

BULLETIN

THE MAJOR
PROJECT
OF EDUCATION

In Latin America
and the Caribbean



UNESCO

REGIONAL OFFICE
FOR EDUCATION
IN LATIN AMERICA
AND THE CARIBBEAN

SANTIAGO

38

THE MAJOR PROJECT OF EDUCATION

in Latin America and the Caribbean

Summary

Presentation	2
Quality of education, development, equity and poverty in the region, 1980-1994 <i>E. Schiefelbein, A.M. Corvalán, S. Peruzzi, S. Heikkinen and I. Hausmann</i>	3
Mathematics in caribbean schools: the 90s and beyond <i>Desmond Broomes</i>	50
Integrating special needs students: current and prospective status in Latin America and the Caribbean <i>Rosa Blanco and Cynthia Duk</i>	60
Action for equality, development and peace <i>UNESCO</i>	67
UNESCO/SANTIAGO Publications	

BULLETIN 38

Santiago, Chile, December 1995

Presentation

The new millenium, looming ever closer, reminds us of the advisability of evaluating achievements and proposing new goals for education in the region. Humanity is only five years away from that date which coincides with the completion of the Major Project of Education.

The educational decisions we make today, will have an impact on the lives and aspirations for better opportunities of millions of human beings living in the region. In this context, the information found in the following articles may contribute to influencing decision-making at the national levels.

In this issue, the Bulletin presents a discussion of regional education spanning fifteen years. This work, is part of the third report on The State of Education in Latin America and the Caribbean, 1980-1994, elaborated by UNESCO's Regional Office for Education in Latin America and the Caribbean. The unabridged text, includes a second section which analyzes the state of basic education in each country, and a third section containing statistical tables that facilitate comparisons by countries, subregions and within the region.

The regional view corroborates both the progress attained in terms of education and training, as well as the consensus on the role they play in future human development, while exposing the obstacles that stand in the way of enhancing their quality and distribution, and the deficiencies that nurture poverty. As pointed out in the report, the idea is that access to a quality education currently enjoyed by a small group, may extend to the rest of the population afflicted by the unjust distribution of the educational supply. The fact that merely 50% of school children are capable of written communication, the need to disseminate information of new diseases like AIDS or others believed banned forever from the region, such as cholera or tuberculosis, and the importance of learning to choose alternatives or group learning in order to reduce intolerance and xenophobia, are issues that call for assertive actions.

The second article discusses a curricular reform experience carried out in english-speaking Caribbean countries. Here, Desmond Broomes highlights the need to emphasize mathematics literacy in primary and secondary schools. He comments on the feasibility of setting up a participative and open-ended teaching strategy that may be adapted to the various kinds of children, and that turns the teaching of mathematics into a mental process through which the individual acquires quantitative and spatial concepts to describe, explain or predict phenomena.

For their part, Rosa Blanco and Cynthia Duk, present an analysis of the progress observed in integrating students with special needs into the region's schools, and indicate the requirements these demands call for.

In closing, we present the document Action for equality, development and peace presented by UNESCO's general director at the Fourth Conference on Women, held in Beijing, September 1995.

As is customary, our Regional Office for Education in Latin America and the Caribbean lists the latest titles published in its Publications section.

QUALITY OF EDUCATION, DEVELOPMENT, EQUITY AND POVERTY IN THE REGION, 1980-1994

E. Schiefelbein, A.M. Corvalán, S. Peruzzi, S. Heikkinen and I. Hausmann*

In the past fifteen years, efforts in the region have tended to stress the priority given to education -acknowledging its closeness to development, equity and poverty- reduce absolute illiteracy, complete basic education's coverage, and bring about a partial improvement in terms of equity. Progress towards these objectives –set forth by the countries that called upon UNESCO to sponsor the Major Project of Education in Latin America and the Caribbean (MPE)– has been characterized by the use of consensus as the preferred mechanism for defining educational policy, and by the implementation of strategies designed to reform pedagogical processes. Although quality of learning and teacher training have not undergone drastic changes, information and research on policy-making has increased; new educational administration, planning, and management models have been created and put to work; fresh sources of finance are emerging, and international cooperation is beginning to play a significant role.

In the midst of buoyant optimism, the result of first steps taken on behalf of the Major Project and of progress made towards the design of its operational mechanisms, the crisis of the 1980's strikes. In the years that followed, the MPE unfolded laboriously under the profound social, political and economic crisis that scourged the region. Despite adverse conditions, it was possible to gather information, discover and identify relevant experiences, and consolidate four organizational and management regional networks. In the late 80's and early 90's, the time was right to conduct an objective analysis of the situation, and to pro-

pose the guidelines that would facilitate the design of specific strategies. A third stage, which identifies the magnitude of the problem and pending challenges, gets under way in 1989; 1991 brings home the realization that a new educational development model should be sought, while two years later successful innovations are identified and the main components of the solutions are evaluated. First successes in overcoming crisis related problems, bring a new wave of optimism to the region, reinforcing the process and acknowledging education as a key development factor given its impact on equity, quality of knowledge, and participation.¹

This article analyzes the state of education in the region during the 1980-1994 period, out-

* Suggestions offered by D. Silva, J. Rivero, J. Casassus, A. Matute, S. Clarke, R. Blanco, M.L. Jáuregui, J.Jolibert, M. Moyano, R. McMeekin, M. Núñez and A. Tabora; the collaboration provided by UNESCO Statistics Division's G. Nascimento, and L. Carrizo; the references prepared by G. Alberti and E. Stagnaro; editing by R. Piña and transcriptions by P. O'Ryan, are gratefully acknowledged.

¹ ECLAC/UNESCO, 1992. "Education and knowledge: Basic pillars of changing production patterns with social equity". Santiago, Chile; Gajardo, M. and Infante, M.I., 1994. "Informe de la evaluación del Proyecto Principal de Educación". Santiago, Chile.

lining the relevant elements and relationships that identify the various trends towards change that may be compared with those observed in the individual countries. This document was prepared using information regularly submitted to UNESCO by the participating countries, and data forwarded to the Regional Office for Education in Latin America and the Caribbean to be processed by the Regional Information System (SIRI). Complementary data, particularly those contained in REDUC and previous papers² was used where information was incomplete.

An analysis of the eleven main issues emerging from the recommendations adopted in the last two Conferences of Ministers³ and the five meetings held by the MPE's Intergovernmental Regional Committee⁴ during the 1980-1994

period, identified those areas where progress was made, others where limitations were evident, and still others where problems are yet to be solved. These issues address topics such as: giving priority to education as a factor in development, and gradually increasing its association with equity and poverty; seeking out consensus in policy-making; designing innovations aimed at revamping pedagogical processes, and building new teacher training strategies; advancing in terms of coverage, quality and equity; reducing illiteracy; proposing new educational demands; increasing research and data-gathering to facilitate policy-making decisions; implementing trials aimed at enhancing administration, planning, and management processes; evolution of educational financing; international cooperation and its possibilities; and contributions to the MPE by higher education institutions.

Although two out of the three goals set forth by the Major Project have been accomplished simultaneously—namely, universal access to basic education and reduction of illiteracy—important changes have taken place in today's world, which seem to greatly depart from the original concepts upheld by the insightful authors of the Major Project. Profound social, educational, political, economic and cultural changes compel us to review these goals in terms of the region's present and future situation.

The analysis undertaken concluded that for the remainder of the MPE's period, emphasis should be placed on the following: identify and evaluate innovations made to pedagogical processes; design and evaluate suitable material to carry out effective learning experiences; foster the training and professionalization of teachers; extend the number of school-year

² *The State of education in Latin America and the Caribbean, 1980-1985*. UNESCO. Regional Office for Education in Latin America and the Caribbean. Regional Information System (SIRI), 1988. Santiago, Chile. *The State of education in Latin America and the Caribbean, 1980-1987*. UNESCO/SIRI, 1990. Santiago, Chile. *The State of education in Latin America and the Caribbean, 1980-1989*. UNESCO/SIRI, 1992. Santiago, Chile.

³ Regional Conference of Ministers of Education and those Responsible for Economic Planning of Member States in Latin America and the Caribbean. UNESCO/ECLAC/OAS, 4-13 December, 1979. Mexico City, Mexico: *Final Report*. Sexta Conferencia Regional de Ministros de Educación y de Ministros Encargados de la Planificación Económica de los Estados Miembros de América Latina y el Caribe. UNESCO/ECLAC, 30 March- 4 April 1987. Bogota. Colombia.

⁴ *Rapport Final*. Reunión Regional intergubernamental sur les objectifs, les stratégies et les modalités d'action d' un Projet majeur dans le domaine de l'éducation dans le région del' Amerique Latine et des Caraibes. 6-10 abril 1981. Quito Ecuador; *Informe Final*. Primera Reunión del Comité Regional Intergubernamental del Proyecto Principal en la Esfera de Educación en América Latina y el Caribe. 5-9 noviembre 1984. Mexico; *Final Report*. Second Meeting of the Intergovernmental Regional Committee for the Major Project in the Field of Education in Latin America and the Caribbean. 24-28 March, 1987. Bogota, Colombia; *Informe Final*. Tercera Reunión del Comité Regional Intergubernamental del Proyecto Principal en la Esfera de Educación en América Latina y el Caribe. 23-26 junio, 1989. Guatemala; *Informe Final*. Cuarta Reunión del Comité

Regional Intergubernamental del Proyecto Principal en la Esfera de Educación en América Latina y el Caribe. 22-25 abril, 1991. Quito, Ecuador; *Informe Final*. Quinta Reunión del Comité Regional Intergubernamental del Proyecto Principal en la Esfera de Educación en América Latina y el Caribe. 8-11 junio, 1993. Santiago, Chile.

hours offered to students; increase and improve pre-school educational supply; stress reading-writing skills and basic mathematics; guarantee teaching programmes in the native tongue when different from the language of instruction; support the creation of schools that will integrate special education children; incorporate various educational media such as communications, informatics, and others; avoid gender stereotyping; characterize problems and strengthen education's middle level. There is an evident need to make more efficient use of available resources and abilities in line with the new roles assumed by the State and other social actors, while defining the institutionality and the proper management and administration models to be implemented.

1. Education, development and their interrelations with equity and poverty

The priorities established in 1979—which called for eradicating extreme poverty using every available resource to deliver a quality basic education to all children, and set as second objective the obliteration of illiteracy—, lost its momentum in the 80's, only to regain it in the 90's, as the close interrelation between education and development—revealed by research and acknowledged in various international forums⁵— became, once again, prominent in the minds of the people.

The new development models of the 90's based on international economic competition rely fundamentally on man's intelligence and knowledge, and the fair distribution of this knowledge. Therefore, they seem to coincide with today's political and cultural demands. This explains why, nowadays, social and economic policies seem more harmonic; education is being reformulated as an important factor in the eradication of poverty, and the role

of the State has been modified to allow direct intervention—albeit only in the absence of other alternatives— while increasing its capacity to supervise and create adequate inducements.

In 1990, at the ECLAC assembly, the region's Ministers of Economy unanimously adopted the *productive transformation with equity* model, in order to change the historical development trend, alleviate the painful transition which characterized the 80's, and meet the challenges posed by the democratization process of the 90's, as well as the demands of modernity and international competitiveness.⁶ The idea is to raise the competitiveness level which, in turn, will raise the population's standard of living through increased productivity made possible by technological progress, and to facilitate the convergence between competitiveness and social sustainability. The objective, is to strike the proper balance between economic growth and social equity.

At the 1992 congress, the Ministries of Economy acknowledged that misalignments along the education-knowledge axis, had jeopardized progress in other aspects associated with the incorporation and dissemination of technological advancement.⁷ For their part, UNESCO and ECLAC, stressed the central nature of education and knowledge production in the development process, characterized the foibles of the regional panorama, suggested the need to redouble efforts geared towards reforming education and training, and increase the region's scientific and technological potential with a view to building a modern citizenry equally involved with democracy and equity as with international competitiveness (comparative advantage).⁸

⁵ Schiefelbein, E. and Tedesco, J.C., 1995. *Una nueva oportunidad. El rol de la educación en el desarrollo de América Latina*. Santillana, Aula XXI. Buenos Aires, Argentina.

⁶ XXIII period of ECLAC sessions, May 1990, Caracas, Venezuela. *Transformación productiva con equidad. La tarea prioritaria del desarrollo de América Latina y el Caribe en los años noventa*. ECLAC, 1990, Santiago, Chile.

⁷ J.L. Londoño, 1995. "Pobreza, desigualdad, política social y democracia". Technical Department for Latin America, World Bank.

⁸ ECLAC/UNESCO (1992), *op. cit.*

In the region, however, the average per capita income increase generated by the new economic models, has failed to resolve the social imbalance –particularly as regards the rise of poverty rates– and growth appears all but impossible, given the poor quality and distribution of education. About 200 million persons, most of them children and youths, live under conditions ranging from poverty to extreme poverty. In other words, the benefits that a segment of the population derives from modernization, are seen to contrast dramatically with the inequality that afflicts the majority.

Investing in education and curtailling demographic growth have, in fact, facilitated the schooling process; however, only 50% of all graduating students, are capable of communicating in writing as prescribed by modern society. This implies that one half of the population of Latin America and the Caribbean should be classified as functional illiterates. Hence, the need to increase the State's capacity to guarantee adequate quality, and genuine conditions of equity. This requirement includes additional education opportunities for a large number of functional illiterates and support for their development as human beings.

Education has had little effect on pandemics such as AIDS, cholera, tuberculosis, precocious pregnancy, and in most of the countries in the region, its impact on health programmes has been limited. Conversely, intolerance, violence (domestic and social) and xenophobia have risen, a fact that would seem to indicate that education should provide relevant learning opportunities in terms of motivation and teamwork. This, in order to appreciate the context wherein the school is immersed, and heighten respect and tolerance for different points of view. In short, there is an urgent need to create new modalities in the fields of education and culture, promote ideas and actions for increased mutual understanding and respect for individual, social and cultural differences.

These problems are not exclusive to the region. The strategic importance of education brought about by the MPE, has been corroborated

by several important worldwide events, such as:

- a. the World Declaration on Education for All (Jomtien, 1990), whose action lines coincide with the objectives of the MPE at the regional and local levels. Additionally, the solid commitment with education adopted by the four international organizations which sponsored this meeting;
- b. UNICEF's World Summit in Favour of Infancy (September, 1990) and its regional expression in the Nariño Commitment (April 1994) which –in line with MPE objectives– advance improving children's education;
- c. the World Summit on Social Development (Copenhagen, March 1995) which acknowledged the fundamental role of parent's education, particularly that of mothers, to facilitate the struggle against the vicious cycle of poverty and school failure, promote social integration, particularly that of marginal and underprivileged groups, and increase productive employment;
- d. the role of education has also been highlighted at World Conferences on: environment (1993), special education (1994), and the role of women in development (1995).

At the regional level, support to the Major Project has taken the form of three important facts which reflect a renewed interest by member countries on educational development:

- a. the priority conferred to education at the five iberoamerican presidential summits held in Guadalajara (1991), Salvador de Bahia (1993), Cartagena de Indias (1994), Bariloche (1995) and Miami's Hemispheric Summit (1994);
- b. the influence of the recommendations adopted by representatives of the countries participating in the MPE– sponsored Intergovernmental Regional Committee, on regional educational reform and, in particular, on acknowledging the need to “start a new stage of educational development that meets the challenges of productive transformation, social equity and political democratization of the countries in the region”, and on defining the fundamental elements required to design adequate strategies.

c. the substantial financial support provided by the World Bank and the IDB, for regional projects involving educational renewal and reform.

In Latin America and the Caribbean, there is increased awareness that education must be improved and distributed more equitably if it is to become an important factor of the development process. It is acknowledged that declarations propounding the main role played by education in development, imply a greater effort on the part of Ministries of Education and other government organizations, families and the private sector.

There is a need to harmonize actions undertaken by civil society and the State. Underprivileged sectors have, to a great extent, been given democratic access to and permanence in the educational system. The new challenge is to achieve a learning methodology that meets the requirements of the new development models. Fortunately, the vision of the Ministries of Education in 1979, has allowed enough time to elaborate answers to the current educational demands called for by the political, economic, social and cultural changes brought along by the 80's. An accumulation of valuable experiences have made possible the supply of a type of education that leaders in the region admit to being essential.

