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The Cuban Education System: Lessons and Dilemmas

Lavinia Gasperini

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From 1977 to 1985 Ms. Gasperini served as Director of the Faculty of Education and professor of teacher training, literacy and adult education at the University Eduardo Mondlane in Mozambique. She was also involved in the reform of the newly independent country's education system and served as Pedagogical Director of the School of Journalism.

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Preface

This paper was inspired by a study tour of Cuba undertaken by representatives of the Government of Colombia, the Ministry of Education in Cuba and World Bank staff. The seminar was entitled "Interchange of Experiences on the Education Systems of Colombia and Cuba." It sought to provide a comparative basis for understanding educational problems and issues across the two systems. The seminar represents a growing dialogue between Cuba and its Latin American neighbors on issues of education. The information presented here was gathered during the study tour and supplemented with other documents. Needless to say, the opinions are those of the author and do not necessarily represent those of the World Bank or any of its affiliated institutions.

Executive Summary

The record of Cuban education is outstanding: universal school enrollment and attendance; nearly universal adult literacy; proportional female representation at all levels, including higher education; a strong scientific training base, particularly in chemistry and medicine; consistent pedagogical quality across widely dispersed classrooms; equality of basic educational opportunity, even in impoverished areas, both rural and urban. In a recent regional study of Latin America and the Caribbean, Cuba ranked first in math and science achievement,[1] at all grade levels, among both males and females. In many ways, Cuba's schools are the equals of schools in OECD countries, despite the fact that Cuba's economy is that of a developing country.

What has allowed Cuba's education system to perform so well, even under the severe resource constraints of the past decade, is the continuity in its education strategies, sustained high levels of investments in education, and a comprehensive and carefully structured system, characterized by:

- Quality basic education and universal access to primary and secondary school;
- Comprehensive early childhood education and student health programs (established as part of the commitment to basic education);
- Complementary educational programs for those outside school—literacy, adult and non-formal education (again as part of the basic education commitment);
- Mechanisms to foster community participation in management of schools;
- Great attention to teachers (extensive pre- and in-service training, high status and morale, incentives, transparent system of accountability, strategies for developing a culture of professionalism, rewards for innovation);
- Low-cost instructional materials of high quality;
- Teacher and student initiative in adapting the national curriculum and developing instruc tional materials locally;
- Carefully structured competition that enhances the system rather than the individual;
- Explicit strategies to reach rural students and students with special needs;

[1] UNESCO/OREALC Laboratorio Latinoamericano de evaluación de la Calidad de la Educación, *Primer Estudio Internacional Comparativo sobre Lenguaje, Matemática y Factores Asociados en Tercero y Cuarto grado*, UNESCO, Santiago, 1998.

- Strategies to link school and work; and
- An emphasis on education for social cohesion.

The importance of these factors is affirmed by a growing body of school quality and effectiveness research carried out in other parts of the world, mostly subsequent to or at least independently of their adoption in Cuba. Thus Cuba's experience is instructive in several ways. It provides evidence of the importance of certain critical inputs, around which research consensus is growing. Though unlikely to be replicated in full, many of these inputs can be adopted—clear standards of accountability, provision of textbooks, attention to the professional development of teachers, etc. Most importantly, perhaps, the Cuban case demonstrates that high quality education is not simply a function of national income but of how that income is mobilized. A highly-mobilized people can realize high quality education by ensuring the necessary inputs, paying attention to equity, setting and holding staff to high professional standards, and caring for the social roles of key stakeholders—teachers, community members, children.

As Cuba opens itself to global economic influences, these elements are likely to undergo considerable stress. One set of challenges revolves around the affordability of high quality education. Cuba will increasingly face issues of direct cost, such as the continued provision of textbooks. Indirectly, the system will be affected by external issues such as the salaries potential teachers will be able to earn outside the education system versus those inside. It is unclear whether Cuba will be able to maintain the consistency of educational investments and policy strategy in a more open environment. The system's commitment to equity will surely be tested, as economic opportunities provide greater opportunities for families to purchase high quality education for their members, directly or indirectly. The challenges are daunting, but then who would have predicted that Cuba—after a decade of economic turmoil—would have built the region's highest-achieving schools? The next few years are likely to be critical ones if Cuba's educational excellence is to be maintained, whether Cuba follows the path of other transitional economies and education systems or charts its own course.

Introduction

The growing body of international research on educational quality and effectiveness, while continuing to evolve in many ways, has developed broad agreement on many of the factors associated with high school quality and effectiveness. Much of this consensus was developed at the World Conference on Education for All (Jomtien, Thailand, 1990) and subsequently elaborated. These factors range from systemic factors such as a sufficiency of facilities and resources, a supportive policy environment, and parent and community involvement in schools, to school-based factors such as high expectations, clear goals, creative use of high-quality instructional materials, employment of motivated teachers, ongoing professional development, comprehensive assessment and feedback, and teacher and student involvement in defining, carrying out, and evaluating learning processes and outcomes. Interestingly, the Cuban education system adopted many of these features independently of the school effectiveness and quality research. This paper discusses those features as well as ongoing tensions facing the system.

Part

1

High-quality Education in a Poor Country

The Cuban educational system has long enjoyed a reputation for high quality. Recent studies comparing achievement tests scores from Cuba with those from other Latin American countries, have further highlighted the achievements of the Cuban system. Figure 1 provides illustrative comparisons, in which Cuban students score significantly higher than do students in other Latin American countries, often by as much as two standard deviations. See also Table 1, Annex 1.

The Cuban education system has performed most satisfactorily on other conventional measures as well.[2] According to official data, for example, 98 percent of Cuban children of the appropriate age attended preschool in 1997-98. The enrollment rate for 6 to 16-year olds was 94.2 percent, and primary school gross enrollment exceeded 100 percent. Repetition rates were 1.9 percent in primary school, 2.8 percent in secondary and 1.8 percent in pre-university school. Age-grade distortion was about 2.5 percent in primary, 3.7 percent in basic secondary and 0.9 percent in pre-university.[3] In the mid-1990s there were 241,000 illiterates, out of a population of 11 million.[4] In 1959, in stark comparison, half of Cuba's children did not attend school at all, 72 percent of 13 to 19 year olds failed to reach intermediate levels of schooling, and there were over one million illiterates.[5]

Cuba's schools have been remarkably successful in achieving gender equity, reaching rural and disadvantaged populations, and fostering community participation, even in the context of rapidly dwindling resources. Cuba is a poor country, and the past decade has been particularly difficult economically. Yet the success of its schools flaunts conventional wisdom: Education in Cuba is entirely public, centrally planned, and free, in a global reform environment of privatization, downscaling of the state role, and cost recovery.

The Cuban education system is characterized by:

- Sustained and high levels of investment in education;
- Consistent policy environment and political will in support of education for all;
- Quality basic education, including early childhood and student health initiatives, literacy, adult and non-formal education programs;

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[2] UNESCO, SIRI, Regional Information System, *"The State of Education in Latin America and the Caribbean, 1980-94, Major project of education"*, UNESCO, Santiago, Chile, 1996, UNESCO/OREALC 1998. For research on the reliability of Cuban government statistics, see Benigno E Aguirre and Roberto J. Vichot, *The Reliability of Cuba's Education Statistics*, Comparative Education Review, May 1998.

