primary school.

Marshall's results provide the most detailed evidence that teacher absences are a signal that influence parents' valuation of schooling, and that the high level of absences in Guatemalan rural schools affect student achievement and attainment, exactly the stated goals of EFA. The implications are clear: reducing teacher absences are key to achieving education for all. But how can education policy reduce absences? The World Bank is counting on community-based organizations paying teachers directly based on performance. Something similar is being used in Chad, where many teachers were being hired by communities anyway, so the Bank convinced the Ministry to pay many more teachers the same way, but using public funds. Colombia developed the *Escuela Nueva*, which focuses on bringing isolated rural teachers together in workshops one a month, using the workshops to help teacher improve their teaching and their schools. Evaluations of the *Escuela Nueva* show that it works well, and is cost effective (McEwan, 2001).. Cuba just make sure that teachers show up, inculcating rural educators with a sense of mission in helping the lowest-income Cuban children have the same chances that are afforded to urban dwellers.

Whatever the response, solving teacher absences is fundamental to reaching EFA goals. How well countries can respond to this problem is also indicative of countries' commitment to good education, and, for that matter, the professionalism of teachers. It is not as simple as it may seem. Absenteeism is a measure of system inefficiency and lack of supervision and control, but is also a measure of cynicism and corruption, neither of which is eliminated easily.

Conclusions: EFA as Quantity or as Quality?

Our conclusion that there is no quick fix for educational quality in developing countries raises a crucial issue: can countries "afford" to focus their efforts on raising test scores at each level of schooling? Is such an effort the best strategy to raising the knowledge base in the labor force and building a more informed populace?

Historically, nations have not been successful in raising the average achievement of students in, say, the 8th grade, as we discussed above. In case the 1970 to 1994 period is to short to convince the reader that average test scores have not increased (or declined) much over time, check out the Iowa Test of Basic Skills, applied annually to 8th graders in the state of Iowa since 1935. Average scores increased somewhat until the 1960s, then

declined, then increased slightly, and, in the 1990s, began to decline again. Over the whole period, scores fell somewhat (Rothstein, 1999).

Based on careful studies of student performance, most researchers are no concluding that student performance in a given level of schooling will not improve unless a more demanding curriculum is taught to students by teachers with reasonably high levels of subject matter knowledge well trained to teach that curriculum and believing that every student is capable of learning it. In order to assure that teachers are carrying out this mandate, a supervision system has to be in place that helps teachers reach high levels of competence in their practice.

Realistically, improving teacher content knowledge and making them effective pedagogues, including the required supervision and assistance by skilled supervisors, is bound to be expensive. It implies a massive investment in capacity, either by raising educators' starting salaries substantially to recruit a new brand of educator (Chile has implemented large salary increases in the past seven years with positive effects on attracting better high school graduates to teachers' colleges) or by making large investments and totally reforming teacher education. This still leaves the existing teacher corps, which would have to take intensive math and language courses and learn to teach a more demanding curriculum. Again, the system would have to invest heavily in developing the supervision skills among current administrators or selecting and paying the best teachers higher salaries to be supervisors/assistors.

In the long run, increasing student learning significantly in primary and secondary school would have a high payoff, mainly in terms of producing a whole new generation of teachers with greater subject knowledge, that, in turn, would ratchet up the next generation of students' performance. Yet, this is expensive, and should be recognized as such.

It turns out that in practice, countries and communities do not raise average knowledge in their societies by increasing average achievement levels at each level of schooling. The main path that countries have taken historically to higher average achievement is through increasing average educational attainment. Even as average achievement has not increased in countries, the average level of education attained has risen dramatically worldwide (Figure 2).

A primary school graduate in, say, India, is much for likely to know how to add, subtract, and multiply, and to be able to read, than an adult with two or three years of primary school. A secondary school graduate knows more mathematics and has better language skills than a primary graduate. It may seem strange that keeping an average young person in school for an additional three years is cheaper than, say, doubling the amount that a child learns in three years of schooling, but apparently that is the case. Our analysis suggests why it probably *is* the case. Raising teacher skills and improving classroom practices Some nations, such as Korea, are apparently able to teach children of a similar social class background as much mathematics in six years of primary school than other countries, such as South Africa or Chile, are able to teach them in eight. But it

is, we would argue, far less expensive for South Africa or Chile to bring even middle class children to a 6th grade level of Korean knowledge by keeping them in school for eight years than to try to improve their primary education to a Korean level.