2. Consensus on educational policy

Numerous countries have agreed on the type of education required and how badly it is needed. As a result, resources earmarked for education have been increased and their utilization maximized. These consensuses have been generated by regional and worldwide changes, and by PROMEDLAC III which has spearheaded the concept of creating State-inspired educational policies that transcend the short life span of a particular government administration. The region has come to recognize as a priority, an educational system that develops the individual's ability to adapt to change, while the knowledge, skills, and val-

ues generated by the learning process revolve around the comprehensive development of the human being in accordance with his/her specific needs.

Educational policy is no longer the exclusive domain of the Ministries of Education, and in several countries a wide range of political, social and financial actors, have rallied around the educational banner. The search for a long term vision, inserted in a framework of broad social policies, has allowed countries such as Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Panama and the Dominican Republic, among others, to clear the hurdles imposed by an educational policy that relies exclusively on the support of a transitory administration. Consensus means long term goals, and acknowledging the importance of lasting agreements which incorporate broad proposals with a high content of equity, and open to all social agents.⁹

Argentina, through a parliamentary agreement, passed the Federal Education Act (Law 24 195 sanctioned in 1993), which established the basic regulatory framework for reforming all levels of education including higher education. The chief propounders of the law were appointed to the two top-most positions within the Ministry of Education in order to hasten its implementation. In 1994, the heads of the various political parties signed the Federal Education Pact, thereby committing themselves to enforce the Federal Act.

The Dominican Republic resorted to a process of consultation involving the various actors to draft a Ten Year Education Plan, which was completed in December, 1992. The elaborate consultation process was selected over the conventional, centralized, vertical and exclusory planning mechanisms.¹⁰

⁹ F. Mayor, "Prólogo", in Schiefelbein and Tedesco (1995) *op. cit.*

¹⁰ Plan Decenal de Educación. Síntesis del Plan Decenal de Educación. December, 1992. Santo Domingo, the Dominican Republic.

In early 1994, Chile convoked a wide group representing the various sectors of national life in order to draft a proposal that would upgrade the country's educational system. The group voted unanimously for a programme that places emphasis on the quality of education to be delivered to the 21st century society, and proposed specific strategies to meet the conditions imposed by modernity.¹¹

Brazil created a Ten Year Education Plan for All, through a country-wide open debate. The Plan was drafted by a Consultative Commission and an Executive Group formed by representatives of Ministries, directors of State Secretariats of Education, Municipal Leaders of the Educational Workers Union, and of several government and non-government agencies. The National Plan of Education for All, which contains essential aspects for a minimal recovery of basic education in the country, was signed in September 1994.¹²

In 1992, Ecuador called a "Twenty-First Century Education" National Consultation Meeting. It involved every social sector in the country and reached consensus as reflected by the "National Agreement for Educational Transformation in the Twenty-First Century". Of the many events scheduled, the highlight was the National Conference held in Quito, 12 to 15 April, 1992.¹³

Commendable efforts were undertaken by several countries: Mexico attempted to increase national participation in the process of educational modernization; Bolivia called upon its political leaders and succeeded in placing edu-

cation and its reforms, among the basic issues underpinning future growth; Colombia recently sponsored two National Pedagogical Congresses with active participation by teachers' unions, where the report of the "Commission of the Learned" was submitted¹⁴; in 1995, Panama passed the educational reform law; Peru created the Educational Forum, an initiative by civil society, aimed at finding and analyzing consensus regarding educational reform.

Broadly speaking, the greatest obstacles in the path of a national consensus in matters of educational policy, have to do with getting the various national actors involved (teacher unions, productive sectors, and so forth), from the government's perspective. The lack of relevant information, is also seen as a major stumbling block. In general, the countries acknowledge both the absence of mechanisms that could facilitate educational debate, as well as the lack of objective studies dealing with the analysis, understanding and definition of major problems, particularly those affecting the classroom. This would explain why important coordination efforts made in several countries have not necessarily resulted in supportive political actions.

3. Pedagogical processes and teacher training

The countries in the region have acknowledged that in order to raise the quality of education, drastic changes in terms of pedagogical processes are required, particularly in the design and implementation of learning-centred models, the frequent use of interactive material, in-service teacher training, and a qualitative and quantitative expansion of the time devoted to learning. Long term goals, also call for improving initial teacher training.

¹¹ "Los desafíos de la educación chilena frente al siglo XXI" Technical advisory committee for national dialogue on modernization of Chilean education. Nominated by the President of the Republic, September 9, 1994. Santiago, Chile.

¹² Plano Decenal de Educacao para Todos. Ministerio da Educacao e do Esporto. 1993. Brasilia, Brazil.

¹³ Consulta Nacional, Educación siglo XXI (Informe Final). Consejo Nacional de Educación. MEC-CONUEP-CONFEDEC-CONFEDPAL- CCE-ARECISE-AFEFCE-UNE-UNESCO-UNICEF, June 1992. Quito, Ecuador.

¹⁴ Misión Ciencia, Educación y Desarrollo: Educación para el Desarrollo. Presidencia de la República, Consejería para el Desarrollo Institucional. COLCIENCIAS, 1995. Santafé de Bogotá, Colombia.

The large number of students who do not acquire minimum reading-writing skills—even after six years of schooling—warn of the urgent need to design and implement new teacher training (initial and in-service) strategies.

With the notable exception of experiences carried out in a dozen countries, the predominance of pedagogical processes based on exposition and repetition of the information, is still markedly evident. The identification of models and processes that may replace the traditional frontal method of education, is a slow and laborious task. Hence the gap between educational proposals and the new scientific and technological demands.¹⁵ In most of the countries in the region, the identification of alternative pedagogical models constitutes a gradual (at times controversial) undertaking. As of 1992, several of these countries—Argentina¹⁶, Bolivia¹⁷, Chile¹⁸, Costa Rica¹⁹, Ecuador²⁰, Mexico²¹, Paraguay²², Peru²³, and the Carib-

bean²⁴—are addressing important educational reforms or innovations, and implementing new curricular models devised to overcome learning difficulties, particularly those observed among the underprivileged. These changes are recent, so no data is available to evaluate their outcome.

During the fifteen years of life of the Major Project, teacher training programmes have undergone many changes²⁵ designed to encourage professional autonomy and ethics among educators, since there is growing awareness that “the educator is one of the essential elements of the educational process”. Worth mentioning are, the lengthened initial teacher training programmes, and the implementation of participative methodologies for on-going training where the same educational centre serves as preferred space for in-service formation. However, certain deficiencies are present in initial and in-service teacher training programmes, particularly the fact that frontal teaching methods (which entail passive learning) are still being used, and that the few in-service training opportunities are referred to individual teachers rather than to groups.

In other countries, salaries have been raised in an effort to provide teachers with living conditions consistent with the social responsibility inherent to their profession. On several occasions, the promotion roster has been restructured in order to provide inducements for furthering teachers’ professional capacity and increasing social recognition. Likewise, some countries (Costa Rica, Chile, Mexico) are currently offering teachers economic inducements contingent on educational outcomes (productivity), although significant results have yet to be confirmed.

¹⁵ Schiefelbein and Tedesco, 1995, *op. cit.*

¹⁶ Aguerrondo, I., 1995. “Argentina-1995. Una transformación educativa en marcha”. Latin American seminar on public policy for basic education quality. September 20-22, 1995. Foz de Iguazu, Brazil.

¹⁷ “Desarrollo diferente para un país de cambios. Salir del círculo vicioso de la riqueza empobrecedora”. Pilot mission’s final report on socioeconomic reform in Bolivia. Social Agenda Group. Interamerican Development Bank, 1995, Bolivia.

¹⁸ Guttman, C. Todos los niños pueden aprender. El Programa de las 900 Escuelas para los sectores pobres de Chile. UNESCO, 1993. 31 p. Paris, France.

¹⁹ “Una propuesta de un proyecto educativo nacional hacia el 2005 (EDU 2005)”. Ministerio de Educación Pública, 1995. San Jose, Costa Rica.

²⁰ Ministerio de Educación, Cultura y Deportes. Fundamentos. Reforma Curricular. Ministerio de Educación, Cultura y Deportes. Doc. 1, 53 p. 1994. Quito, Ecuador.

²¹ “Programa de desarrollo educativo 1995-2000”. Secretaría de Educación Pública. 1996. Mexico City, Mexico.

²² Reimers F. 1995. “Proyecto de la Universidad de Harvard. El diálogo y la participación como formas de lograr consensos educativos para mejorar la educación”. In: *Cuadernos de Educación*, year 1, No. 4, Ministerio de Educación y Culto. Asunción, Paraguay.

²³ Educational Forum. Bases for a national educational project. July 1995. Lima, Peru.

²⁴ CARNEID Coordinating Centre. Seventh Regional Biennial Consultation Meeting of the Caribbean Network of Educational Innovation for Development. 1995. Bridgetown, Barbados.

²⁵ Salmon, H.M. 1991. “Formación docente para un sistema mejorado de educación”. *Bulletin*, No. 26. The Major Project of Education. UNESCO. Santiago, Chile.

In terms of initial teacher training for basic education, by 1994, teacher training schools in over half the countries had either disappeared or were undergoing curricular transformations. Additionally, the number of teachers receiving training in universities or higher education institutions, is on the rise. Training in the latter institutions does not seem to have had significant effect and, in some cases, the results have been rather negative.²⁶ A recurrent criticism of current training programmes has to do with the fact that the prevalent teaching-learning style used in the training centres relies on memorization, and is perceived as dissociated from the everyday reality of school and community life. To make things worse, future educators are being trained to teach a homogeneous (non-existent) population a fact which accounts for the myriad difficulties they encounter when trying to relate to real student populations and their communities.²⁷ Currently, a number of countries in the region are revising their initial training programmes for basic and middle education teachers, and identifying their minimum contents (Argentina has temporarily stopped student enrollment for 1996 in order to upgrade the training delivered to first year student teachers); likewise, some countries are seeking to coordinate initial teacher training institutions with on-going teacher training centres. UNESCO is participating in an ambitious experimental design to train educators to carry out active learning experiences at the individual and group levels.

Available research shows that teachers are interested in on-going training and wish to successfully tackle the demands modern society

imposes.²⁸ However, traditional teacher courses (where the frontal teaching scheme is repeated) should be overhauled.²⁹ There are success stories, exemplified by Colombia's Escuela Nueva, where educators are trained in workshops which make use of learning materials that change the role played by the educator.³⁰ By ensuring the satisfactory performance of their students, teachers receive from the community recognition of their capacity to improve the educational level and strengthen cultural identity.

The strategies designed to substantially upgrade primary education standards, through enhanced training methodologies for new teachers and further training for those in-service, require the introduction of elements that facilitate evolving towards workable pedagogical models which take into consideration the various social, educational and cultural settings. There are interesting experiences involving successful transformations achieved through the use of learning materials on science and technology, human rights, education for peace, environment, and bilingual intercultural education, among others. In the past decade, MPE's PICPEMCE network has endeavored to integrate initial and on-going teacher training programmes and policies into a permanent education student teacher-trainers, with emphasis on reading-writing skills, a topic that shows the greatest training deficiencies.

The professionalization of teaching in schools, constitutes a key strategic feature which demands important changes of management practices. The training given to school

²⁶ Gajardo, M. and Andraca, A.M. 1992. *Docentes y docencia. Las zonas rurales* (Table 29). UNESCO, Regional Office for Education in Latin America and the Caribbean. Santiago, Chile.

²⁷ García-Sípido, M.J. et al. 1994. "Diagnóstico sobre la formación inicial y permanente del profesorado de ciencias y matemática (nivel medio) en los países iberoamericanos". Organization of Iberoamerican States for Education, Science and Culture (OEI). Madrid, Spain.

²⁸ Schiefelbein et al, 1994. "Las características de la profesión maestro y la calidad de la educación en América Latina". *Bulletin*, No. 34. The Major Project of Education. UNESCO. Santiago, Chile.

²⁹ Alexander, A. 1995. "Una educación básica de calidad: la evolución del rol del docente". *Bulletin*, No. 36. The Major Project of Education. UNESCO. Santiago, Chile.

³⁰ Vera, R. 1984. *La lógica y la experiencia en talleres de educadores*. PIIE, Santiago, Chile.

principals should be reinforced to ensure that the educational action is efficiently conveyed to the classroom. Rather than elaborating teacher performance regulations –which do not promote a sufficiently autonomous and creative type of management to guarantee relevant education– there is a need to develop the capacity to lead and motivate teachers as a group; generate innovations and bring about, as a team, those processes that will result in the fine-tuning of school activities.

An important step, first taken in 1990, has to do with the promotion of educational innovations through stimulating the elaboration of institutional projects at the school level. Among the cases likely to succeed in this field are: Argentina's Compensatory Programme for implementing the Federal Education Act; Brazil's improvement programmes; Chile's Quality Improvement Programme for Education (MECE); Colombia's Institutional Educational Projects (PEI); Costa Rica's Educational Enhancement Project; and, Peru's Peruvian Institute of Business Administration (IPAE) devoted to the training of school principals with the cooperation of private businesses.

The ministries of education are beginning to place special emphasis on research and innovations that lead to the modification of the educational processes, the creation of novel teaching and learning strategies and, in general, to the solution of educational problems. A recommendation has been made, to encourage the participation of researchers, teachers, students, and local communities, focusing chiefly on learning reading-writing skills, the teaching of mathematics, and the incorporation of a scientific and technological culture. Curricular flexibility and pertinence have increased, and research shows that, in fact, there are no effective limits for teachers who wish to experiment.³¹ New pedagogical options built into literacy training, basic education for youths and adults, and non-formal education pro-

grammes, have been designed and tried out. On the other hand, in some instances emphasis has been placed on weakening the teacher-student relationship, although research findings suggest that this strategy –per se– will not improve learning.

The education delivered to indigenous groups and the problems emerging from multilingual settings, are issues that gathered momentum in the early 80's. Ecuador³², Guatemala³³, Mexico³⁴, Paraguay³⁵, and Peru³⁶, have implemented programmes that recognize the political and legal standing of cultural specificity which constitutes a right of native and other cultures coexisting in the region. It would be interesting to follow-up on these experiences in the wake of Bolivia, where educational reform and bilingual education is just getting under way. Mention should be made of those States that carry out programmes on literacy training, adult and popular education, and formal basic school instruction, in vernacular languages. In these countries, the teaching of spanish as a second language is a problem that deserves special attention.

4. Coverage, quality and equity

Since the 80's, significant progress has been made in the region in terms of increasing ac-

³² Oficialización del Modelo de Educación Intercultural Bilingüe. Ministerio de Educación, 1992. Ecuador.

³³ *Statistical Yearbook 1993*. Ministry of Education. Guatemala; "Informe Nacional de Guatemala". Regional workshop on educational indicators for human development. 1995. Guatemala.

³⁴ Rights of indigenous populations. Indigenous peoples in mexican Constitution (Article 4, first paragraph). Instituto Nacional Indigenista, 1992, 42 p. Mexico; Chiodi, F. 1990 (comp). *La educación indígena en América Latina*. Mexico, Guatemala, Ecuador, Peru, Bolivia. EBI (MEC-GTZ). Quito, Ecuador. Abya Yale/ UNESCO. Volumes I and II (543 p. and 510 p.).

³⁵ Presidencia de la República del Paraguay. Ministerio del Interior. Decree No. 9235 of June 8, 1995, whereby the Action Secretariat under the Presidency of the Republic is created.

³⁶ National Report, Peru. Regional workshop on educational indicators for human development. Ministry of Education, 1995. Lima, Peru.

³¹ *Bulletin*, No. 34. The Major Project of Education. UNESCO. August 1994. Santiago, Chile.

Table 1
ESTIMATED ENROLLMENT AND SCHOOLING RATES
(Average annual rate of growth)

Level	1960	1970	1980	1985	1990	1992	Average annual rate of growth					
							1960-1970	1970-1980	1980-1985	1985-1992	1980-1992	
Pre-school education												
Number of students	983	1 728	4 739	8 257	10 663	11 244	5.8	10.6	11.7	4.5	7.5	
Rate of coverage ^a	2.4	3.3	7.8	11.9	16.7	17.4						
Primary education												
Number of students	26 653	46 576	65 327	70 215	75 689	77 168	5.7	3.4	1.5	1.4	1.4	
Net schooling rate for the 6-11 year old group ^b	57.7	71.0	82.9	85.5	87.1	87.5						
Gross schooling rate ^c	72.7	90.7	104.5	105.9	106.7	106.3						
Secondary education												
Number of students	4 085	8 107	16 967	20 549	22 376	23 155	7.1	7.7	3.9	1.7	2.6	
Net schooling rate for the 12-17 year old group ^b	36.3	49.8	62.9	65.0	66.2	68.0						
Gross schooling rate ^c	14.6	25.5	45.3	51.1	52.5	53.2						
Higher education												
Number of students	573	1 640	4 889	6 341	7 413	7 924	11.1	11.5	5.3	3.2	4.1	
Net schooling rate for the 18-23 year old group ^b	5.7	11.6	24.1	25.6	26.9	25.4						
Gross schooling rate ^c	3.0	6.3	13.6	15.6	17.1	17.7						

Source: UNESCO. Statistical Yearbook 1994; 1978/79.