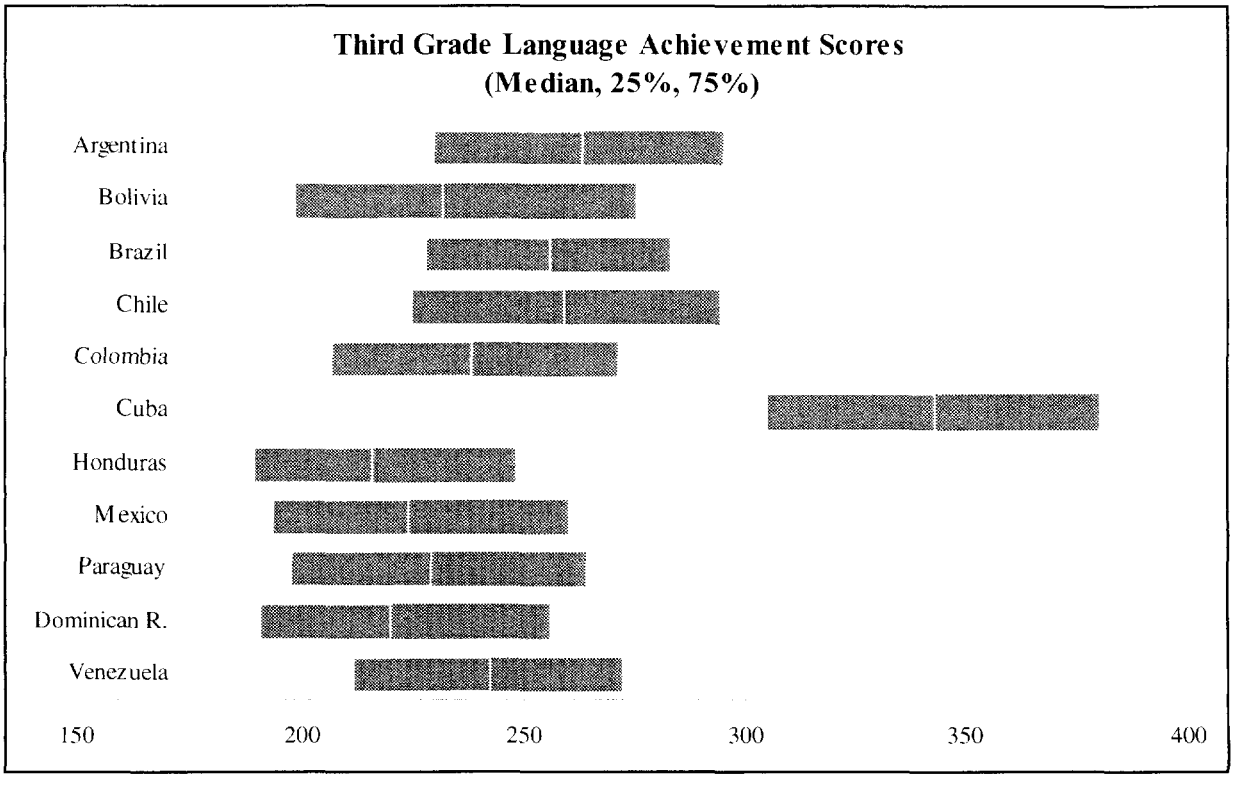
[3] Annex 3 presents data provided by the Cuban Ministry of Education to participants in the Study Tour.

[4] UNESCO, SIRI, 1996, p.223.

[5] E. Martin and Y.F. Faxas, Cuba, in: T. Nelville Postlethwaite, National Systems of Education, Pergamon.

- Universal access to primary and secondary school;
- Complementary educational support systems: early childhood and student health, literacy, adult and non formal education;
- Highly professional, well-trained teachers of high status;
- Ongoing professional development of teachers;
- Low-cost instructional materials of high quality;
- Creativity on the part of local educators in adapting and developing instructional materials;
- System-wide evaluation;
- Solidarity within schools and classrooms; competition among schools and classrooms;
- Significant community participation in school management;
- Compensatory schemes for disadvantaged and rural children;
- Clear connections between school and work; and
- An emphasis on education for social cohesion.

Figure 1. Comparison of Achievement Test Scores in Language, Cuba and Other Countries in Latin American and the Caribbean (Source: UNESCO/OREALC)



The remainder of this paper elaborates these points in an attempt to understand these elements of Cuba's success.[6] Essentially, we ask what factors account for the high performance of the Cuban education system. Then, in the final section, we raise some of the questions facing the system in the context of a decade of austerity and Cuba's growing participation in the global economy.

[6] An exhaustive analytical literature describes the Cuban System in detail as well as the debate among its partisans and detractors (see, for example, Sheryl L. Lutjens, *Education and the Cuban revolution, A selected bibliography*, Comparative Education Review, Pergamon Press, May 1998). These will not be discussed in this paper, although a brief description of the system is available in Annex 2.

Part

2

Elements of a Successful System

Sustained Investments in Education

High Levels of Investment

Cuba devotes about 10 percent to 11 percent of its GDP to education, a very high percentage compared with the rest of the region[7] or with the 6 percent recommended as adequate by UNESCO.[8] Of course, the size of GDP allocated to education alone is insufficient to define an effective education system.[9]

High Levels of Non-salary Expenditures

Cuba has invested substantial resources in non-salary items. Until March 1999, 60 percent of the Education budget was devoted to teachers' salaries with the remaining 40 percent for non-salary items used to support instruction. Both of these policies correspond to current understandings of best practices in education finance. Unfortunately, it will be difficult to maintain such a high percentage of expenditures on non-salary items. In March 1999, teachers received a 30 percent salary increase, a move that decreases the resources available for non–salary costs. Teacher motivation and retention are also threatened by decreases in the purchasing power of salaries and the attractiveness of new professional activities, especially in tourism and in foreign firms, as evidenced by teacher attrition of 4 to 8 percent per year in the eastern oriental provinces, where tourism is more developed.

Sustained and Coordinated Investments

Investments in education need to be sustained over a long period of time to achieve maximum results. Greater investments or allocation of resources to education as an isolated strategy do not necessarily bring better educational results.

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[7] Ministry of Education, Cuba Organization of Education, 1994-6. Report of the Republic of Cuba to the 45th International Conference on Public Education" Havana 1996, p.1.
[8] Jo Ritzen, *Looking for Eagles; A Short Guide to Bird Watching in an Educational Context.* World Bank. Washington 1999.
[9] Jo Ritzen, 1999.

Consistent Policy Environment, Supportive of Quality Basic Education

As in many other socialist countries, the Marxist-Leninist philosophy of praxis inspires the objectives of the education system[10] of educating a "New Human Being," to:

> assume its most basic social duties, to educate this being to produce material and spirituals goods that will serve society in a way that every human being participates in material production, in order to eliminate the contradiction among school and society, producer and consumers, intellectual work and physical work, and among cities and rural areas.[11]

Clear Objectives

These objectives were set, of course, by the same party that has run the country for almost 40 years. Continuity of educational policy and strategy—quite unusual in most countries of the region—has contributed to the achievement of goals set by party and government. The different components of the education system are articulated around common objectives, subject to constant evaluation with the participation of the broader educational community, and centered in the classroom.

Stability

In many Latin American countries, frequent political changes may impede the development and consolidation of educational strategies and achievements. The Cuban experience suggests that measures are needed to protect the education system from the disruptive effects of continuous changes in strategies and plans. Education is a long-term investment requiring consistent policies and political stability to grow. This stability, however, was achieved at the cost of one-party rule.

Access to Quality Basic Education

The great emphasis placed on education and the high degree of collective control ensure that access to education is effectively universal. The high levels of investment permitted an emphasis on both equity and quality. Comprehensive early childhood and student health services, widespread literacy, adult, and non-formal education programs support the objectives of basic education for all.

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[10] See, for example: Mario A Manacorda, Il Marxismo e l'educazione, vol. I, II, e III, Armando, Rome, 1966; Mario A Manacorda, Marx e la Pedagogia Moderna, Editori Riuniti, Rome 1996; Castles, S. and Wustemberg W., The Education of the Future. An Introduction to the Theory and Practice of Socialist Education, Pluto Press, London 1979; Dietrich Theo, La pedagogie socialiste: fondements et conceptions, Maspero, Paris, 1973; Dommaget Maurice, Les grand socialistes et l'education, Colin, Paris, 1970; Lê Thán Khôi, Les idees de Marxs sur l'education, Paris, Revue de l'Education Internationale et Compareé, Barcelone, n.1,1987; Lavinia Gasperini, L'uomo nuovo come obbiettivo del sistema educativo del Mozambico, Politica Internazionale, La Nuova Italia, Rome, n.10, October 1980.

[11] Gaspar Garcia Gallo, Bosquejo general del desarollo de la education en Cuba, Education, n.14, julio, setiembro 1974, p. 62.

Professional High-status Teachers and Ongoing Professional Development

Lifelong Training

Teacher training is a lifelong process including training on the job as well as formal and informal training. Its major aim is to support teachers to improve classroom practice. Fifteen higher education pedagogical institutes (HPI, *institutos pedagogicos superiores*) and the pedagogical faculties provide formal preparation of teachers for day-care centers, primary schools, and intermediate schools. HPIs offer formal daytime courses for pre-university graduates and mid-level graduates of technical and vocational schools. Pre-service courses consist of five years of training, while in-service courses last six years. Training for school directors is provided at the same time as teacher training, so that directors will understand the teacher development process.

School-based

Pre- and in-service teacher preparation emphasize basic knowledge, skills, values and attitudes. There is a balance of didactics, pedagogy and subject matter knowledge. Teachers' professional development is characterized by a strong linkage between theory and practice during both pre- and in-service teacher phases. Both pre- and in-service teacher training are school based, to foster greater relevance of teacher training to school and student needs and to link training institutions and schools. To reduce the distance between academic teacher training and schools, a teacher trainer candidate must complete as a pre-requisite a significant number of years (usually 6 to 7) as a teacher at the level at which he or she intends to prepare teachers.