At the same time, it appears that raising student achievement and educational quality in general for low-income students is much more feasible technically and financially than raising the quality of an "average" school. Marshall's analysis of the effect of significantly increasing the number of days of schooling in rural areas provides a clear example of high payoff to a quality improvement investment that increasing both student achievement and attainment. Yet, even in this case, an important complement to reducing teacher absenteeism is increasing access for rural students to lower secondary schools. This second strategy, which focuses directly on increasing the number of years that rural children have available to go to school, sends an important signal to parents that investing more of their children's time in primary school gives them a shot at secondary education, and perhaps a ticket to a better job.

In countries trying to meet EFA goals, it is the bottom of the educational distribution that is of most concern, hence raising quality of education for those groups does make sense. Some countries have such low levels of education, however, that simply increasing the average number of years of education attained may still be the most efficient strategy to follow. This may require a large investment, mainly in additional classrooms and teachers, but that in and of itself could also be a major factor in raising the quality of schooling. "Traditional" approaches to quality, such as reducing first grade class sizes from 110 to 35 and adding inexpensive textbooks and reading materials for all children still has a lot to say for it when conditions are so poor in school that even these fundamental conditions are missing.

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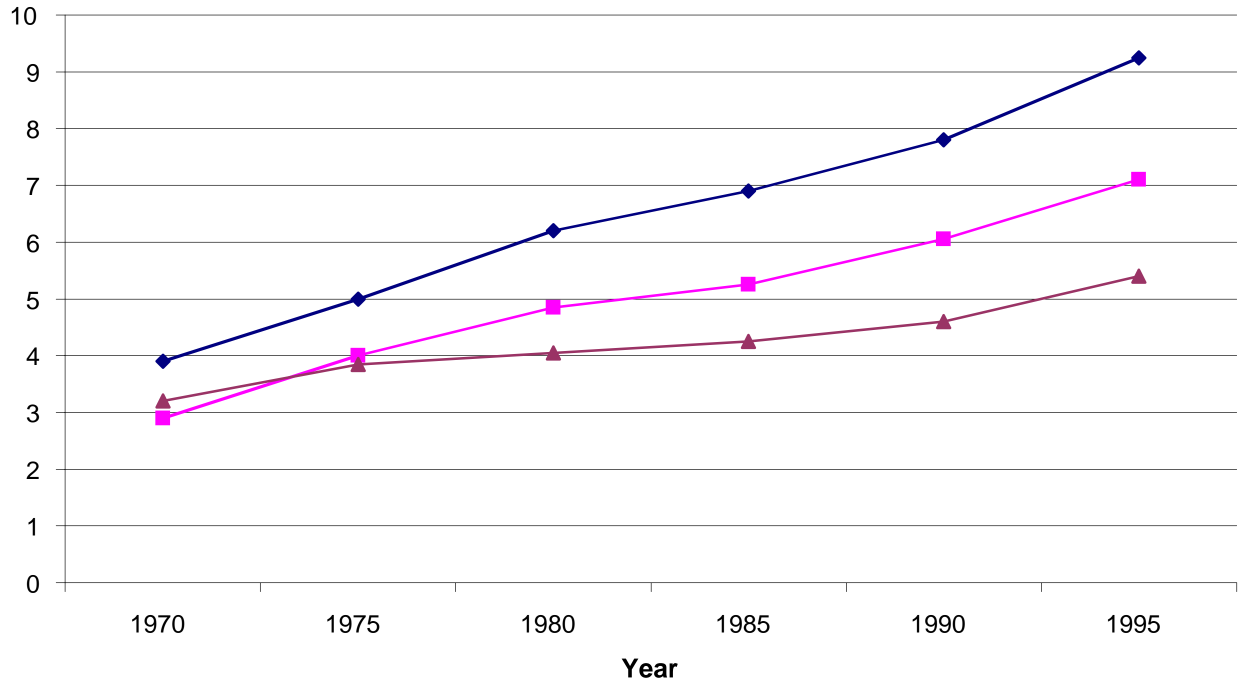
Figure 2. Average Years of Schooling among Workforce, by Region, 1970-1995
10
9
8
7
6
5
4
3
2
1
0
1970
1975
1980
1985
1990
1995
Year
Source: PREAL, 2001, Fig. 2
Asia
World Average
Latin America