^a Pre-school enrollment as a percentage of the 0-5 year old population.

^b Number of students (independent of grade) divided by the population for that particular age group.

^c Total enrollment for that grade divided by the total population for that age group.

cess to education and lengthening the school year. However, frontal teaching methods are still almost exclusively used in most classrooms, and more than half of the public schools (particularly those catering to under-privileged social groups) have failed to deliver an education capable of meeting the new demands stemming from development processes and social and cultural change.³⁷

The number of enrollments at each educational level has shown a marked increase in the region (table 1), as has the number of literate individuals (self-admitted) in population censuses; however, repetition has increased, and classes continue to shrink in size raising the cost per student despite severe financial constraints. Furthermore, the periodic group activities that function as a partial deterrent to the critical social problems that buffeted the region in the 1980-1992 period, are being actively discouraged.

In the 1980-1992 period, the number of individuals accessing the region's formal education system at all four levels—pre-school, primary, middle and higher education—rose from 91.9 millions in 1980 to 119.5 millions in 1992. In this twelve year period, the student population of the countries in the region, has swelled by 30%, with pre-school and higher education showing the highest rates of annual average growth (7.5 and 4.1%, respectively). The educational system seems to have expanded at either end, since universal access to basic education has been practically achieved. This is why the rate of annual average growth of primary education—for this period—has remained stable at 1.4% per year, that is, it has kept pace with demographic growth.

The percentage of children attending school is higher than ever before, and Latin America and the Caribbean are at the brink of attaining universal access to basic education, thus imparting education to individuals from every culture and practically every deprived home.

³⁷ Schiefelbein and Tedesco (1995), *op. cit.*

Moreover, one out of three Latin American and Caribbean children have enrolled in pre-school, but very few rural area students (except in the Caribbean) can actually enjoy this level of education. Access to primary education has shown substantial growth going from 60% in 1960 to nearly 95% in the 90's. In 1992, school enrollment for children aged 6 to 11 reached 87.3% while access for the 9 year old group, surpassed 95%.

Notably, the region's gross schooling rate exceeds 100%, with a few exceptions, which would indicate that the educational supply is sufficiently large to handle the entire student population (assuming a zero repetition rate). In any event, an important segment of the 6 to 11 year old group have yet to be incorporated into the educational system, and live in isolated areas under conditions of extreme poverty or in indigenous settlements.

The educational status of women, as compared against men's, has improved substantially in the past few decades. In the 80's, population censuses no longer showed the huge gender-related educational gaps of the 50's. Nowadays, in fifty per cent of the countries where women have made headway in terms of accessing primary and secondary education, the situation has clearly made an about face.³⁸ Briefly, in most of the countries in the region, women's enrollment figures for basic and middle education, have matched men's, while in several countries –mainly Caribbean– they have exceeded higher education schooling rates for males.³⁹ Increased access to education by young women will tend to reduce illiteracy rates in

years to come, and provide a stronger foundation for the homes of future generations.

The early 90's recommendations, geared towards enhancing the quality of basic education, and suggestions for future investments, have focused on four main elements: increased pre-school services; availability of adequate teaching material (computers and software, if at all possible) including changes in the behaviour of classroom teachers so they can provide individual and group instruction; a lengthened school year to narrow the gap with developed countries, and catering to students' basic needs.⁴⁰ These elements are discussed in the following sections.

a. Expansion of pre-school education

Increased pre-school enrollment rates, particularly among the 5 to 6 year old group, represents a significant achievement in terms of the quality of the service rendered based on the economic strata covered, and the training and remuneration of the educational actors involved (table 2). When analyzing statistical data, it is advisable to consider the differences between one country and the next as regards the age groups covered, modalities employed, and structural aspects, since these blunt the accuracy of a comparative analysis.

Pre-school education appears as the most dynamic sector, not only as it relates to quantitative aspects but also when it comes to personalized attention, coordinating between formal and non-formal modalities and intersectorial and interdisciplinary relationships. By the mid 80's, in better than half of the countries, evidence of innovative elements in curricular design were beginning to emerge. This progress, however, widened the gap with pri-

³⁸ Schiefelbein and Peruzzi, S. 1991. "Oportunidades de educación para la mujer: el caso de América Latina y el Caribe". *Bulletin*, No. 24. The Major Project of Education. UNESCO. Santiago, Chile.

³⁹ ECLAC. 1994. "Hacia una estrategia educacional para las mujeres de América Latina y el Caribe". Sixth Regional Conference on the integration of women into the economic and social development of Latin America and the Caribbean. September 26-30. Mar del Plata, Argentina.

⁴⁰ Wolf, L; Schiefelbein, E; Valenzuela, J. 1993. "Mejoramiento de la calidad de la educación primaria en América Latina y el Caribe: Hacia el siglo XXI". Latin America and the Caribbean, Technical Department. Regional Studies Programme. Report No. 28. World Bank.

Table 2EVOLUTION OF PRE-SCHOOL GROSS ATTENDANCE RATES, FORMAL EDUCATION
(Absolute figures in thousands)

School population and attendance rates	Year	South America		Central America and Panama	Gulf of Mexico	English-speaking Caribbean	Total
		Brazil	Rest of the countries				
0-5 year old population	1980	19 835	18 930	4 697	15 717	642	59 822
	1985	20 950	20 081	5 061	15 859	660	62 612
	1991	21 116	21 044	5 583	16 415	695	64 853
Students - Total for the level	1980	1 335	1 915	214	1 311	194	4 970
	1985	2 466	2 543	299	2 650	197	8 155
	1991	3 798	3 421	404	3 219	215	11 057
Percentage private education, 1991	Total	30.7 ^a	27.4	31.9	11.5	79.7	24.9
	Urban	34.4 ^a	33.3	38.3	11.6	57.5	29.0
	Rural	5.2 ^a	7.6	12.3	0.1	49.2	3.4
School attendance rate (%)	1980	6.7	10.1	4.6	8.3	30.2	8.3
	1985	11.8	12.7	5.9	16.7	29.8	13.0
	1991	18.0	16.3	7.2	19.6	31.0	17.0

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Tables 5 and 6 (Statistical annex).

Note: Where information is not available the closest years have been used. Private sector data by geographical area are exclusively from countries which provide such information and, therefore, are not comparable to private sector "total" figures (in the english-speaking Caribbean subregion, for instance, the total private percentage corresponds to 11 countries; 3 countries if taken by zone).

^a 1989.

mary education programmes, except in countries where efforts had been made to raise their quality. Furthermore, the fact that there are different modalities of education (formal and informal) with different degrees of participation by both parents and the community, in addition to the various pedagogical approaches currently in use, are factors that contribute to muddle any form of analysis. Paradoxically, excellent pre-school education sometimes results in a problematic transition to first grade, particularly when the latter is characterized by rigid, frontal teaching methods which require children to sit passively at their desks.

As regards equity, numerous experiences being carried out in Latin America are attempting to raise the quality of life of pre-school children living under conditions of extreme poverty and, consequently, excluded from nutritional, health and education services. Pre-school educational supply, nevertheless, has progressively evolved to take the form of a joint effort involving family, community and school, since formal pre-school programmes tend to cost twice as much as primary school programmes, due to the smaller number of chil-

dren per teacher involved. Several countries promote educational T.V. shows like Sesame Street which have an extremely positive effect on children's abilities and ease their transition into primary schools. T.V. campaigns that urge parents to have a hand in the early education of their children, have also received favourable reviews.

Some countries are opening pre-school courses in primary schools where vacancies in the beginning grades are produced (due to smaller repetition or demographic rates, or to emigrations that depopulate the area), at a marginal cost approaching zero, since the resources used are shared jointly.

In the 1980-1992 period, the number of children aged 0 to 5 attending school doubled, but only reaches 17% in 1992, despite having grown at an annual rate of 10% during the 1980-1986 period. By the mid 80's, growth was particularly strong in Mexico, Brazil, Argentina, Chile, Nicaragua, Costa Rica and the Dominican Republic, and was fully consolidated in the Caribbean. The english-speaking Caribbean countries along with Cuba, Mexico,

Argentina, Venezuela, Chile, Brazil, Peru and Uruguay exhibit attendance rates –for the 0 to 5 year old population– in excess of 15%, while Costa Rica barely falls short of this mark. This strong uptrend is attributed, among other things, to growing pressure exerted by mothers who demand that society partakes in the care and attention of their children, and to a desire for curbing the incidence of school failure in primary education.

Private education has played an important role among urban groups that can afford to pay for educational services. In the rural areas, however, its contribution has been limited (table 3). In many caribbean countries, practically all education is private (80%), albeit heavily subsidized by the respective governments. In 1991, pre-school private education in South America reached 29%, with Colombia and Paraguay exhibiting the highest percentage (over 50%). Conversely, in Venezuela, Peru and Bolivia, private sector participation was

less than 20%. The State has gradually implemented a hands-on educational policy through subsidies, supervision, equipment provisions or in-service teacher training –particularly through assistance to marginal areas– with the backing of international organizations such as UNESCO and UNICEF. In general, reliable statistics associated with the supply of private education are hard to come by, specially in rural areas.

Pre-schools are concentrated in urban areas while pre-school supply favours the middle and upper income strata that can pay for private education. The inequality index shows that, with the possible exception of the Gulf of Mexico subregion and the english-speaking Caribbean, there is a clear tendency for pre-school education to concentrate in urban areas, although some countries exhibit some growth in rural sectors (table 3).

Between 1980 and 1991, the average number of students per teacher dropped from 27 to 23 (table 4), however, information regarding the

Table 3

PRE-SCHOOL EDUCATION. STUDENT POPULATION BY GEOGRAPHICAL AREA, 1991

Student population	South America		Central America and Panama	Gulf of Mexico	English- speaking Caribbean	Total
	Brazil ^a	Rest of the countries				
Total						
Urban area	3 316	1 977	321	2 185	23	7 822
Rural area	482	315	83	1 000	23	1 903
Rural area students as a percentage of the total	13	12	21	32	51	19
Rural population percentage	25	30	57	31	51	31
- Inequality index	0.5	0.4	0.4	1.0	1.0	0.6
Students per teacher						
Urban area						
Total	24	24	28	28	19	25
Private	21	21	22	20	14	21
Rural area						
Total	22	21	36	21	26	21
Private	23	14	25	19	17	18
Students per school						
Urban area						
Total	90	75	71	100	93	86
Private	100	58	58	61	79	30
Rural area						
Total	29	24	42	30	46	29
Private	48	20	46	43	32	30

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Tables 6, 8 and 10 (Statistical annex).

Note: Private sector data by geographical area are exclusively from countries which provide such information and, therefore, are not comparable to the private sector figures contained in Table 4.

^a 1989.

Table 4

PRE-SCHOOL EDUCATION. TEACHERS, STUDENTS AND SCHOOLS

Teachers, students and schools	Year	South America		Central America and Panama	Gulf of Mexico	English- speaking Caribbean	Total
		Brazil	Rest of the countries				
Teacher posts	1980	58 788	64 601	5 811	47 524	6 375	183 099
	1985	115 140	97 579	9 095	105 080	7 403	334 307
	1991	160 132	152 925	13 972	148 539	8 026	483 594
Students per teacher	1980	23	30	37	28	30	27
	1985	21	26	33	25	27	24
	1991	24	22	29	22	27	23
– Private sector	1991	21	20	21	24	31	21
Teacher schools	1980	15 320	19 205	2 662	14 298	2 489	53 974
	1985	38 418	29 652	6 143	37 138	2 888	114 237
	1991	53 681	49 361	6 642	56 229	2 991	168 904
Students per school	1980	87	100	80	92	78	92
	1985	64	86	49	71	68	71
	1991	71	69	61	57	72	65
– Private sector	1991	98	77	55	61	71	73

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Tables 7, 8, 9 and 10 (Statistical annex).

Note: Private sector data by geographical area are exclusively from countries which provide such information and, therefore, are not comparable to private sector total figures. It is not clear whether it includes Family Welfare students or whether mothers who help with the children's education are considered among the teachers.

time volunteers put in (mothers and the community) is not available. There are no appreciable differences between the number of students per teacher in the public and private sectors. In this respect, and based on available information for 1991, differences are also small between urban and rural areas being slightly less in the latter (24 and 22, respectively). However, in the rural areas of Central America and Panama the overall student/teacher ratio is somewhat higher (36), even though the figure for the rural private sector is barely 25, a fact that would indicate that the ratio in the rural public sector is considerably higher than 36.

Pre-schools tend to be smaller than primary schools, and have continued to shrink during the period. In 1980, the average number of students per school was 92, dropping to 71 in 1985 only to drop further to 65 in 1991. The average number of students in private schools is slightly higher (73). Variations between countries, however, are relatively small since they all average less than 100 students per school. In order to guarantee adequate funding, the size/unit cost relationship merits close scrutiny, particularly with regard to non-formal programmes. Urban public schools are

twice – or three times – the size of rural schools. Private sector schools, on the other hand, are similar in size whether located in urban or rural areas (32 students per school), perhaps because this is the size their financing requires. Public schools in urban areas are larger (average 84 students); the cases of Mexico, Venezuela and Guyana which average in excess of 100 students per school, constitute exceptions. On the other hand, rural schools only cater to an average of 29 students, with Uruguay and Peru having the smallest student population (4 and 15, respectively).

b. Quality enhancing efforts in primary education

Multiple efforts aimed at closing the gap between the number of years students remain enrolled (and attend) and the grades passed, have been made. However, quality problems persist, and in most countries students begin dropping out at age 14, while many of them – given the high rates of repetition – have only managed to pass a few grades. Students attend school an average of six years, but pass an average of four grades. The two year differ-

ence between attendance and passed grades, constitutes an indicator of the poor quality of current teaching practices.

Improving the quality of education calls for increasingly more complex policies which, in turn, demand the kind of information and knowledge that will facilitate decision-making. Measurements of academic performance levels in Latin America and the Caribbean's educational systems, constitute an important source of information. Using this information is another matter, since the definition of quality education is relative, and expectations differ depending on the demands that are made on the educational system. Moreover, this information needs to be complemented with data on the factors and processes that impinge upon it. Because Spanish and mathematics are regarded as basic cultural tools, and constitute the minimum objectives of any primary education programme, emphasis has been placed on measuring academic performance in these two areas, as important quality indicators. UNESCO has contributed to these initiatives –through REPLAD– submitting quality measurement mechanisms for the first four years of basic education in Latin America.⁴¹

Academic achievement scores reveal the real inequality levels. While average students meet scarcely 50% of the official curriculum expectations, students enrolled in private schools easily approach 100%. In fact, the scores of students enrolled in elite private schools can only be matched by average scores typical of developed countries.⁴²

Comparative studies conducted by the International Association for the Evaluation of Education Achievement (IEA), reveal that scores

achieved in Trinidad and Tobago and Venezuela, which are representative of the region's educational systems, are closer to scores from African countries than to those characteristic of Eastern Asian countries. Analysis of responses elicited by a reading-writing test item, reveals that two out of five students (fourth and fifth graders), do not understand what they read. These students also happen to come from low socio-economic backgrounds, and indication that the region is still afflicted by severe problems concerning equitable education. National averages suggest that three out of four children –in the lower half of the income distribution curve– are unable to understand what they read in fourth or fifth grade. Even in countries where structural reforms have been implemented, and conditions have been greatly improved, achievement scores between 1982-1990 have not changed dramatically, despite the fact that comparisons have involved homogeneous groups in terms of socio-economic levels, geographical area, and type of school.

By the late 80's, cognitive performance evaluations covering the first grades of primary education conducted in half a dozen countries, suggested that the poor performance levels exhibited by lower than average socio-economic groups, remained unchanged. More information is needed in the region, regarding the quality levels achieved. To this end, REPLAD/UNESCO has enlisted the cooperation of sixteen countries in the creation of appropriate measuring mechanisms through the Quality Measurement Laboratory Project, and by mid 1996 important information should be available.