Community of Learning Teachers

Strong emphasis is given to teamwork and exchanges of experience. Each area has a *colectivo pedagogico* for each discipline (*ciencias naturales, ciencias sociales*, etc.). These *colectivo pedagogico* meet periodically to discuss teaching methods, produce learning materials, adapt curricula to local needs, and exchange experiences. The *colectivo pedagogico* develops a "bank of problems" (*banco de problemas*) and develops plans to address these problems. Every program has a methodological guidebook for teachers of each grade that provides examples of good lessons and guidance on how to teach different learning units. The *colectivo* of teachers meets every two weeks to discuss teaching strategies, the problems of the school, evaluation, and the general educational "climate" of the school. Institutional support is provided to schools to promote professional development among teachers. A *metodologo* works with teachers to support them in different subjects. Such approaches to ongoing professional development are consistent with the best current thinking in education internationally.

Action Research

Every teacher is expected to carry out applied research on ways to improve learning achievement and systematize pedagogical experience. During training, teachers are prepared to carry out classroom studies on how to address student problems. Every two years teachers present their best work on innovative teaching practices to a "municipal education conference" (*pedagogia*). Municipalities select the best research for the provincial conference, and the province selects the best for a national conference where the best 900 research projects are presented to an audience of national and international participants. Moral

and material incentives are provided to teachers presenting the best research. Pedagogical research is guided by two institutions, the *Instituto Central De Ciencias Pedagogica* (ICCP), and the *Instituto Superior Pedagogico* (ISP).

Links to the Community

Teachers interact regularly with community members and parents through mass organizations and other participatory modalities (parents' councils, parents' schools). Such interactions allow teachers to learn about local communities, and the conditions facing children and their families. This enables teachers to create a broad collaborative environment supportive of education. In this way, school-based innovations seem to last because they are supported by several actors (teachers *colectivo*, students, parents, community) rather than a single individual, however talented. Teachers act as community activists and are involved in activities such as parents' education and similar activities that have a positive impact on children's education. Teachers help plan school life. They spend about 80 percent of their time with students at school and the rest of their time in student's homes. According to the principle that "education is a shared responsibility," students meet to study together, from one to three times a week, in "study homes" (*casas de estudio*). Teachers visit parents and identify families with potential problems as well as families able to host a group of students.

Evaluation and Accountability

Continuous evaluation is considered a part of teachers' professional development, providing useful information to improve teaching practice through action research and life-long learning. Continuous assessment of teachers is a participatory process that includes all the major actors of the education process and the "teacher working group" (*colectivo*). Teacher evaluations provide recommendations for teachers' self-development plans (*plan de superación autodidacta o postgraduada*) for the following academic year. The university also participates in the evaluation of teacher performance, and by doing so receives feedback on its activities, enabling it to adapt its offerings to the realities of schools. Teacher accountability is a reality in Cuba. Inspection is not an autonomous function; career growth depends primarily on positive evaluations of teachers' classroom practice. Teacher salaries are often related to student performance. Teachers whose students fail to perform at the norm risk cuts in pay.[12]

Professional Status

Cuban teachers are regarded as true professionals. Their social status is high, and there is little difference between teachers' salary scales and those of other professionals.

Low-cost, High-quality Instructional Materials

Nationwide Coverage and Care

The Cuban state has a monopoly on all aspects of production of educational materials—design, publishing, and distribution. As a consequence, the state says, it is able to keep costs low, address the learning needs

[12] Claudio de Moura Castro, 1999.

of the poor, and distribute all educational materials free. Before the *Periodo Especial*, about 25 million books were produced each year. In 1976, bookstores and schools were full of low-cost high quality textbooks and books of every kind. Books were offered free or at very low cost to countries with which Cuba was cooperating, i.e., Angola and Mozambique. However, the austerities accompanying the *Periodo Especial* have strongly cut back the production and distribution of textbooks. To deal with these shortages, schools works hard to maintain books in good condition. Most of the books currently in use were published around 1992. Students continually rebind books and repair other learning equipment and school furniture as part of their weekly "labor education" (*educacion laboral*). Exercise books are often used several times: students write with a pencil and when they complete the exercises, erase the book for reuse. Thus in Cuba, teacher and student initiative and creativity appear to compensate, at least partially, for the lack of resources.

Nationwide Coverage, Local Adaptation and Development

National curricula (see Annex 4) are subject to continuous reform and adaptation to local realities. In addition, the school calendar varies according to local production schedules. These measures allow for both unified educational standards and respect for local diversity. Teachers and students take an active role in examining the learning environment and adapting the curriculum to learning needs. Classroom observations suggest that teachers have great latitude in choosing the means to implement the curriculum. Teachers went to great lengths to prepare instructional materials and utilize them actively as integral parts of their teaching. In Cuba, teacher and student initiative and creativity appear to compensate, in part, for the lack of resources. When resources are scarce, teacher motivation and creativity in the use of external inputs act as major inputs and determinants of learning achievement. Indeed, instructional inputs, however sophisticated, have no instructional value unless used by teachers and students.

At the same time, there is substantial evidence of the closed nature of Cuban education. Basic Western authors such as Montessori, Dewey, Piaget, Bloom, etc. are generally ignored, and when they are considered, they are usually critiqued. The pedagogical institutes place a great deal of emphasis on the educational research and tradition of Cuba and Latin American authors such as Marti and Bolivar and on thinkers from the former USSR, Vigotsky, Lurija, Makarenko, Gorki, and many others. Similarly, social science curricula have been overshadowed by four decades of Marxist-Leninist orthodoxy.

Systemwide Evaluation and Competition Among Classes and Schools

Cuba has developed an extensive evaluation and school improvement system. School performance evaluation is a constant formative process, aiming at improving educational quality. Evaluation is based on a participatory approach designed to detect and correct problems of poor educational process and achievement through a comprehensive set of indicators. School performance is evaluated holistically, that is, taking into account the several variables that determine the relevance and efficacy of the education process and learning achievement, as opposed to a single measure of cognitive achievement. Schools have "banks of problems" that identify the problems as well as plans of actions to solve them.

Example of Teacher Assessment

Continuous teacher assessment provides an example of the role and approach to evaluation. The "chief of the pedagogical unit" (*jefe de círculo pedagógico*) visits every teacher each month during classes, as-

sesses his/her activities and addresses any problems detected, deciding, for example on in-service training needed for teachers in different areas. A "municipal specialist in teaching methods" (*metodologos municipales*) helps the school address pedagogical problems. If a problem cannot be solved with the *metodologos*, the *Instituto de Capacitacion Pedagogica* gets involved. Administrative and pedagogical inspectors set deadlines by which time problems must be solved. Assessment takes place at all levels of the system: the nation assesses the province, the province assesses the municipality, and the municipality the school. Teachers' performance is assessed by the school director, the party, the union, the Organization of Young Communists, and the "pedagogical guide" for each cycle (pre-primary, primary, secondary). Teacher diligence, punctuality and commitment are taken into consideration as part of the ongoing assessment as well as their students' diligence, punctuality, and achievement. Teachers' "volunteer" participation in the Workers' Guard (*Guardia Obrera*), which guards school property and security during weekends and at night is also part of teacher assessment. All teachers are "activists" in the Party but only a few are "militants." As in other socialist countries, volunteer work is quite common in Cuba, for parents, students, teachers and school staff.[13]

Emulation, Not Competition

A form of competition permeates all classrooms as well as the school atmosphere and is promoted among groups in the same class, different classes, and the school and other schools. However, competition in Cuba is called "emulation" because it is not considered an end in itself, but a method for self-improvement, developed through solidarity and collaboration among peers. "Emulation" among schools and municipalities is assessed by the following centrally-defined public list of "emulation indicators of school performance," which were illustrated in a poster hanging on a school wall:

- Political and ideological work
- Results of the teaching-learning process
- Priority subjects
- School retention
- Student continuity in school
- Children of the area with less then 16 years of study
- Data concerning teachers
- Support and stimulation of children
- Staff development policies
- Initial diagnostic examinations
- School cleanliness
- Integration with the *instituto pedagogico superior* (teacher training institute)
- School-work connection
- School organization, discipline and health
- Activities with the population
- Physical protection of the school, school secrecy

[13] Although the virtues of volunteer initiatives are evident, the tendency for volunteer efforts to become coercive often leads to a double public-private standard, challenging the stability and sustainability of the political and social project.

Schools are classified on the basis of these indicators. The school that qualifies as first in a municipality hosts the annual July 26 celebration of the anniversary of the Castrist assault on the Moncada barracks. Schools where problems are detected are asked to define a plan of action to overcome the problems. Incentives are basically to boost morale, but there are some material incentives, such as paid holidays in state tourist centers, tickets for theater and concerts, etc.

In these ways, competition is transparent and based on public acknowledgement of results. In contrast to other countries, competition among schools in Cuba does not lead to greater selectivity and stratification but to school improvement. In Cuba all catchment areas are local. The overall financing of a school does not decrease or increase as a consequence of its performance, and families do not select schools on the basis of academic performance.

Participation in School Management

School management is guided by the principle that "education is everybody's responsibility," and participation is an important means of addressing problems of the school. The participatory mechanisms include student assemblies, parents' councils, "council addressing minors," school councils, parents' schools, and study homes.[14]

Involving Children

Cuban schools give children responsibility for a variety of tasks appropriate to their ages. In primary school, for example, children clean the school, fix broken facilities, help fellow students with difficulties, discuss class and school problems, and work in the school garden. The director we interviewed considered the student work in the school garden more of a pedagogical than a productive activity and declared that the school invests more in this activity than it gains. Such work encourages a more active role for students in school life.[15] In Cuba this is called "pioneers protagonism" (*protagonismo pionieristico*) since students participate in school life through the Pioneers Association.

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[14] The Student Assembly (Asamblea de Estudiantes), operating in every class, elects a president, integrates a parents' delegate and operates under the guidance of a "guiding teacher" (*profesor* guia). Parents Councils (Consejos de Padres), composed of parents' representatives from each classroom, elect a president and prepare a plan of action. The Parents' Council is part of the School Council (Consejo de Direccion)". The function of the "Council Addressing Minors" (Consejo de Atención a Menores) (CAM) is to advise the director on issues related to children exhibiting so called "deviant behavior." The CAM is composed of the vice president of the municipal government, representatives from political mass organizations such as the Revolutionary Defense Councils (Consejos de Defensa de la Revolucion, CDR), the Women's Federation (Federacion de Mujeres Cubanas), the Young Communist Union (Union de Jovenes Comunistas), the president of the Pioneers (Pioneros), the representative of the Communist Party, the person responsible for education in the municipality, three persons responsible for education in the school, one responsible for the Ministry of Interior, the representative of the Union and a representative of the students. A School Council (Consejo de Escuela) is composed of parents representatives and representatives of mass organizations, with the responsibility of advising the school director. The Consejo de Escuela organizes the Escuela de Padres, the Parents' School, which prepares parents to educate their children. For example, when the set theory (conjuntos) was introduced to teach mathematics, parents who had been taught with a traditional approach were trained in the new teaching methodology to enable them to assist their children. The Study Homes (Casas de estudio) are homes where parents have the cultural background and time to host and support groups of students in their homes.

[15] Giving children productive responsibilities, a typical educational feature of pre-literate agrarian societies, is usually lost in western schools, which traditionally deposit all authority and responsibility with teachers and encourage passive attitudes on the part of students. Japan, a non-western industrialized country, maintains a strong tradition of active student participation in all aspects of school life, though not in production.

Box 1: *Republics Oriental del Uruguay: A Rural School in the Mountains*

The Republica Oriental del Uruguay School is located in the Las Terrazas community in a natural park in the Pinar del Rio region. The school is part of the sustainable rural development project, Biosphere Reserve Project, sponsored by UNESCO, based on tourism and agriculture. The school serves 122 families of farmers, a total of 920 inhabitants, in an area of 5,000 hectares. This school provides all levels of the education system, with 140 students enrolled in pre-primary and primary levels, 78 students in secondary school, seven students in the polytechnic specializing in gastronomy and environment related to local tourism, and 18 university students. There is no teacher absenteeism, and 98% of students graduate each year. Curriculum, teacher didactics, and research are centered on environmental conservation and rural development. Several teachers each year submit applied research papers for the Pedagogia congress, related to specific local environmental problems, such as energy saving habits, low-cost machinery, and technologies such as solar energy. In view of the importance of agriculture and tourism to the area, primary and secondary school students are involved in practical activities related to ecology and gastronomy.

Outreach to Rural Children

Cuba considers itself duty-bound to provide education for all. As a result, the government has developed explicit strategies for reaching children unlikely to be well-served by the standard school model, in particular children living in isolated rural areas, i.e., mountainous areas, as well as children with disabilities and other special needs. Overall, Cuba has approximately 2,000 schools with less than ten students, usually located in remote areas. Such small schools offer multigrade instruction through 4th grade, in which case teachers receive training on teaching in multigrade classrooms. In achievement scores, there are no significant statistical differences between rural and urban areas. The dropout rate overall is about 2.3 percent. There are no dropouts at the primary school level.

These results challenge the notion that schools must be of a certain size to be effective. Perhaps more importantly, they also question the perception that rural schools are necessarily of lower quality. In Cuba's case, rural schools are provided with adequate levels of human and physical resources as well as special features to meet their needs. In return, rural schools provide education that contributes to the development of rural areas, thus motivating families, teachers and students.

To encourage rural populations not to emigrate to urban areas, a special plan was developed to provide education in the mountainous areas.[16] Schools were planned to provide the entire education cycle, with curricula adapted to local needs. To ensure the stability of the teacher workforce in rural schools, the system promotes volunteer teachers who commit themselves to staying in the area for two or more years. Young teachers living in such areas are provided incentives—assistance in home construction, radios, lamps, etc. About 725,000 people of the total population of 11,000,000 live in mountainous regions, in 47 municipalities, including about 152,000 students. These areas include 27 pre-primary schools (*circulos infantiles*) and 2,400 primary schools, many of which teach as few as four children in multigrade classrooms. In addition, the mountainous areas include 27 special education schools, 89 basic secondary schools, 17 pre-university schools, 28 polytechnical institutes for agronomists, and three "mountain facul-

[16] Cuba's centrally-planned strategy to promote relocation of rural dispersed communities is reminiscent of similar strategies adopted by socialist countries such as the "ujama" in Tanzania, or the "aldeias comunais," in Mozambique, raising issues of human rights and sustainability in an open-market economy.

ties" (*facultades de montaña*) for agronomist engineers. Educational institutions are developed in conjunction with regional plans. Infrastructure and services were developed to attract people to the region, for example, along with production incentives such as cooperatives entitled to credit from the state.

Box 2: *Republics Oriental del Uruguay: A Rural School in the Mountains*

Havana's Escuela Especial Panama enrolls 162 children grades 4 to 9 with physical and motor handicaps. The school is staffed by 132 workers, 51 of whom are teachers. Children from Havana go home during weekends, while children from distant provinces go home twice a year, in December and during the summer. School workers "adopt" the children and create "pedagogical families." Teachers and families are trained on how to receive and work with the children. The school provides periodic "fathers' schools" (escuela de padres) to teach parents living in Havana how to support and educate their children. Parents residing far away are hosted in facilities near the school during special training events, and the school assumes the costs of transportation and feeding. Days during which parents attend training are considered working days, and their salaries are regularly paid by the employer since their activity is considered beneficial to the overall society. Teachers receive a supplement of 40 pesos over and beyond their base salary because the school is a boarding school. Teachers lacking a university degree devote one day per week and one afternoon per month to distance training. Graduate teachers spend the same amount of time on post-graduate studies. Since the beginning of the Periodo Especial, the school has faced severe difficulties. The center is given priority for supply of food and medicine; nevertheless, we observed a serious shortage of basic teaching, learning and rehabilitation tools, which personnel tried to compensate for with personal commitment and creativity. Panama School students are integrated into the same organizations as regular students, Pioneiros, CDR, etc. Most children transfer to regular schools after some years of rehabilitation at the special school. Once in regular schools they continue to receive support by Panama School personnel for 2 years. Children reintegrated into regular schools are invited to the Panama School to share their experience with the students of the Panama School. It was interesting to observe how the Panama School does not create false expectations in the children and works to help them accept their limits and develop their strengths. Teachers and rehabilitation staff, for example, ask children with no hands which part of their body (mouth or feet) they wish to reinforce in learning to write. Cuba has three schools such as the Panama for children with physical handicaps.