The underlying causes of the marked differences between gross and net schooling rates (112% versus 86%), also shed a light on quality problems: late entry; premature entry; and, repeaters. This last factor, seems to be critical, although late entry is a topic that warrants research in every country. The difference between gross and net schooling rates suggests an average rate of repetition for primary education approaching 25%, which would seem

⁴¹ *Medición de la calidad de la educación. Resultados. Volume III. REPLAD. UNESCO. Regional Office for Education in Latin America and the Caribbean. 1994. Santiago, Chile.*

⁴² Schiefelbein, E. 1995a. "La reforma educativa en América Latina y el Caribe: un programa de acción". *Bulletin*, No. 37. The Major Project of Education. UNESCO. Santiago, Chile.

Table 5

PRIMARY EDUCATION. PERCENTAGE OF REPEATERS BY GRADE, BASED ON SMMG MODEL, 1990

	South America	Central America and Panama	Gulf of Mexico	English- speaking Caribbean	Region
Total level	34.8	24.2	19.0	...	30.2
Grade 1	46.1	41.2	30.4	...	42.5
Grade 2	35.2	23.6	19.9	...	30.9
Grade 3	30.4	18.4	16.5	...	26.1
Grade 4	28.7	15.5	14.6	...	24.1
Grade 5	35.3	13.4	15.4	...	28.9
Grade 6	32.4	10.6	12.2	...	25.6
Grade 7	31.2	26.1	15.0	...	26.3
Grade 8	24.6	21.6	19.4	...	22.8
Grade 9	30.7	21.5	22.5	...	27.8

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Table 48 (Statistical annex).

to indicate –based on available research– that first grade repetition must be considerably higher. In 1980, the average rate of first grade repeaters in the region approached 50%, while twelve years later it had dropped to 35%, still too high a level of repetition (table 5). Age heterogeneity among first grade students is indicative of higher repetition rates than those reported in statistical forms, as demonstrated by a previous study.⁴³

The lack of adequate responses to linguistic, age, cultural, geographic, economic and social plurality conspicuously absent from today's educational systems, has translated into low levels of reading comprehension, and high repetition rates which, in turn, have resulted in increased age heterogeneity in the classroom. This heterogeneity is particularly aggressive to the lower income segments, as it limits the efficiency of traditional frontal teaching methods. These students attain very low learning levels, and, thus, the seeds for a severe condition of inequality are sown. The advisability of customizing the learning process and adapting the curriculum to regional and local conditions, has been acknowledged. This objective can be achieved with the help of a teaching

staff capable of creating a dynamic individual and group learning process (or through learning materials that lend themselves to this type of experience), the collaboration of community organizations, parents, and the students themselves.

Low teachers' wages, the short effective duration of the school-year, the reduced time devoted to learning as such, the insufficient number of textbooks to go around, the state of disrepair of some schools, the high rate of temporary drop outs, and the presence of unqualified teachers, suggest –in terms of the availability of didactic elements– that primary education in the region is not exempt from quality problems. These are reflected in the number of overaged students that crowd the first grades (table 6).

The age dispersion observed in the various grades (table 6), hobbles the learning process (when the frontal method is used) particularly in the first school years, and gives rise to repetition. Comparisons between enrollment figures for a particular grade and the corresponding single age population, yield an indicator of the high rate of repetition.

The quality enhancement strategies attempted in an effort to check repetition and dropout rates, rely on: generating methods that elicit active learning (both individual and in groups) in the first grades of schooling; developing bilingual, intercultural education among primary

⁴³ *The State of Education in Latin America and the Caribbean, 1980-1987*. UNESCO-SIRI, 1990. Santiago, Chile.

Table 6
ENROLLMENT BY AGE AND GRADE, 1991
(In thousands)

Age	I	2	3	4	5	6	I	II	III	IV	V	VI	Grade enrollment	Total Population	Net schooling rate (%)
4	5 239	169	1	0	0	0	0	0	0	0	0	0	5 409	10 513 854	0.1
5	397 413	7 542	311	30	0	0	0	0	0	0	0	0	405 295	10 571 237	3.8
6	5 565 576	498 519	8 120	408	7	0	0	0	0	0	0	0	6 072 630	10 689 874	56.8
7	4 836 157	3 925 815	557 646	9 991	686	9	1	0	0	0	0	0	9 330 305	10 752 283	86.8
8	2 615 017	3 362 248	3 326 494	549 623	11 697	552	19	0	0	0	0	0	9 865 650	10 786 234	91.5
9	1 558 430	1 994 083	2 800 997	2 956 420	547 072	12 485	607	16	0	0	0	0	9 870 109	10 485 369	94.1
10	1 054 555	1 305 012	1 728 301	2 437 944	2 611 583	537 318	17 105	573	14	0	0	0	9 692 404	10 272 840	94.3
11	668 349	864 342	1 145 908	1 508 035	2 154 972	2 327 842	476 258	14 049	677	35	0	0	9 160 549	9 998 474	91.6
12	486 399	603 373	804 866	1 039 396	1 432 464	1 872 462	1 969 139	408 833	12 365	663	48	72	8 630 082	10 029 543	86.0
13	284 719	410 442	523 074	686 631	995 430	1 155 478	1 582 138	1 660 504	357 835	9 911	550	103	7 666 815	9 725 924	78.8
14	171 257	221 723	324 119	410 415	633 324	771 946	978 489	1 332 650	1 502 074	256 993	9 855	718	6 613 563	9 639 444	68.6
15	142 079	111 928	139 099	201 023	399 837	473 431	619 458	811 736	1 164 742	1 080 972	206 332	8 258	5 358 896	9 443 037	56.7
16	74 591	81 108	78 480	109 471	257 293	272 430	351 750	468 340	732 742	861 533	893 092	212 362	4 393 191	9 253 526	47.5
17	1 504	42 989	55 087	60 961	161 334	184 747	223 425	263 280	478 767	553 621	712 061	920 736	3 658 512	9 169 244	39.9
18	2 632	1 966	28 973	44 218	94 131	116 699	153 669	172 342	314 523	362 087	452 099	563 681	2 307 020	9 119 229	25.3
19	28	1 164	2 083	25 102	72 511	71 146	93 108	107 311	204 947	230 734	279 887	264 201	1 352 222	8 568 953	15.8
20	19	558	1 343	2 161	39 653	56 319	55 890	70 416	179 198	181 526	196 870	140 817	924 770	8 128 465	11.4
21	0	0	654	1 342	1 875	26 722	42 305	39 010	113 727	115 941	117 291	61 860	520 726	7 753 117	6.7
22	0	0	0	626	1 200	1 800	21 386	31 115	87 408	89 707	89 177	34 833	357 253	6 460 366	5.5
23	0	0	0	0	561	1 047	2 791	15 689	46 979	47 669	49 729	19 541	184 006	6 391 727	2.9
24	0	0	0	0	0	458	1 598	1 950	1 716	3 823	5 132	11 676	26 353	5 709 169	0.5
25	0	0	0	0	0	0	715	865	1 254	1 599	1 934	3 969	10 337	5 664 464	0.2
26+	0	0	0	0	0	0	0	328	834	1 616	2 092	4 714	9 585	5 349 027	0.2
Total	17 863 963	13 432 982	11 525 635	10 043 797	9 415 632	7 882 891	6 589 851	5 399 006	5 199 803	3 798 433	3 016 150	2 247 540	96 415 683	204 475 400	47.2
Net schooling rate:					6 grades	86.1%					12 grades	72.9%			
Gross schooling rate					(7-12)	112.6%					(7-18)	81.2%			

education students of indigenous background; encouraging timely entry, in order to reduce overage in the first grades of basic education, and extend the time spent in school (daily and annually); and, providing learning opportunities consistent with the student's life and milieu. More evidence of attempts to expand the available learning time is needed. Initiatives undertaken by Argentina, Chile, Costa Rica, Mexico and Venezuela with the purpose of extending the school year calendar, are worth looking into. This information would allow us to evaluate the negative effects of the current gap, as compared to developed countries where the school year exceeds 1200 hours (In Latin America and the Caribbean the annual average is approximately 800 hours, that is, 5 hours a day, 160 days per year).

c. Educational supply inequality-characteristics

Inequality is greatest among children who have no access to education (5%), and among absolute illiterates (addressed in the following sections), although it is also acutely felt by stu-

dents who learn very little when attending schools that cater to families ranked below the national socio-economic average. The need to educate children that have never accessed the system has been acknowledged by one and all. Various programmes designed to extend educational coverage to poverty stricken areas, and to provide social and economic aid to underprivileged students, have been implemented during this period. The latter programmes rely for their success, on free education, nutrition, health, textbook distribution, and scholarships. Mexico's Community Instructors programme, and El Salvador's EDUCO programme exemplify successful attempts to bring education to isolated groups (specially rural) and ethnic minorities.

A large percentage of those who have been excluded from education in South America, live in rural areas. The inequality index –understood as the ratio between the percentage of rural population attending school and the percentage of rural population– points to a diminished educational supply in rural areas (table 7). Where this phenomenon is seen to occur, the necessary steps are being taken to increase the coverage of educational services in rural areas.

Table 7

PRIMARY EDUCATION. STUDENT POPULATION BY GEOGRAPHICAL AREA, 1991

Students	South America		Central America and Panama	Gulf of Mexico	English-speaking Caribbean	Total
	Brazil ^a	Rest of the countries				
Total ^b						
Urban area	22 399 286	13 007 420	2 148 660	11 102 610	40 661	48 698 638
Rural area	6 343 185	5 502 201	2 326 313	6 340 036	47 237	20 558 971
Rural area students as percentage of the total	22	12	52	36	50	30
Rural population percentage	25	28	54	30	50	30
- Inequality index	0.9	0.4	1.0	1.2	1.0	1.0
Students per teacher ^b						
Urban area						
Total	23	27	31	29	24	26
Private	21	27	26	33	26	25
Rural area						
Total	22	23	36	26	20	29
Private	24	23	32	33	18	25
School size ^b						
Urban area	441	227	396	327	262	330
Rural area	41	71	89	91	241	62

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Tables 21, 22, 27 and 28 (Statistical annex).

^a 1989.

^b Does not include countries for which information is unavailable.

Equity is also affected by the "distribution" of the student/teacher ratio in primary education. Although average values declined from 29 to 25 students per teacher in 1980 and 1991, respectively, this average figure conceals extremely high numbers (up to 50 or 60 students per teacher) in schools catering to low socio-economic groups (table 7). Based on available data (that excludes Argentina and a large part of the English-speaking Caribbean), this ratio has been estimated at 26 in the urban areas and 30 in the rural areas, while no significant differences have been detected between the private and public sectors.

Between 1980 and 1991, the total number of basic school teachers had increased significantly surpassing the 3 million mark in 1991 (table 8). This figure makes salary increases and teacher training in the region harder to finance through traditional funding sources, even when salaries are not always high enough to lure degreed teachers, as discussed below.

Note that out of 100 primary school teachers, only 80 work in classrooms (table 9), a

fact that may modify the analysis of the student/teacher ratio. The rest of the teachers hold management and supervisory posts and are not directly involved with students. This relationship should be carefully analyzed, since in many cases supervisors have little impact on teaching excellence.

The concentration of non-degreed teachers in schools that cater to the lower half of the income distribution groups, has a strong effect on equity. One out of five pre-school and primary education teachers has not earned a degree which, in the lower half, is equivalent to having 40% of the teaching staff without a professional degree (table 10). This state of affairs, which has a direct impact on one of the main actors of the teaching-learning process, will most definitely influence the quality of education and its outcomes. Many countries have jobless degreed teachers living in the cities, who are unwilling to move to rural areas at the salary levels being offered. In these cases, salaries should be gradually raised until they are high enough to interest degreed teachers.

Table 8

PRIMARY EDUCATION. STUDENTS, TEACHERS AND SCHOOLS

Students, teachers and schools	Age	South America		Central America and Panama	Gulf of Mexico	English-speaking Caribbean	Total
		Brazil	Rest of the countries				
Students	1980	22 598 254	19 325 469	3 397 205	17 882 916	975 783	64 179 627
	1985	24 769 359	21 503 794	3 990 689	18 282 839	982 844	69 529 525
	1991	28 742 471 ^a	23 383 927	4 474 973	17 442 646	954 595	74 998 612
Private sector (%)	1991	12.0	18.4	10.7	9.0	22.6	13.2
Teachers	1980	884 257	717 066	95 794	497 420	32 396	2 226 933
	1985	1 026 028	795 677	111 284	580 522	39 212	2 552 723
	1991	1 253 029 ^a	1 009 131	133 704	610 315	33 029	3 039 208
Students per teacher	1980	26	27	35	36	30	29
	1985	24	27	36	31	25	27
	1991	23	23	33	29	29	25
Private sector	1991	21	25	26	31	23	24
Schools	1980	201 926	120 687	25 342	96 252	3 189	447 396
	1985	191 000	131 146	26 771	97 071	3 077	449 065
	1991	206 526 ^a	157 165	31 598	103 746	3 290	502 325
Students per school	1980	112	160	134	186	306	143
	1985	130	164	149	188	319	155
	1991	139	149	142	168	290	149

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Tables 21, 23, 27 and 28 (Statistical annex).

Note: Where information is not available the closest years have been used.

^a 1989.

Table 9

PRIMARY EDUCATION. CLASSROOM TEACHERS, 1991

Teachers	South America		Central America and Panama	Gulf of Mexico	English-speaking Caribbean	Total
	Brazil	Rest of the countries				
Total ^a						
Total classroom teachers	...	1 657 483	67 937	60 030	3 462	1 788 892
Percentage in private sector	...	14.8	11.6	0.0 ^b	38.0	14.3
Rural area						
Total classroom teachers	...	416 816	24 911	22 017	1 335	465 079
Percentage in private sector	...	2.5	2.4	0.0 ^b	42.1	2.5
Classroom teachers as a percentage of the total number of teachers						
Total for the country	...	79.3	85.0	79.7	91.2	80.3
Urban area	...	78.3	79.7	74.5	84.8	78.0
Rural area	...	81.9	90.4	90.8	82.0	84.7

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Table 26 (Statistical annex).

^a Includes countries for which information is available only.

^b In the Gulf of Mexico's subregion the only country that keeps statistics is Cuba; hence, the figure (%) for private teachers.

Table 10

PRE-SCHOOL AND PRIMARY EDUCATION. TEACHING STAFF BY ACADEMIC TRAINING, 1991

Teaching staff	South America		Central America and Panama ^a	Gulf of Mexico	English-speaking Caribbean	Total
	Brazil ^a	Rest of the countries ^b				
Pre-school education						
Total number of teachers	147 087	80 091	8 168	18 517 ^d	3 683 ^e	257 546
Non degreed teachers	35 976	25 526	1 547	0	3 312	66 361
Percentage	24.5	31.9	18.9	0.0	89.9	25.8
Primary education						
Total number of teachers	1 201 034	1 851 147	86 727	87 073 ^f	23 473 ^g	2 048 420
Non degreed teachers	232 458	397 570	18 161	2 297	4 816	422 844
Percentage	19.4	21.5	20.9	2.6	20.5	20.6

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Table 25 (Statistical annex).

^a 1989.

^b Corresponds to pre-schools in Bolivia (public sector), Colombia, Chile, Ecuador, Peru, and Venezuela; for primary education add Paraguay to these countries.

^c Does not include Guatemala.

^d Cuba only.

^e Aruba, Grenada, Jamaica and Saint Christopher and Nevis.

^f Cuba and the Dominican Republic.

^g Aruba, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Saint Christopher and Nevis, and Trinidad and Tobago.

Numerous countries insist on improving the quality of education by reducing the teacher's workload rather than using material conducive to individual and group learning. In the 1980-1991 period, the number of students per teacher at the various educational levels has decreased slightly and, particularly so, at the pre-school and primary levels (table 11). Reducing the number of students by one, implies a 4 to 6% increase in per capita cost, enough to provide adequate learning materials to every student in the class.