Attention to Special Needs

Cuba's emphasis on providing access to schooling for all children extends to those with special needs and is one of the initiatives accounting for the country's virtually universal primary enrollment. "The public role in education is to be there for students who otherwise would not be able to develop their talents in full. (...) Compensatory schemes provide stability to the education system and social cohesion, which is so necessary in a society."[17]

Cuba meets these needs in both special education centers and in regular schools. Before 1959 there were eight special education centers in Cuba.[18] Now the country has 425 special schools enrolling 57,000 children and employing 13,000 teachers (out of a total school population of 2,300,000). In addition, many students with special needs attend regular schools. Depending on the type of impairment, these children may receive supplementary attention by the regular school teacher or in specific working sessions out of

[17] Jo Ritzen, 1999.

[18] The data in this paragraph where rely on Ms. Ileana Musibay presentation on special education at IPLAC during the study tour.

[19] SIRI, regional Information System, "Santiago, 1996, quoted.

the class by an advisor teacher providing guidance to teachers and students.[19] In order to attend to all children with special needs, a group of "itinerant teachers" (*maestros ambulantes*) reach students who cannot be transported from home or who are hospitalized.

However, while the mainstream of educational thought emphasizes the integration of children with special needs into regular schools, Cuba continues to maintain separate facilities for many of its special needs students. The Director of the Latin America Special Education Reference Center (CELAEE) in Havana, representing Cuba's official position, describes separate special education institutions as the best way to attend to diversity. He criticizes those who advocate integrating special needs children into regular schools as adopting an "integrationist façade" (*fachada integracionista*), denying the culture of diversity. These policies are in direct contrast to a growing consensus among special educators in the rest of the world. The Salamanca World Conference on Special Needs Education (Spain, 7-10 June 1994), for example, stated that children with special needs must have access to regular schools which should accommodate them within a child-centered pedagogy capable of meeting their needs.

Regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all; moreover, they provide an effective education to the majority of children and improve the efficiency an ultimately the cost-effectiveness of the entire education system.[20]

Box 3: *Escuela Ciudad Liberad*

Escuela Ciudad Liberdad[21] is a laboratory of experimentation in pedagogical methodologies, in collaboration with the Pedagogical University. The school devotes about 30% of the school calendar to extracurricular activities. Every student in secondary school is involved in agriculture work two hours per week (for example, planting trees in a wood nearby, or working in the school agriculture garden), two hours on music, and two hours in military preparation. (We were surprised to see secondary school children managing real arms.) Productive activities are planned according to local production schedules. In addition to the two hours per week, students devote the entire month of May to agricultural activities in a neighboring city. Labor education (educacion laboral) is considered a subject like any other which students need to pass to advance to the next year.

Linking School and Work

Since the Revolution, Cuba has placed a high value on relating study and work.[22] In a classically Marxist formulation of praxis, education emphasizes the holistic development of the "new human being," to be

[20] World Conference on Special Needs Education: Access and Quality: *The Salamanca Statement and framework for action on Special Needs Education*, Spain 7-10 June 1994.

[21] The *Escuela Ciudad Libertad* has 757 students in pre-primary, 2,850 students in primary, 402 in special education, 1,840 in secondary levels. Of 381 teachers, 197 are graduates, 90 are not graduates, and 94 are pedagogical assistants (auxiliares pedagogicos), which means students in the pedagogical faculty preparing for their degrees and assisting the teachers as part of their pedagogical practice. The school employs 220 non-teaching personnel. Primary school teachers follow the same students for 4 years.

[22] Lavinia Gasperini, *Il rapporto tra studio e lavoro nella problematica educativa cubana*, Universita' degli Studi di Roma, Facolta' di Filosofia, Cattedra di Pedagogia, Roma, Dissertation thesis, 1975; Lavinia Gasperini, *Scuola e lavoro in Cuba socialista*, Scuola e Citta', N. 4 1976, La Nuova Italia, Roma; Lavinia Gasperini, *Recenti innovazioni nel sistema educativo cubano*, Scuola e Citta' n.1, gennaio 1977, La Nuova Italia, Roma.

achieved by relating study and work through lifelong education programs that involve students in working and workers in study and reflection. In addition to these Marxist educational principles, the economic situation facing the country called for mobilization of all available labor. Indeed, in the original formulation, the entire cost of the education system was to be covered by students' productive labor,[23] though this is no longer an objective of the system. Still, a high value is given to labor in the priorities and goals of the system. In addition, productive work continues to form an important part of the school curriculum. Finally, the system emphasizes technical, vocational and polytechnical education.

Compulsory Education

The primary curriculum includes 480 hours of "labor education" over six years, out of a total of 5,680 hours. Here the Marxist principle of combining study and work is applied to school gardens (*las huertas escolares*). By participating in simple agricultural activities, students are expected to develop a positive attitude toward work along with attitudes of solidarity with workers. School gardens size range from one to more than 20 hectares. When schools do not have their own garden, students work in "collective gardens" in the provincial capitals. "Education and not production," is the aim of this experience, we were told while visiting a few schools, thus disclaiming possibility of exploitation of child labor. (At the same time, of course, this contradicts the initial intent of the experiment.)

As part of labor education, all students take one year of drawing. The following year, there is a bit of wood carving, using the models designed in the first year. In the third year, the boys go to woodwork and the girls to sewing.[24] In secondary school (grades 7 to 9), labor education represent 280 hours of a total of 5,799 hours, a less significant share than in primary school but still equivalent to half the time devoted to History and a significant amount of time compared to that given to classic academic subjects (see Annex 4).

Work, when appropriate to children's age, appears to have become an instrument of intellectual and social development and a sharing of responsibilities. The danger is that compulsory work may lead to exploitation and an aversion to work on the part of students. The initial idea of linking education and work from primary school appears to have lost its original motivation, and risks turning into a ritual or, in Claudio de Moura Castro's words, a "relic" of Soviet influence, or "perhaps an ever older relic of Western education."

In the early years of the Revolution, Cuba developed "secondary schools in the countryside" (*escuelas secundarias basicas en el campo*, ESBEC) boarding schools as a major initiative to bridge the gap between rural and urban populations. At one time, these schools were considered one of the major achievements of the Cuban education system. Each school was part of the agricultural development plan of the region, and students worked every day for a few hours on plantations growing coffee, tobacco, citrus or other products. During the study tour, although we requested a visit to such schools, we were not able to do so. The ESBEC, we were told, have been controversial and have not met the expectations of students and

[23] *Discurso pronunciado por el Comandante Fidel Castro Ruz en el acto de inaguracion de numerosa construciones escolares para el curso 1973-74, efectuado en el Instituto Tecnologico de Electronica "Educardo garcia delgado"* en la region de Boyeros, la Habana, el dia 22 de octubre 1973, Education, n. 11, otubre-diciembre 1973.
[24] Claudio de Moura Castro, *Ugly Schools, Good Schools?* Notes from the Education Unit, Sustainable Development Department, IDB, 28 July 1999.

their families, who have resisted such boarding schools. The tendency today is to give more emphasis to family responsibility in their children's education and postpone the boarding schools to the "pre-university institutes in the countryside" (IPUEC) for students aged 15-17. Although related to the development plan of the area, ESBECs appear to have frequently ended up isolated, having failed to develop the linkages between school, community, rural reality and urban students that were the original initial aims of the experiment.

Box 4: *Centro Vocacional Lenin en Ciencias Exactas*: A Pre-University Institute

The Centro Vocacional Lenin en Ciencias Exactas enrolls 3,300 students with a special aptitude for science. Employing 200 teachers, the center is located in the periphery of Havana. Organizations such as the Union of Young Communists (UJC), the Communist Party, the Students Federation (FEM) and the Teachers Union are active in the life of the school. The Teachers Union and FEM have the right to vote on the school board, while the Party and the UJC do not. Student admission quotas are set in order to guarantee equal possibilities to different municipalities. Admissions scores tend to start from 85 points up, in comparison with scores for other pre-university schools, which start from around 60. As part of the curriculum, students are prepared to defend themselves from natural disasters and military aggression during military preparation activities. The school has a farm, where students observe applications of theoretical scientific studies such as plant mycosis and other pathologies. The Director of the Center commented that the school's production is for self-consumption, but that it is not cost-effective, as it barely covers costs.

The learning-teaching methodology adopted by the Lenin Vocational Center combines a clear emphasis on autonomous research and learning, with a strong sense of community and group work and "emulation." We observed a high level of cooperation among peers, where the best students were responsible for mentoring students having problems in different areas. In talking with students, we noticed no shame among those receiving support, nor was there arrogance among the mentors, but instead a common understanding of the mutual responsibilities of students for the group. Flexibility allowed students to focus on the different curricula areas, building on their specific strengths. While the curriculum is the same as that adopted in other pre-university schools, teachers in these schools for excellence act as learning facilitators to prepare students for university learning and for managerial tasks.

Unfortunately, the school population was not representative of the national population in terms of gender and race. The school director, when asked why there were so few Afro-Cuban students in the Center, answered that cultural, social, and economic transformation takes a long time, that the school still reflects families' cultural and social backgrounds. As observed in other socialist countries, the Center provides high quality education for children of the elite, despite quotas designed to mitigate inequities in student recruitment.[25]

Technical and Vocational Education

Preparation of a productive working class is a primary objective of the education system, and so approximately 50 percent of students who complete grade 9 enter Technical and Vocational Education (TVE). This centrally-planned decision reflects the political choice to consolidate a state based on industrial and agricultural manpower. Public employers' organizations participate in defining the curricula and training activities. Students carry out professional practice 20 hours per week and are continually evaluated both by teachers and technicians. Employers and schools carry out a joint "final integral evaluation" (*evaluacion final integral*) of student achievement. Only a small group of the best students continue to university. Students are selected for university during school assemblies, with parents participating.

[25] Leiner, M, *Cuba's schools: 25 years later*, in Halebsky, S. and Kirk, J.M. (eds.) *Cuba: Twenty-five Years of Revolution, 1959-1984,* New York, Praeger 1985.

However, the TVE system has come under extreme pressure with the economic austerities of the *Periodo Especial*, and the new economic conditions posed by the partial opening of the Cuban economy. At one level, the infrastructure and technologies used in TVE schools are obsolete, having been brought from the Soviet Union between 1960 and 1980. With important new, potentially lucrative sources of employment and labor demand—foreign firms, joint ventures, small enterprises, and tourism, traditional university studies, academic careers, and public sector employment are less attractive and less guaranteed paths to financial security and social mobility. In addition, in an increasingly market-driven economy, it has become more and more difficult for the Planning Ministry, and the Ministries of Labor and of Education to predict labor demand and plan appropriate courses of study in TVE. In such an environment, links to private enterprises are necessary to ensure curricular relevance.

Education for Social Cohesion and Values Education

Implicitly and explicitly, Cuban education is organized to promote social cohesion around the values of the Party and state. Values Education is a core subject in the Cuban curricula. Education, specifically Values Education, is expected to promote social cohesion by preventing internal disruption from violence, drugs, and criminality.[26] Values Education is taught as a separate subject two hours a week.[27] Teachers are selected from those with exemplary behavior. They teach values and attitudes aiming at consolidating internationalism, national identity and patriotism, a morality of work, solidarity and defense against external threats.

In addition, teachers reinforce values and practices that permeate the entire life of the school. For example, the *colectivo* is at the center of the school life. Individualism is discouraged, both among teachers and students. Cooperation and solidarity between students of the same group or class coexist with competition between classes and groups. Competition is called "emulation" to emphasize that its aim is self-improvement and not a fight against the other. Self-sacrifice and rejection of individualistic attitudes are also seen as characteristics of the "new human being" that the education system aims to produce. Both individual and group responsibility are encouraged in striving to reach collective aims. This emphasis on competition and solidarity in the education system is a typical feature of socialist education systems. Still, students develop self-confidence and a sense of solidarity by assuming responsibility for the school. Racial and

[26] As the social cohesion function of education is increasingly recognized as crucial for formation of human capital and human development, issues such as global education, multicultural or intercultural education, values education, education for peace and mutual understanding, education for democracy and social cohesion, and human rights education are becoming increasingly important aspects of the curriculum in many countries. During the last 20 years UNESCO, UNICEF, the European Union and many governments have promoted projects to develop these social dimensions of education, as alternatives to the obsolete "civic education" or the dogmatic transmission of religious and political principles and values. Just a few examples from very different parts of the world: UNESCO Principal regional Office for Asia and the Pacific (APNIEVE), Bangkok, *Learning to live together in peace and harmony, values education for Peace, Human Rights, Democracy and Sustainable development for the Asia-Pacific Region*, UNESCO APNIEVE 1998; Educators for Social Responsibility, *Uma educaçào do Coração: orientações curriculares para a aprendizagem Social e Emocional*, Rio Grande do Sul, Brasi, 1997; Norman Richardson, *Northern Ireland, Education for Mutual Understanding and Cultural Heritage, Belfast, 1998; Ministerio de education de El Salvador, Derechos, deberes y libertades de los niños y niñas, El Salvador 1997.*

[27] The teaching of values education as a separate subject diverges from the consensus in the international education community that the teaching and learning of values should permeate every discipline and not be a separate subject since values are best learned by students living in a democratic and cooperative classroom and school environment.

gender integration are a fact in Cuban basic education. Gender equity is quite significant in a country mainly agricultural, where women were limited for centuries to traditional roles and where stereotypes and discrimination permeated the entire society. With the collaboration of parents' councils (*consejos de padres*), special programs are developed in collaboration with the mass media on drugs, sexual education and criminality.

The dilemma facing Values Education in Cuba is its top-down approach. Where there is no need to address diversity and conflict, because consensus is compulsory, there is the risk of indoctrination. When conflict is disregarded, it can later manifest itself in social unrest. The recent growth of youth criminality and prostitution are likely a consequence of the current economic crisis and of increasing poverty, but may also be symptomatic of the fact that values that have not been internalized are easily abandoned in periods of crisis. Cuba faces the task of teaching national values in an increasingly global environment. The dilemma is how to consolidate solidarity and a collective sense of responsibility in a context of scarcity, while individualism and material consumption are increasingly appealing. In private, the study team noticed diffuse criticism of the rewards of political and ideological conformism favoring access to higher levels of education and career advancement.

Ongoing Tensions: Quality and Equity

Such tensions have never completely been eradicated from the Cuban education system. Despite efforts to equalize opportunity, the best schools still enrolled, primarily, the children of the elite, as illustrated by the school discussed in Box 4. The system, after all is said and done, is still more equitable at the bottom than at the top.

Part

3

Questions for the Future of the Cuban Education System

As the context of Cuban education changes, the tensions can be expected to worsen. By any measure and in the best of times, Cuba's education system has achieved impressive results. That these results were obtained after a decade of economic upheaval attests to the strength of Cuba's investment in education. Nonetheless, the system faces a number of questions. How Cuba faces them will determine the nature and effectiveness of its future education system.

- Will government continue to monopolize Cuban education? If not, who will be able to partner with government? NGOs? Private education entities?
- Can Cuba maintain the coherence of its education policies in the absence of historically strong state guidance and control?
- Will the system maintain its current standards of access and quality in a more open political system with greater choices available to individuals, families, and the population?
- Will the system maintain its commitment to social cohesion, in a less coercive, more diverse environment?
- Will the system continue to attract and motivate dedicated high-quality personnel, when other sectors of the economy are likely to pay more?
- Is the curriculum adequate to educate resilient citizens, capable of managing change, risk and uncertainty in a globalized and market-driven world?
- Can the school system continue to be effective in promoting social cohesion in a less coercitive environment and in a context of uncertainty, growing inequity, rapid social and economic change?
- How can the education system move from a system led by the Party and the state to develop a broad consensus around the overall objectives and content of education?
- Will the education sector be able to continue to claim high levels of public resources?

- How can the education system develop a culture and set of institutional processes that allow individuals to express criticism and air differences, and contribute to a lasting democracy built on individual rights ?

- Will Cuba's strong scientific education curriculum provide students with skills needed not only master known knowledge but to use information in new and unanticipated problem-solving contexts?

- How will the education system deal with competition in the labor market, which has been disallowed for the past forty years?

- How will Cuba deal with likely competition among schools for resources and high quality students?

- How will Cuba develop needed technical skills and personnel in an economy increasingly driven by market forces rather than state planning?

To the extent that Cuba follows the path of other transitional economies, the education system can expect to face profound changes in philosophy, administration, and curriculum. Linkages between education and the workplace can be expected to shift greatly. While the motivation, creativity, and professionalism of teachers have played a critical role in the achievements of the Cuban system, it is unclear how long the system will be able to maintain teacher motivation in the face of low salaries, dwindling resources, and expanding opportunities outside the sector. Curriculum, particularly history, the social sciences, economics, and business will likely undergo thoroughgoing change. The policy challenge will be for Cuba to maintain its excellence in education along with its commitment to equity and quality in a very different political and economic environment. If Cuba succeeds, however, it will not be the first time it has defied others' expectations.