Another source of inequality in Latin America and the Caribbean, is the disproportionate size of urban schools as opposed to rural institutions. The latter, given their reduced size, must necessarily become multigrade schools and (owing to the predominance of the frontal teaching method) cannot provide each grade with differentiated instruction (table 7), or have to limit their educational supply to the first few grades (table 12). Average school size in urban areas is 330 students compared to 62 in rural areas, which adversely

Table 11
TEACHING STAFF AND NUMBER OF STUDENTS PER TEACHER ESTIMATES

<i>Educational level</i>	1980	1985	1990	1992	<i>Annual rate of growth 1980-92</i>
Pre-school education					
Total number of teachers (thousands)	177	320	455	470	8.2
Number of students per teacher	27	26	24	24	
Primary education					
Total number of teachers (thousands)	2 256	2 594	3 011	3 118	2.4
Number of students per teacher	29	27	25	25	
Middle education					
Total number of teachers (thousands)	1 083	1 339	1 504	1 584	2.8
Number of students per teacher	16	15	15	15	
Higher education					
Total number of teachers (thousands)	385	505	626	676	4.1
Number of students per teacher	13	13	12	12	

Source: UNESCO, Statistical Yearbook 1994. Paris, 1994.

Table 12
PRIMARY EDUCATION. INCOMPLETE SCHOOLS BY DEPENDENCIES, 1991

<i>Incomplete schools</i>	<i>South America Rest of the countries^a</i>				<i>Central America and Panama^b</i>	<i>Gulf of Mexico^c</i>	<i>English- speaking Caribbean^d</i>	<i>Total</i>
	<i>Brazil</i>							
Total	...	38.702	7 795	19 347	20	65.864		
Urban area	...	3 929	375		0.0	4 304		
Public	...	2 676	89	245	1.0	3 011		
Private	...	1 253	197		0.0	1 450		
Rural area	...	34 773	7 420		0.0	42 193		
Public	...	34 288	4 313	3.234	2.0	41 837		
Private	...	485	588		13.0	1 086		
Total of incomplete schools as percentage of the total of primary schools	...	44.9	33.4	22.5	7.0	33.6		
Urban area	...	15.2	8.7	...	0.8	7.6		
Rural area	...	57.5	39.6	...	11.2	30.4		

Sources: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Table 29 (Statistical annex).

^a Includes Bolivia, Colombia, Ecuador, Paraguay and Venezuela.

^b Includes El Salvador, Honduras and Panamá.

^c Includes Mexico and the Dominican Republic's public sector; data by area refers to the Dominican Republic. According to SIFRI's survey figures for Honduras correspond to the public sector. We have, however, taken them as total figures (after comparing them against UNESCO's 1994 Statistical Yearbook).

^d Figures correspond to Aruba and Surinam.

affects the cost of providing education or the quality of education delivered in rural schools. In 1989, Brazil exhibited an even larger average difference between urban and rural institutions: 441 versus 41 students, respectively. Multigrade instruction in rural settings can only be successful when teachers have received training in multigrade education and, simultaneously, are provided with textbooks or work manuals that facilitate adequate individual and

group learning by students (multigrade classes are a must when the total student population of a rural school is less than 100 and, specially so, in countries which average 50 or less students per school).

Likewise, the fact that one third of the region's schools are incomplete (33.6%), limits opportunities for finishing primary education. This national average indicates that in rural areas two out of five schools are incomplete

(Table 12). The number of incomplete schools is extremely high in South American countries (44.9%), particularly in urban areas (57.5%). English-speaking countries do much better in this respect, since the percentage of incomplete rural schools is only 11%. The percentage of schools that fail to deliver a complete education serves as another inequality indicator, since the families of primary school students are hardly in a position to pay for their children's education in schools located too far from home. Argentina is taking experimental steps with an "alternating" system for grades 7 and 9, where students attend classes for one week then go back home to work on a "project" following detailed instructions contained in a "learning manual". The project is finished during the third week upon returning to school.

The availability of educational spaces limits the possibility of enhancing the quality of education through prolonged school working sessions (schedule), but it does not hinder the use of individual and group methods. Nowadays, increasing the time devoted to learning is quite difficult to do, since schools normally work in two or more shifts. However, spaces permit scheduling night classes for non-schooled youths and adults who seek additional educational opportunities. Although the existing infrastructure will have to be revamped, and the provision of equipment increased, these shortcomings should not stand in the way of an active education centred on the student and capable of achieving high levels of learning.

Traditional classrooms designed for frontal teaching can be easily turned into a group educational space (cooperative) by simply putting two to four desks together, and creating open spaces suitable for working in groups. A shelf to hold classroom library books should not be hard to find. However, thinking ahead, room should be secured for a computer and an integrated audio and video sets.

In order to improve the existing relationship between primary education and the working world, the learning process must bear relation to the student's environment, since in most

cases, curricula are designed for middle or upper middle socio-economic strata. UNESCO and UNICEF have elaborated self-learning guides that force students to include their contexts as part of their own learning situation. Their evaluation reveals that, because they are linked to vital experiences and to problems associated with fundamental community needs, they contribute importantly to motivate the learner.⁴⁴ These guides have been equally successful in elite private schools. In conclusion, the best preparation for the working world is a good quality education that fosters the development of the individual along its various dimensions.

Progress towards guaranteeing an equitable educational supply is contingent on radically upgrading the quality of education, and focusing on individual differences, whatever the context or school type: urban-rural; public and/or private; based on gender or geographical area. The 90's mark the beginning of experiences which show the feasibility of implementing viable strategies, such as Chile's 900 schools, El Salvador's EDUCO, Mexico's Community Instructors, and Colombia's New School programme, which having started in the 80's is still an important referent in the region.

d. Catering to the various basic learning needs

As universal access to primary education becomes a reality and concern about its quality and equity rises, the need to meet basic learning needs asserts itself. This, of course, entails an educational system that respects and takes into account the students' individual differences.

⁴⁴ UNESCO/UNICEF. 1993. *Guías de aprendizaje para una escuela deseable*; UNESCO/UNICEF/CIDE. 1993. *Adaptación de guías de aprendizaje: dos casos exitosos*; UNESCO/UNICEF. 1993. *Nuevas guías de aprendizaje para una escuela deseable*; UNESCO/UNICEF/CIDE. 1995. *Guías de aprendizaje para iniciación a la lecto-escritura, 1° 2° grados*. Santiago, Chile.

So far, the prevailing school of thought has advocated that only handicapped students are entitled to a customized type of education adapted to their specific needs, although the strategy was to group them in special classrooms or schools taught by specialized professionals. Differential education has been offered exclusively to students who display concrete evidence of a deficit, while numerous others—who for various reasons endure learning difficulties—are kept in regular classrooms where their individual needs are not satisfied. This has led to repetition and to increasing the class' age heterogeneity (table 6).

As regards special education, the MPE has formulated new practices and brought about important changes in the region. "mainstream schools" have been created, where students learn together—but, through an individual and group approach—regardless of personal, social or cultural specificities. Special education, is no longer a subsystem concerned exclusively with handicapped children, but, rather, a pool of resources at the service of general education and regular schools catering to any student who, for a variety of reasons, may have learning difficulties. Thus, a better quality of education is made available to all.

In addition to handicapped children, there are other special groups to be reckoned; these are students who in virtue of different ethnic, cultural or deprived socio-economic backgrounds, are seen as "peculiar".⁴⁵ They also need to be given special opportunities so that the disadvantage they bring along is not magnified by an educational response which only takes into consideration the needs of the majority. From this viewpoint, it is no longer valid to talk of different categories or types; rather, students are regarded as variegated group who present a number of educational needs, some collective, others individual. Some of these

needs may be special and demand educational services (either temporary or permanent) that differ from those provided to the rest of the students. This implies shifting the role of the educator (from transmitter to presenter), making use of material that lends itself to developing individual and group learning experiences, and the possibility of adapting the curriculum and differentiated strategies to the students' difficulties or rhythm. Moreover, this process allows the teaching staff—to the extent that the educator participates in significant learning experiences as contained in the students' material—to become specialized in this area.

The World Conference on Education for All (1990) was categorical in guaranteeing the right to education of every individual, regardless of specificities. The World Conference on special needs (Salamanca, Spain, June 7 to 10, 1994), launched this right in earnest. The guiding principle advocated in Salamanca's Action Framework, is that schools must welcome all children independent of personal features; the handicapped, the gifted, street children, ethnic, language or cultural minorities, deprived or marginal children, a veritable challenge for the school system. Mainstream schools represent a favourable environment for equal opportunities and full participation. They contribute to a more personalized type of education, foster solidarity among students, help improve the quality of teaching and the cost-efficiency relationship of the whole educational system.

However, the actual "hands on" implementation of this principle is closely linked to other quality enhancing actions, particularly to the design and evaluation of suitable learning materials. Broadly speaking, the countries that have made the greatest progress towards "mainstream" schools, are those where educational reforms have been implemented or are under way: Argentina, Costa Rica, Chile, Ecuador and Paraguay. Peru is also working on an experimental integration programme. Argentina, for instance, has successfully integrated a large percentage of children into its regular schools,

⁴⁵ MacPherson-Russell, P. 1995. "Strengthening the rehabilitation programme of the correctional services". The University of West Indies-UNESCO/Kingston.

Table 13

SPECIAL NEEDS CHILDREN ESTIMATES, 1991

	South America	Central America and Panama	Gulf of Mexico	English- speaking Caribbean	Region*
Special needs students ^b	3 999 368	455 687	1 545 708	84 066	6 084 827
As a percentage of the 7 to 12 old population	1.3	0.9	2.0	0.6 ^d	1.4
As a percentage of the 10% of the 7 to 12 year old population	12.8	9.3	19.7	6.1	14.2
Attend regular schools but do not receive special instruction (minimum estimate) ^c					
Number	231 663	38 704		8 838.8	279 206
Percentage	2.2	3.1		5.3	2.6
Number of students per teacher in the field of special education	9	20	7	18	9

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Tables 30 and 31 (Statistical annex).

^a Only those countries for which information is available are included in each subregion. Averages are weighted.

^b International studies on persons with disabilities—either innate or acquired—estimate the population with special learning needs at 10%. These reports, however, reveal that between 10 to 20% of the school population requires some type of special instruction or aid. See: U.N. World Action Plan for the Handicapped. 1983: Disability: strategic and political panorama. 1987. Hegarty S. The education of children and young people with disabilities: principles and practice. UNESCO, 1990.

^c Corresponds to ages 5 to 10.

^d Refers exclusively to countries where net rates (first six grades) exceed 90%, since calculations were done by subtracting from the 10% corresponding to the 7 to 12 year old population, the number of children not enrolled in schools (among reference age groups for primary education) and the number of special needs students classified as such (whether in special or regular schools).

while in Venezuela practically half the children with special needs attend special schools.

In 1991, the 7 to 12 year old population with special needs was estimated at 6 million (10% of the region in that age group). 14.2% of these children attend special schools and an estimated 335 thousand attend regular schools but are provided some kind of special aid (table 13). However, almost half of the student population with special needs, go to regular schools and receive no special attention (the rest have not accessed the educational system), an adverse factor in the child's personal and social development. Special education is offered in urban areas exclusively, and 27% of it is supplied by the private sector to families who can afford to pay for the service, a fact that poses a serious equity dilemma.⁴⁶

South America and the Gulf of Mexico—specially Argentina, Brazil, Mexico and Cuba—have a very small number of students per teacher (4,7,4 and 9, respectively). On aver-

age, the relationship students teacher in the region is low (9) and raises the cost of the educational service. Conversely, in Central America, Panama, and the Caribbean, the number of students per teacher is considerably larger (20).

In the early part of the period, specific efforts were made along the following lines: updating and upgrading specialized educators through higher education training programmes in this field; introducing occupational training programmes which included investments on school equipment; start up of non-formal education programmes and prevention of various types of disabilities through the use of mass media, in order to incorporate the handicapped into family and social life; setting up intersectoral health and education services for the prevention, identification and treatment of various types of peculiarities; creation of logopedic classrooms assigned to primary and basic education; training programmes for teachers and specialists on the identification and treatment of learning difficulties; introduction of new processes aimed at preventing reading-writing learning difficulties in the curricula for the first grades of primary and basic education.

⁴⁶ *The State of Education in Latin America and the Caribbean, 1980-1994* (Table 31, statistical annex). UNESCO-SIRI, 1996. Santiago, Chile.

Since 1991, UNESCO has been active in the region through the teacher training project "Special classroom needs", which aims at disseminating the new special education concept and the creation of schools that take into account the diversity of their student population. Presenters have been trained in most english-speaking Caribbean countries (Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Saint Lucia, Saint Vincent, Suriname and Trinidad) and in a dozen Latin American countries (Argentina, Brazil, Colombia, Costa Rica, Chile, Ecuador, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela). The successful outcome of the DANIDA/UNESCO project in support of Peru's special education programme, made it possible to extend its coverage to Bolivia and Ecuador.

Despite progress made, the real situation of these students has yet to be defined while steps should be taken to: formulate clear and assertive school integration and individual and group educational policies; devise efficient mechanisms for resource redistribution to basic areas; increase private and public funding; develop training programmes directed not only at specialists but at regular school teachers, changing the clinical and rehabilitation perspective for a curricular approach to learning difficulties; develop community-based rehabilitation programmes and turn Special Education schools into resource centres for regular schools while changing the role of the teacher, the curriculum, and the educational practice, along the lines of a more individual and group-oriented instruction.

In the last ten years, great strides have been made in the region in terms of furthering the education of children from minority ethnicities or cultures. There is growing awareness of the need to consider the child's original culture and language. Many students exhibit learning difficulties because they attend schools with a different culture and language of instruction. In Ecuador, the Ministry of Education's National Office sponsors bilingual intercultural education programmes. Bolivia, Chile, Guate-

mala, Mexico and Peru are promoting projects designed to disseminate the importance of this type of education, although they are restricted to the indigenous population and to field specialists. In Paraguay, however, bilingual education for all and the incorporation of curricular contents associated with the guarani culture, constitute one of the cornerstones of the country's Educational Reform.

A large percentage of the region's children live under high risk conditions; working children, street children, children living in exceptionally deprived or marginal social and economic milieus. These children require a particularly intense attention, flexible and diversified methodologies, positive attitudes, and a teaching staff specially motivated and trained to keep students in school and discourage dropping out. Other initiatives geared towards alleviating students' extreme living conditions should be planned.

The 80's has been characterized by the many different projects spanning the globe, which seek to improve the lot of underprivileged groups through educational, nutritional, and social programmes. Most of them are being sponsored by NGO's and financed by international organizations, with the not quite direct support of the governments involved. UNESCO and UNICEF have jointly developed a worldwide professional education and training plan for working and street children, covering three action areas: public information, mobilization of finance, and cooperation sources.⁴⁷ Steps should be taken by the various governments to identify and combat the causes of these problems, implement funding and prevention strategies, and design global economic and social policies to eradicate the problem.

⁴⁷ *Working with street children. Selected case-studies from Africa, Asia and Latin America.* UNESCO Publishing/ ICCB, 1995; MacPherson-Russell (1995) *op.cit.*

Table 14
 NUMBER OF ESTIMATED ABSOLUTE ILLITERATES AGES 15 AND OVER
 (In millions)

Category	1980	1990 ^a	2000 ^a
Total population	362.8	438.4	520.2
0 to 14 years of age ^b	143.0	153.3	162.0
15 and over ^b	219.8	285.0	358.2
Illiterate individuals 15 or older	44.3	42.4	40.4
Individuals who acquired literacy in the period		67.1	75.1
Illiteracy rates (%)	20.2	15.2	11.4

Source: Tables 33 and 34; CELADE. Demographic Bulletin, Year XXIII, Nº 46, July, 1990.

^a Estimates relied on a study of cohorts based on figures made available by recent population censuses, in the English-speaking Caribbean subregion. Figures for 1989 were maintained for the year 2000; this subregion includes Barbados, Belize, Dominica, Grenada, Guyana, the British Virgin Islands, Jamaica, Montserrat, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago.

^b The English-speaking Caribbean was included using Latin America's age group relationships.

5. Absolute illiteracy and youth and adult education

The region is at the verge of universal access to basic education, while having made considerable headway in terms of pre-school coverage. This has brought about a reduction of absolute illiteracy, that is, that category reported by persons when filling out census forms or answering surveys (table 14). However, the poor quality of primary education –alluded to, prior to discussing “school failure” indicators– has facilitated the persistence of a large number of functional illiterates, namely, people who having acquired literacy (or think of themselves as literate) are unable to use (at least minimally) basic reading, writing and mathematic skills in their daily lives, essential prerequisites to function as citizens, parents, producers and actors in processes involving technological change. The fact that nearly 50% of the population entering the labour market each year cannot understand what they read, and can barely write and do simple mathematic operations, even after six years of schooling, is clearly and blatantly unfair.⁴⁸

Illiteracy eradication strategies are not directed exclusively at adult education –which

is normally restricted to specially motivated individuals– but are closely associated with improving the quality of the educational service imparted to children, the one mechanism to eliminate the problem. Table 14 shows that the percentage of individuals who have been made literate through the formal system, is quite similar to the expected rate of population growth (78.4 versus 90.7 millions). Hence, the rate of absolute illiteracy would be reduced to 10.9%.