This paper has highlighted ways in which the Cuban educational system, despite the dismal economic picture of the past decade, adopted features that research has identified as characterizing a high-quality education system. The Cuban model, while difficult, in an increasingly democratic world, to replicate in its entirety, is quite replicable in much of its detail. Most inspiringly, Cuba demonstrates that a poor country can build an education system of very high quality that truly reaches all.

Annex 1

Third Grade Language Achievement Test Results, Selected LAC Countries

	Bottom Quartile	Median	Top Quartile
Argentina	230	263	295
Bolivia	199	232	275
Brazil	228	256	283
Chile	225	259	294
Colombia	207	238	271
Cuba	305	343	380
Honduras	190	216	248
Mexico	194	224	260
Paraguay	198	229	264
Dominican Republic	191	220	256
Venezuela	212	242	272

Source: Data from Laboratoria Latinoamericano de Evaluación de la Calidad de la Educación: Primer Estudio Internacional Comparativo. Santiago, Chile: UNESCO, 1998; published in "Laboratorio Latinoamericano difunde estudio comparativo de lenguaje y matemáticas," CINDE/Dialogo Interamericano, PREAL Informa, February 1999.

Annex 2

Structure of the Education System

The Cuban education System is articulated around the following sub-systems (see Annex 3 chart):[28]

a. Pre school education
b. General, Polytechnical and Labor Education
c. Special Education
d. Training and Improvement of the Pedagogical Staff
e. Technical and Vocational Education
f. Adult Education
g. Higher Education

Our study tour addressed General, Polytechnical and Labor Education and Special Education with a presentation at IPLAC and site visit, while Pre-School Education, Training and Improvement of the pedagogical staff, Technical and Vocational Education and Adult Education were addressed by an exposition at IPLAC. Higher Education was addressed only in relation with teacher training thus is not addressed here.The subsystem of Training and Improvement of the Pedagogical Staff is not described here because extensively addressed in the main text.

a. Preschool Education Subsystem

Preschool education is not compulsory and is directed to children aged 6 months to 5 years. Pre-school education consists of three main components:

- Day care centers, (about 1156 in 1994) for children between 6 months and 5 years of age. Some Day care centers might also include Preschool grades.

- Preschool preparatory grades for 5 to 6 year olds.

- Non-formal preschool education for children who do not attend educational institutions, with the assistance of parents and the community. Non-formal preschool is based on household education (from 0 to 2 years of age) and non-formal groups in parks, nearby sites, etc, for children aged 2 to 4. A special program was created to prepare parents to educate children that do attend non-formal preschool education.

[28] In this and following paragraphs, the information concerning the organization and structure of the Cuban Education system we are referring to is drawn from the following sources: Ministry of Education, *Cuba organization of education, 1994-6. Report of the Republic of Cuba to the 45the International Conference on Public Education*" Havana 1996; Pedagogia 99, "*La educacion en Cuba, encuentro por la unidad de los educadores latinoamericanos*," 1/5 febrero 1999 La Habana.

b. General, Polytechnical and Labor Education Subsystem

This subsystem (a total of 12 levels) encompasses Primary Education and General Intermediate education.

- *Primary education*, for 6 to 11 year-olds. It covers six grades and is divided in the First cycle (from 1st to 4th grade) and the Second cycle (form 5th to 6th). Primary schools in 1998 were 8,905, of which about 25% urban and the rest rural. A retention rate about of 99% and an enrollment rate above 100% grant universalization of primary school.[29] Primary education extends throughout 200 working days and is divided into 4 class periods, 10 weeks each, accounting for 40 weeks, 3 intermediate non-teaching periods, one week each, at the end of the first three class periods, and one week and 3 days for final examinations.

- *General Intermediate education* is divided in two levels: Basic Secondary Education for 12 to 15 years olds (from 7th to 9th.) which completes basic education and defines the compulsory education, and Pre-University, for 15 to 18 years olds(from 10th to 12th grade). Pre-university is not compulsory, but is free. The school calendar varies in accordance with the type of center and the time span of the productive activity. ESBEC holds 42 weeks devoted to classes and 3 weeks and 3 days for final examinations. ESBEC holds 7 weeks of work in the countryside, 35 weeks for classes, while ESBU holds 5 weeks of work in the countryside, 37 weeks for classes and 3 weeks and three days for final examinations. Basic secondary studies are taught in Urban Secondary School (ESBU and Secondary School in the Countryside (ESBEC), the latter holding a full boarding system, and were considered until recently as one of the main achievements of the Cuban education system because of the combination of work and study. Pre-University studies are held in Urban Pre-university Institutes (IPUs) and in the Pre-university Institutes in the Countryside (IPUEC), the latter having the same system of the ESBEC. There are also other pre-university institutes such as the Vocational Preuniversity Institutes of Exact Sciences for students with outstanding academic records.

c. Special Education

- Special Education operates in the Preschool subsystem, in Primary and Intermediate Education and by Diagnosis and Guidance centers. These last ones are provincial settings endowed with multidisciplinary specialist teams that determine which children need to receive this type of education. Some of the centers are transitory because children will attend them only until correcting the problem for which they were admitted. Education centers are classified according with the type of impairment there are addressing. These impairments are: behavior disorders, blindness and low vision, deafness and speech impediments, language disorders, psychological disorders, psychic development handicap, and mental disability or deviant behavior (disturbios del

[29] Pedagogia 99, "*La educacion en Cuba, encuentro por la unidad de los educadores latinoamericanos*," 1/5 febrero 1999 La Habana.

comportamiento). Some concern arises specifically about the diagnosis of "behavior deviance" that can turn into an early segregation and condemnation of young persons that do not to adapt the prevailing socio-political ethos.

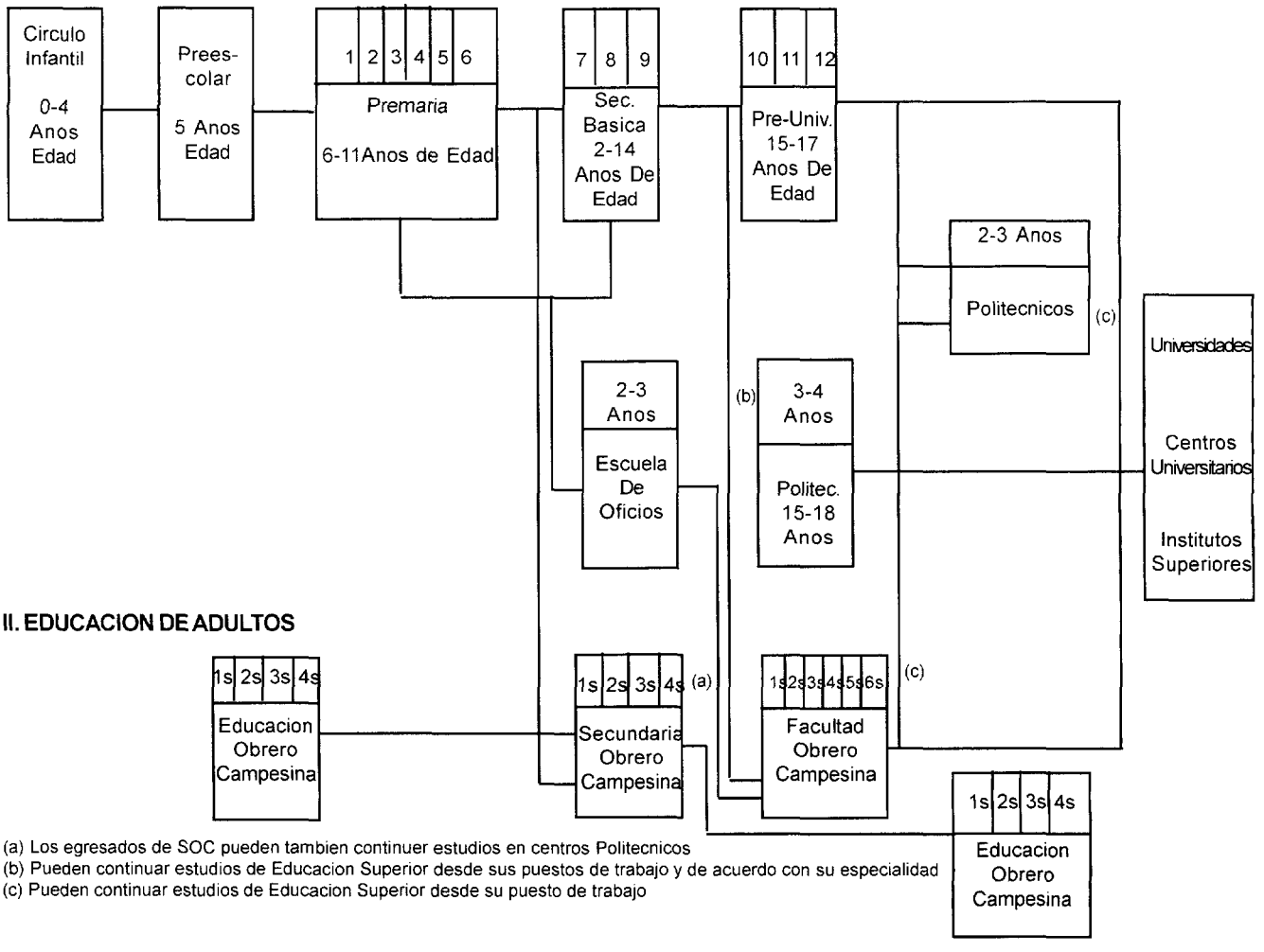
e. Technical and Vocational Education, and Adult Education Subsystems

- *The Technical and Vocational Education (TVE) subsystem* is responsible for meeting the nation's needs for a trained and skilled labor force and is intended for grade 10-12 graduates. According to Prof. Aragon, who conduced one of the sessions of IPLAC seminar, about 50% of the students who complete grade 9 enter technical and vocational training since the preparation of a productive working class is the main objective of the system. According to the official statements, this centrally-planned decision reflects the political choice to consolidate a state based on industrial and agricultural manpower. About 140,000 students and 22,000 teachers are presently in Technical and Vocational Education (TVE), which starts after nine years of general education and foresees two years of training for qualified workers and three to four years for intermediate technicians.

The Adult Education Subsystem is structured according to the following levels: worker-farmer elementary education (*Educacion Obrera y Campesina*, EOC): elementary or primary education, with four semester; worker farmer secondary education (*Escuela Secundaria Obrera y Campesina*, SOC): basic secondary level, with four semesters; worker-farmer pre-university education (*Facultad Obrera y Campesina*, FOC): higher secondary level, with six semesters. The *Escuelas de Oficios* preparing qualified workers, (*obreros calificados*) enroll students with school delay. A significant part of the training is done by the enterprises.

Graphic of the Cuban National Education System
Ministerio de Educacion Estructura del Sistema Nacional de Educacion

I. EDUCACION REGULAR



II. EDUCACION DE ADULTOS

(a) Los egresados de SOC pueden tambien continuer estudios en centros Politecnicos
(b) Pueden continuar estudios de Educacion Superior desde sus puestos de trabajo y de acuerdo con su especialidad
(c) Pueden continuar estudios de Educacion Superior desde su puesto de trabajo

Annex 3

Statistical Data

Cuba: Data on Education

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
Enrollment 0-5 years of age		28.8	26.4	27.9	28.6	79.2	87.9	96.1	98.0
Enrollment 0-16 years of age		92.2	91.7	91.0	91.8	91.5	92.6	93.5	94.2
% of Age Grade Distortion									
Primary	5.5	4.3	3.2	3.2	2.3	2.3	2.3	2.4	2.5
Basic Secondary Education	9.4	8.1	8.1	5.9	5.0	3.8	3.9	3.5	3.7
Pre-University	2.8	2.4	2.7	0.8	0.7	2.3	1.5	0.9	0.9
% of Repeaters									
Primary	3.6	2.6	2.7	3.1	3.0	2.8	3.2	2.6	1.9
Basic Secondary Education	3.0	2.9	3.3	3.4	3.2	3.3	4.1	2.7	2.8
Pre-University	2.0	2.3	1.8	1.3	0.8	1.1	1.4	1.4	1.8
% of GNP Designated to Education		8.5	8.9	9.5	10.8	10.4	10.3	10.0	10.0
% Distribution of Expenditure According to Grade									
Preschool		7.4	7.8	8.0	8.3	8.0	8.0		
1st Grade		18.2	19.3	20.9	22.2	23.3	24.6		
2nd Grade		39.0	37.2	35.4	35.1	34.9	32.5		
3rd Grade		14.4	15.2	16.1	15.9	15.7	14.9		
Other		21.0	20.5	19.6	18.5	18.1	20.0		
% Teachers with University Degree in Secondary Education	65.0	71.0	79.4	83.9	86.9	90.8	92.4	93.5	94.6
Present Structure of Tuition									
Primary	40	41	44	48	52	54	55	55	54
Basic Secondary Education	48	47	44	41	39	38	38	38	40
Higher Education	12	12	12	11	9	8	7	7	6

Source: Ministry of Education in Cuba, 1999

Annex 4

Curriculum for General and Middle School Education (Total of Hours/Grades), 1995-96

CLASS	7th	8th	9th	Total	10th	11th	12th	Total	Grand Total
Mathematics	140	140	180	460	180	180	162	522	982
Spanish/Literature	150	140	140	430	100	100	112	312	742
History	70	120	120	310	140	30	36	206	516
Geography	100	120	30	250	100	-	-	100	350
Foreign Language	120	120	120	360	120	120	114	354	714
Physics		70	100	170	110	140	56	306	476
Chemistry		70	70	140	100	100	72	272	412
Biology	70	70	70	210	-	100	56	156	366
Values Education	-	-	60	60	-	-	-	-	60
Marxism/Leninism Fundamentals	-	-	-	-	-	60	76	136	136
Computers	-	-	-	-	70	70	30	170	170
Labor Education	140	70	70	280	-	-	-	-	280
Physical Education	70	70	70	120	70	70	66	206	416
Artistic Education	70	-	-	70	-	-	-	-	70
Military/Initial Preparation	-	-	-	-	35	35	39	109	109
Totals	930	990	1030	2950	1025	1005	819	2849	5799

Source: Ministry of Education, *Report of the Republic of Cuba for the 45th International Conference on Public Education, Organization of Education 1994-1996,* Havana, Cuba, 1997.

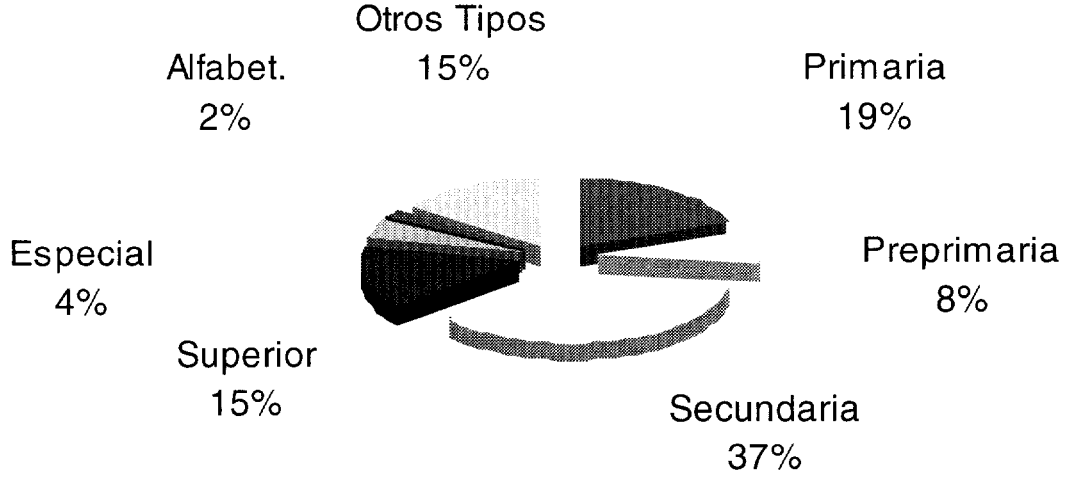
Curriculum for Primary Education (Total of Hours/Grades), 1995-96

Class	1st	2nd	3rd	4th	5th	6th	Total
Mathematics	200	200	200	200	200	200	1200
Spanish	400	400	400	400	240	240	2080
History	-	-	-	-	80	80	160
Geography	-	-	-	-	-	80	80
Foreign Language	-	-	-	-	-	120	120
Natural Sciences	-	-	-	-	120	80	200
Values Education	-	-	-	-	80	-	80
The World in Which We Live	40	40	40	40			160
Labor Education	80	80	80	80	80	80	480
Physical Education	120	120	120	120	80	80	640
Artistic Education	80	80	80	80	80	80	480
Total	920	920	920	920	960	1040	5680

Source: Ministry of Education, *Report of the Republic of Cuba for the 45th International Conference on Public Education, Organization of Education 1994-1996*, Havana, Cuba, 1997.

Annex 5

PRESUPUESTO EDUCATIVO



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