Analysis of absolute illiteracy rates by age groups, has detected a steady increment in every country, particularly among the younger population, since better than half of the absolute illiterate population is over 40 (table 15). Increased access to primary education is reflected in illiteracy rates that approach 5% among the younger groups. Progress in this area, has also taken the form of a more efficient targeting of traditionally neglected groups, selection of more effective adult literacy strategies, and the identification of aspects that improve retention among individuals enrolled in literacy learning programmes.

Population censuses conducted every ten years, are the only sources of information on absolute illiteracy. Data comparison, becomes extremely complex given that censuses do not always correspond to the same years, age groups are not always the same, and school grades are different depending on how the vari-

⁴⁸ Schiefelbein and Tedesco (1995), *op.cit.*

Tabla 15

DISTRIBUTION OF ABSOLUTE ILLITERATES BY AGE GROUPS, 1990 AND 2000

Year and age group	Estimated number of illiterates and illiteracy rate	South America		Central America and Panama	Gulf of Mexico	English-speaking Caribbean ^a	Total
		Brazil	Rest of the countries				
Year 1990							
15-19	Number	1 228	447	400	774	2	2 851
	Rate (%)	8.3	3.2	12.7	6.3	0.3	6.4
20-33	Number	3 916	1 681	1 384	2 389	8	9 379
	Rate (%)	14.3	5.0	22.3	9.3	0.5	10.0
34-43	Number	5 026	1 350	736	1 681	5	8 799
	Rate (%)	17.3	8.3	27.4	15.5	1.2	14.9
44 and +	Number	9 321	4 943	1 755	4 803	60	20 881
	Rate (%)	35.5	17.7	38.3	27.7	6.6	27.1
Total 1990	Number	19 491	8 421	4 274	9 648	75	41 910
	Population	97 390	91 465	16 598	66 086	3 514	275 054
	Rate (%)	20.0	9.2	25.8	14.6	2.1	15.2
Year 2000							
15-19	Number	439	193	168	191	2	993
	Rate (%)	2.5	1.1	4.1	1.4	0.3	1.9
20-27	Number	1 243	493	429	453	3	2 621
	Rate (%)	5.0	2.1	8.0	2.3	0.4	3.5
28-43	Number	4 398	1 947	1 543	2 679	10	10 577
	Rate (%)	13.5	5.1	22.0	8.1	0.8	9.4
44 and +	Number	12 207	5 273	2 102	5 523	60	25 165
	Rate (%)	25.7	13.9	34.7	22.0	6.6	21.4
Total 2000	Number	18 288	7 906	4 242	9 649	75	40 360
	Population	122 499	116 915	22 455	87 159	3 514	352 542
	Rate (%)	14.9	6.8	18.9	11.3	2.1	11.4

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Tables 33 and 34 (Statistical annex).

^a Does not include Antigua and Barbuda, Netherlands Antilles, and Bahamas.^b The following countries for which information is available are included: Bolivia, Brazil, Colombia, Chile, Ecuador, Peru, Venezuela, El Salvador, Honduras, Haiti, Mexico and the Dominican Republic.

ous countries have structured their formal education systems. Efforts have been made, however, to systematically compare absolute illiteracy rates in the region at the turn of the 20th century, while intensive work is being done to analyze functional illiteracy utilizing more sensitive indicators.

The eradication of illiteracy before the year 2000, was discussed at PROMEDLAC II (Bogota, 1987). On the occasion, evidence was produced to reveal that the rate of illiterate women in rural areas and indigenous settlements was substantially higher than the rate of illiteracy for men. Thus, the Ministries of Education recommended that the member states

formulated policies and programmes designed to definitely resolve this "deplorable situation that prevents women from fulfilling themselves". In this respect, women have made tremendous progress and, currently the opposite is true for the Caribbean where women have outperformed men in terms of educational level.

Lower illiteracy rates and higher schooling rates for women fluctuate depending on the country and, within a country, on the geographical area. For the women of the region, this has translated into high illiteracy rates in rural areas and among cohorts of older groups (Table 16). Between 1985 and 1990, female

Table 16

ESTIMATES AND PROJECTIONS OF THE 15 AND OVER ILLITERATE POPULATION

Country	1985			1990			2000		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Argentina	5.2	4.9	5.6	4.7	4.5	4.9	3.7	3.6	3.8
Bolivia	27.5	19.1	35.5	22.5	15.3	29.3	14.2	9.4	18.8
Brazil	21.5	19.7	23.3	18.9	17.5	20.2	14.2	13.4	15.0
Colombia	15.3	14.2	16.3	13.3	12.5	14.1	9.9	9.6	10.2
Costa Rica	8.2	8.4	8.0	7.2	7.4	6.9	5.3	5.7	5.0
Cuba	7.6	6.3	8.9	6.0	5.0	7.0	3.8	3.3	4.4
Chile	7.8	7.4	8.1	6.6	6.5	6.8	4.8	4.9	4.8
Ecuador	17.0	14.5	19.5	14.2	12.2	16.2	9.8	8.6	11.0
El Salvador	31.2	27.4	34.7	27.0	23.8	30.0	19.8	17.4	21.9
Guatemala	48.1	40.0	56.2	44.9	36.9	52.9	38.5	31.1	45.9
Guyana	4.6	3.3	5.9	3.6	2.5	4.6	2.1	1.5	2.7
Haiti	52.1	45.7	58.1	47.0	40.9	52.6	37.2	32.3	41.7
Honduras	32.0	29.0	35.0	26.9	24.5	29.4	18.8	17.3	20.4
Jamaica	2.0	2.2	1.8	1.6	1.8	1.4	1.0	1.3	0.9
Mexico	15.3	12.5	18.0	12.7	10.5	14.9	9.0	7.5	10.5
Panama	13.6	13.5	13.8	11.9	11.9	11.8	9.1	9.2	9.0
Paraguay	11.7	9.1	14.2	9.9	7.9	11.9	7.0	5.8	8.2
Peru	18.0	10.5	25.5	14.9	8.5	21.3	10.0	5.5	14.5

Source: UNESCO. Division of Statistics on Education. Compendium on Illiteracy Statistics. 1990 printing. Elaborated on occasion of the 42 International Conference on Education, Geneva, 3 to 8 September, 1990.

illiteracy rates have declined significantly in countries such as Bolivia, where it dropped from 35.5% to 29.3%. The highest illiteracy rates for women may be found in Haiti and Guatemala (52.6% and 52.9%, respectively for 1990).

Equal access to education for women under 25 has been fully achieved; however, in the qualitative aspects of education women are still being discriminated upon, as reflected in stereotyped educational material, segregated vocational guidance –which also limits women's participation in scientific and technologic progress as well as in technical education–, the role of teachers in the replication of current models, and female participation at the regional and national levels.⁴⁹

Only seven countries in the region would have illiteracy rates in excess of 10% by the year 2000. In descending order; Guatemala (38.5%), Haiti (37.2%), El Salvador (19.89%) and Honduras (18.8%) in Central America, and in the rest of Latin America, Bolivia, Brazil and the Dominican Republic exhibiting rates

higher than 10% but lower than 15%. In some countries, the problem is more critical in certain areas, as exemplified by the north west section of Brazil. Mention should be made of the absolute illiteracy gaps found among the indigenous population of Mexico, Ecuador, Peru, Bolivia and Guatemala with respect to average values for these countries, particularly in terms of female illiteracy.

In short, the main obstacles rising before the path to eradication of absolute illiteracy are still structural in nature– associated to gender, ethnias, geographical area, and socio-economic family level –aggravated by a sluggish processing of census and home survey data, which trammels the systematic follow-up of each country. Important illiteracy pockets prevail among deprived rural populations, affecting chiefly women in marginal urban areas, among groups 35 or older, and among indigenous populations. In countries where the illiteracy rate exceeds 20%, other high risk age groups (10 to 15 and 15 to 25) should be added.

The adoption of targeted inter-institutional action strategies (which replaced costly and inefficient national campaigns), and positive action initiatives by NGO's in this area (table

⁴⁹ ECLAC (1994), *op.cit.*

17), are probably the most outstanding landmarks on the road to overcoming illiteracy in the region. The elaboration of printed and audio-visual didactic material that takes into account population specificities⁵⁰ and makes room for both formal and informal education modalities;⁵¹ the concern found in most countries with high rates of indigenous population for a literacy programme that regards languages and cultures as enriching elements of the educational process and, therefore, produce texts in vernacular languages and enhance the programmes with bicultural elements; as well as the initial programmes for under-schooled adults (in countries where low illiteracy rates prevail), are all important steps towards the obliteration of illiteracy.

Functional illiteracy is currently being studied as a phenomenon that threatens the degree of competitiveness of the countries. UNESCO is sponsoring regional research initiatives, which during its two first stages— the first stage involved Argentina, Chile, El Salvador and Peru, while the second is under way in Brazil, Colombia, Mexico, Paraguay, and Venezuela, in addition to Argentina and Chile —have generated measurement instruments capable of gauging the mastery of reading-writing and mathematic skills for daily use, that will yield a profile of the various types of functional illiteracies present in the various countries. First findings, point to a close correlation between this phenomenon and the number of school years attended and the quality levels of the primary education received.

The reduction of absolute illiteracy rates, has dulled the interest formerly shown by numerous countries to promote formal education for adults and youths and, consequently, has reduced the availability of funds to sustain it

(table 17). In many cases, systematized methodologies for youths and adults are scant, which translates into poor results. On the other hand, the literacy training initiatives promoted by Guatemala— which hires NGO's against results— and Panama, whose president has been strongly supportive in this area, deserve commendation.

Part of the problem is failing to acknowledge that demands stem from both adults and youths. Regional research, in the framework of REDALF, corroborated that most individuals attending adult education centres are far and away, youngsters.⁵² This educational modality should be oriented towards both youths and adults, while its contents and work methodologies ought to be reformulated.

The Ministries of Education have taken the findings of various studies and meetings of specialists, to foster innovative action lines, such as the following:⁵³ use appropriate materials designed to improve the quality of the process and outcomes, and draw on occupational experiences; link this modality to overcoming the vicious cycle imposed by poverty; associate it with attempts at consolidating human and civic rights; integrate activities into the population's social, health, or environmental policies, incorporating as content and curricular practice, those that may result in a better quality of life such as sex, consumer, and environmental education, AIDS and drug-addiction prevention. These tasks have been carried out through inter-institutional actions, building national cooperation networks between public and non government organs —which disseminate popular education programmes— and encouraging exchange with other national and regional experiences.

⁵⁰ Kaplún, M. 1995. *Los materiales de autoaprendizaje. Marco para su elaboración*. REDALF. UNESCO, Santiago, Chile.

⁵¹ Hamadache, A. 1995. "Relaciones entre la educación formal y la no formal". *Bulletin*, No. 37. The Major Project of Education. UNESCO. Santiago, Chile.

⁵² Messina, G. 1993. *La educación básica de adultos: la otra educación*. REDALF. UNESCO, Santiago, Chile.

⁵³ *Innovaciones en educación básica de adultos. Sistematización de 6 experiencias*. REDALF, 1995. UNESCO. Santiago, Chile.

Table 17

POPULATION RECEIVING EDUCATION - ALL CATEGORIES, PUBLIC PLUS PRIVATE SECTORS, 1991
(Absolute figures in thousands)

Category	South America		Central America and Panama	Gulf of Mexico	English-speaking Caribbean
	Brazil	Rest of the countries			
Total number of persons who received education					
Formal ^a	...	2 754.9	292.0 ^b	2 301.5	10.9
Non Formal ^b	...	1 768.4	64.9	5.6	2.7
Illiteracy training beneficiaries					
Formal ^c	...	1 582.8	192.6	...	4.7
Non Formal ^d	...	254.0	31.8	...	2.5
Number of individuals who continued education Formal ^e	...	938.9	94.2	106.2	2.1
Number of trained individuals					
Formal ^f	...	242.7	5.1
Non Formal ^g	...	133.2	30.4

Source: "The State of Education in Latin America and the Caribbean, 1980-1994". UNESCO-Santiago, 1996. Table 32 (Statistical annex).

- ^a Does not include Bolivia, Honduras, Haiti; of the english-speaking Caribbean, only Aruba and Trinidad and Tobago are represented.
- ^b Does not include Argentina, Brazil, Uruguay, Paraguay, Costa Rica, Guatemala, Honduras, Cuba, Haiti, Mexico; of the english-speaking Caribbean, only the British Virgin Islands and Saint Vincent and the Grenadines are represented.
- ^c Does not include Bolivia, Colombia, Chile, Peru, Uruguay, Costa Rica, El Salvador, Honduras, Cuba, Haiti, Mexico; of the english-speaking Caribbean, only Trinidad and Tobago are represented.
- ^d Includes Chile, Ecuador, El Salvador, and Saint Vincent and the Grenadines.
- ^e Does not include Bolivia, Brazil, Guatemala, Honduras, Haiti, Mexico, of the english-speaking Caribbean, only Aruba and Trinidad and Tobago are represented.
- ^f Includes Paraguay, Uruguay, Venezuela, Panama.
- ^g Includes Chile, Ecuador, Peru, Venezuela, El Salvador, Nicaragua.

6. New demands on education

Among the new demands placed on education, some of the most significant have to do with the increase in primary school graduates, as a direct result of a better quality of the educational supply, and growing a concern with the promotion of peace, human rights, democracy, the environment and, in a word, the quality of life and the speed of technological development, particularly informatics. The new demands accumulate, but for our purposes three were selected on the basis of their more intense and long-term impact on the educational system.

a. Extended and improved middle education: the work-study relationship made compatible

The 90's, harbinger a growing interest in the region to define more precisely the coverage each of the modalities opened to primary school graduates will have, and to elaborate appropriate curricular designs for every type of middle

education offered. This preoccupation has been the result of the swelling numbers of basic school graduates, and of a worldwide debate on the role of middle education. Secondary education, should not be analyzed as an isolated component of society or the rest of the educational system, nor should it be considered an end in itself, as is the case with basic education, since their graduates will move on to a higher educational level or will join the working world. Moreover, secondary education mirrors the great social trends, particularly those emerging from technological change.

The Sixth Regional Conference of Ministers of Education and those Responsible for Economic Planning in Latin America and the Caribbean (Bogota, 1987), showed interest in the world debate on the orientation of middle education (on-going), and stated that "in many countries, the education imparted to adolescents stresses traditional and pre-college academic formation and, consequently, middle education graduates do not receive the kind of

training that will guarantee their successful integration into the country's economic development. This gives rise to an atmosphere of frustration that could founder any policy designed to soften the impact of unemployment or underemployment." Furthermore, there was consensus that research was needed on measures that "facilitate a closer relationship between the productive apparatus and educational activities, without detriment to the latter's main objective—the comprehensive formation of the learner's personality".

In some countries, a massive evolution of secondary education is evident. In fact, ten Caribbean countries boast universal middle education, and in Latin America others have reached gross coverage rates in excess of 70%. Nevertheless, in Latin America and the Caribbean the range of secondary education net schooling rates is considerably higher than the range observed for primary education (in some countries, gross rates barely approach 40% or less), a fact that has prompted the countries to review their expansion policies.

The average annual growth rate of middle education, has risen much faster than the rate of population growth for the corresponding age groups, which would explain a gross schooling rate in the 90's four times greater than in the 60's (Table 1). Annual gross schooling rates exceeded 7% in the 60's and 70's, dropping to 2.6% in the 80's. This is why net schooling rates for the 12 to 17 year old group, has risen steadily from 36% in 1960 to 68% in 1992, while the uptrend is foreseen to continue for the remainder of the century. This trend, in turn, generates new demands and challenges for higher education.

Despite broadened access, enrollment in secondary education is still severely plagued by selectivity. Indigenous, rural and underprivileged urban youths, face considerable difficulties in terms of access to and permanence in secondary education—the school level that provides the best social mobility opportunities. Equity is all but absent for most of these youngsters.

The average growth of the population's edu-

cational level—the product of expanded coverage in past decades—is seen as a characteristic of the swift socio-economic modernization process, and several countries (Bolivia, Brazil, Colombia, Chile and Uruguay) are beginning to formulate development and innovation programmes for middle education. However, the relative expansion of middle education enrollments and changes in job definitions, have rendered its traditional function obsolete, and what is needed now is the ability to learn and adjust to new situations. From a "transmission of accepted knowledge" perspective—which was considered general education basically intended to prepare students for higher education—and a "manual techniques instruction" scheme—characteristic of vocational training considered a last stop before the vast majority joined the working world—the buzz word is developing skills that will enable the individual to learn, both "changes in accepted knowledge" and "changes in job definitions".

Middle education contents and structures have not undergone profound modifications. Some countries have shortened it in order to prolong basic education, extending the period of general education and postponing diversified instruction. Most countries have retained a formal separation between a general academic area (which should prepare the student for accessing higher education) and a technical vocational area (which seeks to prepare the student for the productive and services sector) and, in some cases, a teacher training area. In each of these areas, however, frontal knowledge transmission—a methodology that has proven its growing detachment from economic and social evolution—is still the predominant strategy. Consequently, every middle education modality has undergone a gradual process of curricular obsolescence, providing learning experiences that are increasingly divorced from those required to perform successfully in modern society.⁵⁴ According to a UNESCO/ECLAC

⁵⁴ ECLAC/UNESCO (1992), *op.cit.*

study, academic secondary education is perhaps the segment which most strongly reflects the lack of stimuli for developing rational critical thought, and the rigidity of the system before modern society and contemporary expressions.

Academic or general secondary education –as compared to other alternatives– has attracted an increasing number of youths. Its conception continues to be encyclopedic in nature, and totally detached from the student's milieu and, specially so, from the working world, although 60 to 70% of its graduates move directly into an occupation. Most countries offer secondary education through a wide variety of schools which combine criteria based on abilities and job expectations. In recent years, several countries have combined general education and technical and vocational training, creating specialties in economic sectors where work or self-employment is feasible. Uruguay has recognized⁵⁵ that secondary education is undergoing a “particularly alarming educational crisis”, and that “any educational reform at that educational level would be extremely hard to accomplish in the absence of a profound revision and reform of its management, organization and operation”.

Whatever research there is on technical-professional education, seems to point to its poor efficiency and high cost per student, as well as to the lack of correspondence between courses taken and the occupation effectively performed. Technical education is detached from the productive sector in terms of how formal education is designed and implemented to facilitate the transition to the working world, even when the importance of a sound technical education on economic development and competitive insertion in international markets, has been widely acknowledged. Experiences involving schools associated with productive groups and

“dual education” programmes have been conducted in the past. They have generated curricular designs which tie in with the demands of a heterogeneous, diversified and shifting labour market, and their graduates acquire the necessary skills to assimilate those technologies that best adapt to the different realities and development perspectives of the productive sector. These experiences must be evaluated, and the information they yield ought to be used in the design of appropriate policies in this area.

The importance of technical education, as one of UNESCO's priority worldwide action areas, is reflected in the International Project on Technical and Vocational Education (UNEVOC), an effort that enlists the cooperation of the German government. UNEVOC focuses on three major areas: doing away with the apathy that surrounds technical and vocational education and raising its status within the educational system; reinforcing the ties between technical and vocational education, the industry and the labour market; and, developing technical and vocational education systems. During 1996-97 UNEVOC will concentrate on: promoting the international exchange of ideas and experiences on major general policy issues; increasing national capacity and upgrading technical and professional training; and, facilitating the dissemination of information and international cooperation. UNEVOC has set up a network of associated Centres in Latin America and the Caribbean, and has prepared six case-studies (Argentina, Brazil, Chile, Colombia, Costa Rica and Mexico) on the “Role of Technical Vocational Training in educational systems”. Work on other three case studies on “Policy and legislation for Technical Vocational education, and its link to the working world”, is under way. A joint CINTERFOR/ILO study on the institutional transformation of technical and vocational education has just been completed. Case-studies of cooperation among educational institutions and businesses are also in the making. This type of training would focus on innovative experiences conducted in Brazil, Mexico and Uruguay.

⁵⁵ ECLAC. 1995. “Hacia un rediseño organizacional de la enseñanza secundaria en el Uruguay”. Montevideo, Uruguay.

b. Education and peace, human rights, democracy and environment

The responsibility of forming an individual, rather than merely transmitting knowledge, has placed priority on topics such as: civil rights education, education for peace, health education (including sex education), equal opportunities based on gender, environmental education, and consumer education. These topics will be particularly important in changing the role of the teacher, since in addition to acquiring knowledge it will allow students to develop specific attitudes and behaviours. Given the originality of this approach, the importance of utilizing tried and tested material capable of leading students through relevant learning experiences which take local aspects into account, cannot be overemphasized. As it should, the use of such material is decided by the various local actors involved in the educational process.⁵⁶

Initiatives sponsored by non-formal education NGO's, are responsible for the vast body of knowledge accumulated in the region. Thus, the Ministries and other educational institutions can tap and put to work, a rich well of experience. The advisability of using non-frontal methodologies to internalize values along with acquiring knowledge, is one of the recommendations emerging from this experience. The approach used, must consider the cultural context wherein the educational practice unfolds, as well as the transformation processes built into the new economic management strategies that spur local actors into participating more assertively in decisions involving their school.⁵⁷

Many of these interdisciplinary themes are evolving towards more global proposals, as is

the case with environmental education and education on population, areas which UNESCO and UNFPA –following UNCED recommendations (Rio de Janeiro, Brazil, 1992)– are making efforts to integrate into a form of education and information strategy capable of sustainable human development.

c. Education, informatics and the media

The use of informatics and the mass media for educational purposes in Latin American and Caribbean classrooms, is just beginning. The massive introduction of multimedia and hypermedia into the educational process, reaffirms the need to develop appropriate learning-teaching models. The region is taking first steps towards a school design that favours the capacity to organize and build knowledge and acquire skills to retrieve (access) and use information, rather than just memorize concepts. This design, however, is incipient and must be completed.

Some countries are experimenting, as is the case with Costa Rica. The National Didactic Centre (CENADI) launched in February 1995, features the first "information kiosk" ever, a service unit designed to implement the new type of educational concept Costa Rica envisions for the 21st. century.⁵⁸ Argentina has developed the TELAR network operating in 40 schools connected among themselves via INTERNET. Another 1 400 schools have been furnished with computers.⁵⁹ Brazil, for its part, has the exclusive use of a channel (via satellite) that reaches 50 000 schools (furnished with parabolic antennas when required), 4 hours a day. Programmes are taped by each school to

⁵⁶ See reference, note 42.

⁵⁷ UNESCO/BIE. 1994. Final Report of the Regional Meeting for the preparation of the 44th session of the International Conference about: "Balance y perspectivas de la educación para la comprensión internacional", April 12-14 1994. Santiago, Chile.

⁵⁸ "Kiosko de información. Nuevo servicio para docentes y estudiantes". In: *El educador frente al cambio*. Fifth edition, October 1995. Centro Farben Norma de Apoyo al Docente - Biannual publication.

⁵⁹ Proyecto Desarrollo de la informática educativa. TELAR network. Todos en la red. Ministerio de Cultura y Educación de la Nación, 1995. Buenos Aires, Argentina.

be replayed at a convenient time. Since 1994, Mexico (Monterrey) has been offering computer assistance to 700 education centres including secondary and teacher training schools. Chile's "ENLACES con el siglo XXI" project,⁶⁰ involves 100 schools and 19 support groups that can communicate among themselves through INTERNET, thus making information available to all users of this veritable network of networks. This technology has allowed experts from different countries to dialogue; for its part, UNESCO encourages the formation of virtual groups through the use of this network.

Pre-school education is making use of mass media campaigns (radio and TV) to get parents and the community at large involved in the early stimulation of their children. Excellent, time-tested programmes, such as Sesame Street are available, that tend to benefit middle income urban families since its impact on children is proportional to exposure time. Various other initiatives promote non formal community-supported programmes.

The MPE's Regional Intergovernmental Committee has recommended to the Member States their unconditional support of actions leading to a type of education that makes critical and creative use of the mass media, and to a continued refinement of strategies that use these media to drive and reinforce formal, non-formal and informal educational processes. Pursuant to this recommendation, UNESCO has developed several initiatives that highlight the use of an experimental innovative method called "Critical Approach Method" (MAC) as well as "Interactive Distance Education". Since the late 80's UNESCO has improved on MAC's design⁶¹, a methodology that requires each student to build on his own learning (fol-

lowing suggestions contained in learning material arranged sequentially by the teacher). Newspaper articles, radio and TV personalities and shows, provide topics around which situations involving communications and pedagogic scenarios are created, guided by the natural leadership of the teacher. It is a methodological proposal that creates valuable learning situations gleaned from messages originating in museums, newspapers, radio, TV, films, and certain real-life events, depending on the selection made by the group or the teacher, as shepherd of the educational process. In synthesis, it gives an opportunity to massively put to work transdisciplinary and interdisciplinary curricula starting from integrated realities that may be critically read and discussed in open dialogues.

Satellites are also being used in the region. In Mexico secondary education is delivered to every corner of the country via television (telesecundaria). UNESCO, for its part, avails itself of the spanish satellite HISPASAT in coordination with INTERNET to create a powerful interactive learning educational tool. Through it, a network of universities -currently 35 universities in 15 countries are participating- and higher education institutions, address issues relating to new contents and quality standards in education. By 1996, the experience is expected to encompass the whole region.

7. Research and information for decision-making

The Major Project of Education has processed a tremendous volume of data and gone to great lengths to use this information in the accurate definition of educational problems, and the careful selection of the most suitable experiences to tackle them. UNESCO has steadfastly gathered and analyzed statistical data in order to identify long run trends, and collaborated with REDUC in an effort to produce research that facilitates the analysis and evaluation of gradual progress in terms of problem defini-

⁶⁰ ENLACES con el siglo XXI. Ministry of Education programme - taking computer science to the classroom. Temas emergentes, *La Nación*, May 2, 1995.

⁶¹ Matute, A. 1991. "El método de acercamiento crítico. La calidad en el proceso educativo". UNESCO. Santiago, Chile.

tion and the search for solutions. The series on "The State of Education in Latin America and the Caribbean", reports published in the Major Project's Bulletins, and the various books and studies published, give an indication of the work undertaken. Nevertheless, new initiatives are called for and, along these lines, the World Bank, the IDB, USAID and the Ford Foundation, have agreed in joint collaboration with UNESCO to develop a mechanism intended to improve the quality of statistics in every country, as well as its processing at the regional level. Once in possession of comparable and accurate data on performance-limiting variables, more appropriate teaching policies and strategies may be implemented. Computer programmes are needed to help carry out comparative analyses between the countries and reduce the inconsistencies that limit the validity of the information and the rationality of the decisions.

UNESCO has developed computer analysis models to counter the deficiencies inherent in the poor quality and reliability of statistical data, distorted perhaps by decentralization processes, the excessive workload of the teacher responsible for delivering the information, or the lack of awareness on the part of the authorities (national, regional and local) of the important role information plays in decision making (which may well be the result of slow or improper processing mechanism that is never re-evaluated and improved upon).

UNESCO is sponsoring an "item bank", and conducting for the first time academic performance measurements in over a dozen countries. This initiative is expected to increase substantially specially after the IDB and the Ford Foundation also pledged UNESCO their support. Eventually, these data will be processed and associated with all available information on schools which form part of the respective samples (see point 4a. above). Progress has also been made in terms of functional illiteracy characterization, with no less than seven countries having been measured, so far.

The creation and systematic use of basic

indicators on education⁶² –tools designed to carry out comparative analyses of the region, despite difficulties on data gathering, processing, analysis and utilization– is another area where considerable progress has been observed. The limited use of available information may be attributed to the scarcity of analytical models, computer time and software programmes, and specialized human resources. SIRI has been responsible for developing models that measure access to primary education, entry age, permanence in the system, progress in the higher grades of basic education, and grades ultimately passed, giving rise to new indicators, softwares and study methodologies that the various countries may adapt to their specific needs. The use of micro and macro indicators side by side (for instance, the number of cohorts attending first grade versus the rates of repetition reported by the school principal), may detect the existence of inconsistent data and, if that were the case, provide alternative methods of analysis. Progress in this area, is largely due to regional cooperation.

SIRI has also developed analytical models designed to integrate the findings of multiple research on the causes of low quality education, and high repetition and temporary drop out rates, although much work is still needed along these lines. Yet, more specific research is required in order to test the validity of the hypotheses generated by these models, particularly the relationship between school failure with poverty and family socio-economic status.

Some countries find it extremely difficult to fully use the statistical information which is made available through the various sources (censuses, home surveys, statistics issued by the Ministries of Education, social surveys, and specific research). Others, limit the participation of those responsible for generating educa-

⁶² See *The State of Education in Latin America and the Caribbean, 1980-1994* (Statistical annex). UNESCO. 1996. Santiago, Chile.

tion statistics, in the design of measuring instruments. These limitations were uncovered by a joint UNDP/UNESCO study on Information and Education within the framework of Human Development in Latin America and the Caribbean. This study was based on information obtained in Home Surveys in the various countries, and examined the relationship between education, employment and income, particularly among women and youths.⁶³ Representatives of Ministries of Education and research institutions, as well as Latin American specialists, corroborated these problems at a subsequent Regional Workshop on Education Indicators for Human Development sponsored by UNESCO.⁶⁴

It is necessary to gather accurate data on the situation of the teaching staff in the various countries, given the major role they play in the learning process and in the equity of the educational supply. It is important to compare workload distribution (students per teacher) in the schools, as well as teachers' ranking and remuneration systems. Some countries rank their teachers as "docentes" (university and non-university) and "no docentes" (university, middle education and non-graduates), and use remuneration schemes based on experience, education and training or upgrading. Once available, this kind of information will make comparative studies possible, and the impact of teachers' traits on the academic performance and education of their students, may be ascertained.

The dissemination of regional educational research findings, has had the unwavering backing of the IDB through a programme currently under way with the cooperation of the educational research network REDUC. As the use of INTERNET is progressively intensified,

access to REDUC's 30 000 duly classified studies and research papers will become easier. This type of information has allowed conducting more accurate educational assessments in a number of countries (for example, Bolivia, Colombia, Costa Rica, Chile, Paraguay and Peru). The Caribbean is benefiting from a similar initiative spurred by CARICOM.

UNESCO and UNICEF have worked together in identifying and selecting successful experiences in the region involving enhanced quality and equity of the educational supply. Among the most noteworthy strategies are the following: self-learning materials, initial education, bilingual education, classroom libraries, education to children with special learning needs, prolonged learning time, measurement and publication of learning achievements, increased participation by parents and civil society in school management (including payment of salaries in rural schools), new organization and management schemes, exchange of research findings and information, and the devising of mechanisms that lead to a consensus in terms of education enhancing strategies.

Following a request from the Ministries at PROMEDLAC III (1989) and MINEDLAC VI (1987), a new type of specialist –information design and utilization expert– has been created in recent years. UNESCO has trained over 200 such specialists in the seven regional planning courses offered between 1989 and 1995. This personnel has been trained to foster the development of modern education information systems that may efficiently support an adequate policy decision making process.

In short, great efforts have been made to respond to the permanent interest evidenced by Ministries of Education in terms of "strengthening statistical information services with methodologies, techniques and equipment that facilitate the use of relevant indicators in the programming, follow-up and evaluation of National Action Plans or equivalent documents, in coordination with the MPE's Regional Information Service". There has been considerable progress made, however, there is

⁶³ Latorre, C.L. and González, L.E. 1996. *Perspectiva educativa del desarrollo humano en América Latina*. UNESCO/UNDP. Santiago, Chile (in print).

⁶⁴ Regional workshop on education indicators for human development in Latin America, January 23-27, 1995. UNESCO. Quito, Ecuador.

a need to ensure the proper coordination with activities outlined in bank financed projects. The supply of sound statistics and information must be increased in order to satisfy the demand for information on the part of decision makers.

8. Administration, planning and management

The new development models and democratic regimes are substantially changing *the role of the State and the public institutionalality of society's involvement*. The State has gone from playing a central protagonic role, with the creation of the MPE in 1980, to one devoted to motivating, stimulating innovation and establishing norms, all of which points to a more professional role by the State and a considerable shift in terms of administrative structures. The purpose of challenging the State's management capacity and the efficiency of centralized systems, is to grant more autonomy and democracy to the local level, as well as greater participation to the community in order to reap improved efficiency, greater resources and a higher standard of education.

The professionalization of educational executives, the attention given to school management and the learning process as it unfolds in the classroom, are linking policy decisions to classroom experiences and to participation by other education actors.

In an attempt to implement these new views, PROMEDLAC V recommended professionalizing the actions of Ministries of Education.⁶⁵ *This professionalization of the educational action* implies the systematic development of education founded on specialized knowledge, so that decisions regarding what is learned, how it is taught and the organizational forms that make it possible, are based on scientific and technical progress; accountability is specified;

and the ethic criteria that govern the profession according to the various contexts and cultural characteristics, are set forth. Such professionalization, however, is not exclusively a technical initiative, but it must be envisioned within a framework of consensus, and stable and democratic educational agreements.

Decentralized execution makes mandatory to: create national standards for the educational process, and systems to evaluate its results; develop new follow-up levels and modalities for local activities relying on information technology; design procedures to evaluate valuable learning experiences outcomes that may help teachers in their decision making; generate the ability to focus on inequality-reducing actions; and, develop a policy that spurs innovation. Argentina grants US\$ 150 millions per year, to the principals of some 10 000 schools with projects approved at the provincial level.⁶⁶ Brazil delivers US\$ 200 millions annually, to the PTA's of over 40 000 schools. In countries such as Chile, Costa Rica, Ecuador, Nicaragua and Venezuela, among others, funds are also assigned directly to schools (or associated institutions).

Under the modified *autonomous management regime*, the educational units have reformulated their functions and incorporated actors who are true participants in decision making and daily school practices, as spearheads of a new school organization and culture; set the specific objectives of learning in cooperation with teachers and other segments of the school community; used reliable procedures that guarantee higher standards than those achieved through duly tested procedures; defined achievement indicators that substantiate pedagogical decisions and resource allocations; developed positive expectations for students; and, coordinated shared objectives within an institutional development plan which includes the school's pedagogical project. Thus, schools are

⁶⁵ V reunión del Comité Intergubernamental del PPE, June 1993. UNESCO. Santiago, Chile.

⁶⁶ Acciones compensatorias en educación 1993-1995, Plan Social Educativo. 1996. Buenos Aires, Argentina.

encouraged to carry out educational innovations while guaranteeing that students will attain, at least, reasonable levels of achievement based on tried and tested methodology manifested through precise instructional stages, that is, ensure that students will be buffered from the effect of poor pedagogical practices.

The school principal plays a key role in efficient school management which is why no efforts are spared when it comes to selecting candidates for the position. In Minas Gerais, Brazil, the State has introduced a radical reform which imposes on the candidate the passing of a management proficiency test as well as the previous elaboration of a working plan for the school. This plan is then voted on by parents, teachers and students.⁶⁷ Evaluation of the impact of this experience on the learning process of these children, will provide an important piece of information a few years down the road.

During the fifteen years of life of the Major Project of Education, *the search for an efficient and relevant school system has focused on decentralization*, albeit, with no appreciable results thus far. Decentralization processes may involve either administrative or curricular aspects, since their dynamics are different. The former are concerned with coverage, student flows and overall system funding, while the latter focus mainly on relevance and learning. Each can function independently of the other. In fact, several countries are suggesting the alternative of delegating a portion of their curricular functions through a central curriculum or minimum objectives (Argentina, Chile, and Panama) or through regional adaptation (Costa Rica, Mexico, and Panama); still others advocate a decentralized administrative structure in terms of contracts, transfers, constructions or permits (Argentina, Brazil, Colombia, Costa Rica, Chile, El Salvador, Mexico). Education is currently bouncing between globality and

locality, both in regards to management practices and curricular contents.⁶⁸

The region exhibits different types of educational decentralization: one reflects the federal character of the countries as is the case with Argentina, Brazil and Mexico; another favours municipal decentralization as exemplified by Chile, Colombia, Costa Rica and, more recently, Bolivia. Still others, place emphasis on the establishment itself, as observed in El Salvador, Nicaragua, the Dominican Republic and the Caribbean. Broadly speaking, these processes have underscored the decentralization of functions and not so much that of technical or financial resources, a fact that has worked against the attainment of quality goals as envisioned by decentralization reforms.

Within the framework of the Major Project of Education, UNESCO through REPLAD, has characterized decentralization models and compared their elements and effects.⁶⁹ Moreover, it has trained planners and administrators in decentralized management techniques with special emphasis on basic education quality and improvement.

9. Funding education

The priority the various countries assign to developing education, is reflected in increased public resources earmarked for education (Table 18), and in the higher allocations announced by various countries (Argentina, Brazil, Chile, Costa Rica, and Panama, among others). But these efforts are still not as ambitious as those of developed countries. In Latin America and the Caribbean, the increased resources are not devoted to making more of the same, but to substantially improving the academic outcomes of the educational system and extend cover-

⁶⁷ UNESCO, Bulletin, *Basic Education News*, No. 1, April 1995. UNESCO, Paris, France.

⁶⁸ Casassus, J. 1995. "La educación entre la globalidad y la localidad". In FLACSO Seminar (Argentine) on Construction of local educational policies. UNESCO. Santiago, Chile.

⁶⁹ REPLAD-IIIEP. 1993. Seminar on educational decentralization. UNESCO. Santiago, Chile.

age. Financial resources constitute a necessary although not a sufficient condition to meet educational objectives. In fact, the international banking community is ascribing growing importance to education in their resource allocation programmes, which carries the attendant risk of funding educational reforms that may be way too ambitious.

The economic crisis of the early 80's, had a profound effect on the funding of education. During the early part of the decade, public funds earmarked for education shrank 16% in 1980 and again the same percentage in 1985. As a result, per capita public expenditure dropped from US\$ 95 in 1980 to US\$ 71 in 1985, only to rebound to US\$ 124 in 1992.

Although more resources may be funneled towards education, whatever resources are available could be used to enhance its quality, provided the role of the teacher changes and the stage is set for active, individual and group learning experiences. In 1992, Latin America and the Caribbean's investment per citizen amounted to one sixth of the amount developed countries allocate to education. Their relative effort is greater than that of Latin America and the Caribbean (5.3 versus 4.4%), even

though their per capita income is much higher. This weaker effort translates into rather poor working conditions and social appreciation for teachers. The system's low efficiency, expressed through low academic achievement and high repetition rates, leads us to conclude that even when the need for greater resources is real—in order to expand pre-school education, improve secondary and occupational education, and foster scientific and technological research—the need to make more efficient use of available resources, specially those for basic and middle education, is vitally important. As a matter of fact, better teaching methods would allow (with the same amount of resources) to reduce school failure even among low income family students.

Limited funds for education, a situation observed in most countries, has prompted the search for other resources to maintain the investment and sustain current schooling levels. Coverage has been expanded, thanks to public state and municipal education entities, cooperating with the private sector, and to the increasing participation of NGO's in non-formal education actions geared towards high risk populations. Some countries have enlisted the

Table 18

ESTIMATED GOVERNMENT OUTLAYS EARMARKED FOR EDUCATION

<i>Region</i>	<i>Year</i>	<i>Total amount (billion US\$)</i>	<i>Percentage of the GNP</i>	<i>Per capita expenditures</i>
Latin America and the Caribbean	1975	13.7	3.6	42
	1980	34.2	3.9	95
	1985	28.5	3.9	71
	1990	46.1	4.1	105
	1992	56.7	4.4	124
The rest of the developing countries	1975	27	3.6	10
	1980	64	3.6	22
	1985	69	3.8	22
	1990	110	3.8	31
	1992	147	4.0	40
Developed countries	1975	308	6.4	286
	1980	481	5.4	420
	1985	522	5.3	441
	1990	902	5.3	736
	1992	1 028	5.3	828

Source: UNESCO, Statistical Yearbook 1994, Paris, 1994.

Note: Information for the "rest of the developing countries" was obtained using both GNP and population statistics and the percentages derived thereof; then the difference between information for the total number of "developing countries" and "Latin America", was computed.

Table 19

PERCENTAGE DISTRIBUTION OF CURRENT PUBLIC OUTLAYS BY EDUCATIONAL LEVEL, 1980 AND 1990

Country	Primary		Secondary		Higher	
	1980	1990	1980	1990	1980	1990
Argentina	40	52	26	25	23	23
Barbados	32	38	32	38	18	19
Bolivia	59	56	11	10	17	23
Brazil	45	49	18	15	19	26
Chile	45	56	18	15	33	22
Colombia	45	32	27	28	24	21
Costa Rica	28	31	22	17	26	36
Ecuador	21	42	19	32	16	14
Guatemala	37	50	12	15	18	35
Haiti	59	53	20	19	10	9
Honduras	62	54	18	19	19	21
Jamaica	35	37	37	33	19	21
Nicaragua	56	56	28	12	16	32
Panama	46	37	22	23	13	21
Paraguay	47	48	31	24	22	28
Peru	64	61	8	15	7	9
Trinidad and Tobago	47	43	35	37	10	12
Uruguay	48	38	33	30	16	23
Region	45	44	21	23	18	20

Source: IDB. Latin America in graphs. Demographic, economic and social trends, 1994-1995

participation and commitment of the productive private sector through tax deduction inducements applicable to contributions. Furthermore, responsible agents in a particular sector are getting ready to vie with other sectors to attract available public resources, and external ones as well. In the 1990-94 period, these amounted to 1.5% of the region's public spending on education.

There is tremendous variation when it comes to the political will of the different countries, with regard to the relative amount of funds each of the educational levels must receive (Table 19). As a rule, countries allocate between 30 and 60% of their resources to basic education and between 9 and 30% to higher education. The differences in resources assigned to middle education are also considerable.⁷⁰

The low remuneration levels characteristic of the teaching profession deserve to be addressed separately, since they are giving rise

to a vicious cycle involving the selection of substandard candidates and the poor quality of teacher training programmes—an occupational area virtually monopolized by the State—the result of public budget restrictions, disregard for professional success, and the poor quality of education imparted to students. Teacher unions have focused on raising their salaries to acceptable levels, neglecting the opportunity to improve on the results yielded by the educational system which, in turn, prevents society from improving their wage expectations. Systematic comparative studies on salaries earned by teachers and the factors determining them are needed in the region. However, when unemployed degreed teachers in the cities will not accept working in rural areas (so the position must be filled by a non-degreed teacher), it is evident that salaries need to be revised upward until they become enticing enough for degreed teachers.

In summary, the search for new financing formulas that increment public spending in educational matters continues. Concurrently, the fact has been acknowledged that available resources must be assigned more equitably (positive discrimination) and used more efficiently.

⁷⁰ *Latin America in graphs. Demographics, economic and social trends, 1994-1995.* Inter-American Development Bank.

Likewise, there is awareness that the comparative advantages conferred by institutions, national, regional and subregional groups and programmes as well as those provided by international institutions, organizations and existing networks, should be fully utilized in the concretion of the MPE objectives.

10. International cooperation

In the region, over half the investments on education (including most quality enhancing innovations) are funded with foreign resources. Important educational reforms have been implemented thanks to external assistance or to more efficient use of domestic funds or to new cooperation mechanisms between countries. In the 1990-94 period (Table 20), over US\$ 1.1 billion went to financing educational projects in the region.

As of the 90's, increased international cooperation on education has taken the form of international research that identifies education as a key element in the eradication of poverty and inequality in the region. The World Bank and the Interamerican Development Bank are two of the major organizations responsible for financing a large number of educational projects. New strategies for coordinating efforts between the multiple assistance agencies and international organizations are being sought, in order to contribute more systematically to the initiatives undertaken by the individual countries.⁷¹

The insufficient capacity shown by most countries to manage and make efficient use of international contributions, constitutes a serious threat to any initiatives to increase assistance. The elaboration, follow-up and evaluation of projects for financing educational programmes, requires the efforts of well qualified full-time teams at the national headquarters of

Ministries and Secretariats of Education, who can match their international counterparts. It should be noted that figures on international cooperation submitted by the various countries were, in general, considerably lower than those reported directly by the agencies (Table 21).

The cooperation networks promoted by UNESCO within the framework of the Major Project of Education, have strengthened horizontal cooperation in the region. Four specialized networks have found support in the various countries and cooperated with the area's governments and NGO's: the regional network for the training, innovation and research in the fields of planning and administration of basic education and literacy programmes (REPLAD); the programme for innovation and change in teacher training to improve the quality of education (PICPEMCE); the regional network for training of personnel and specific support in literacy and adult education programmes (REDALF); and, the Regional Information System (SIRI), responsible for gathering, processing, analyzing and disseminating the information that allowed the various countries and the Intergovernmental Regional Committee to adopt decisions to fulfill the objectives of the Major Project.

For their part, four international agencies (UNESCO, UNICEF, UNDP, and the World Bank) sponsors of the Jomtien Conference (1990) have worked jointly in the countries of the region, participated at PROMEDLAC V (1993), and collaborated in the follow-up to the Nariño Commitment associated with the World Summit in favour of Infancy (September, 30, 1990).

In short, technical cooperation among developing countries (CTPD) has been reinforced while new information exchange and analysis mechanisms are beginning to operate. The evaluation of these experiences reduces implementation errors in subsequent applications. For example, development of the "Escuela Nueva" project in Colombia required 20 years to become a success story at the national level. The results of this experience are now available,

⁷¹ McMeekin, R.W., 1995. "Coordination of external assistance to education in Latin America and the Caribbean". UNESCO. Santiago, Chile.

Table 20

ANNUAL AVERAGE OF EDUCATIONAL AID BY COUNTRY AND COOPERATION AGENCY, 1990-1994
(In thousands of dollars)

Agency	Ar- gentina	Bolivia	Brazil	Chile	Co- lombia	Costa Rica	Ecuador	El Sal- vador	Gua- temala	Hon- duras	Ja- maica	Mexico	Nica- ragua	Pa- nama	Para- guay	The Domi- nican Re- public	Uru- guay	Vene- zuela	The Ca- ribbean countries	Other	Total	
World Bank	38 000	8 000	211 900	34 000	22 800	4 600	17 800	-	-	-	6 400	251 400	-	-	-	3 000	6 300	29 500	8 200	1 400	643 300	
IDB	109 590	16 000	20 400	26 773	-	5 600	197	2 880	-	-	5 600	113 938	-	-	14 709	-	5 868	12 670	37 400	17 720	-	389 345
Japan	858	1 744	5 084	902	507	919	188	94	1 064	1 928	152	1 218	104	716	2 355	1 204	801	150	247	86	26	20 346
USAID	-	263	-	527	-	2 510	-	2 818	2 859	2 749	534	-	1 007	-	-	-	571	-	-	1 634	380	15 852
Great Britain	-	230	1	65	218	119	544	-	57	16	576	306	193	-	18	879	-	-	8	3 726	-	6 956
UNESCO	227	200	313	92	100	300	100	100	1 033	300	300	1 237	176	200	200	100	215	200	400	45	-	5 938
Germany	-	-	-	4 940	-	-	7	-	0	1	-	-	-	-	-	4	-	946	-	-	2	5 899
UNDP	1 594	-	-	2	-	-	-	-	1 262	24	189	-	-	120	-	329	9	-	139	-	217	3 885
European Union	-	-	-	1 665	-	-	-	-	-	182	-	-	2 000	7	-	-	-	-	-	-	-	3 854
OAS	352	88	138	234	248	171	96	93	102	101	123	337	94	174	121	111	-	92	301	607	105	3 687
Spain	-	-	-	3 452	-	12	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	3 480
Sweden	-	-	-	2 795	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 795
UNFPA	-	200	150	-	125	100	120	400	150	150	-	500	100	88	-	125	-	175	-	300	-	2 682
The Netherlands	-	-	-	277	-	574	-	-	-	1 466	-	-	47	-	-	-	-	-	-	-	-	2 364
World Food	-	-	-	-	-	-	-	2 220	-	-	-	-	100	-	-	-	-	-	-	-	-	2 320
France	-	-	-	1 988	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 988
Canada	-	-	-	1 738	-	3	-	-	-	137	-	-	-	-	-	-	-	-	-	-	-	1 878
Denmark	-	-	-	1 655	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 655
UNICEF	27	-	-	39	-	110	-	-	-	271	-	-	195	90	-	-	-	60	-	-	-	792
Luxemburgo	-	-	-	-	-	-	-	-	-	-	-	-	500	-	-	-	-	-	-	-	-	500
Austria	-	-	129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129
Belguim/CIFRAN	-	-	-	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93
Israel	-	-	-	68	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	69
Italy	-	-	-	-	-	-	-	-	-	62	-	-	-	-	-	-	-	-	-	-	-	62
Norway	-	-	-	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36
Van Leer Foundation	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Other agencies	-	-	-	-	-	189	-	288	-	-	-	-	-	56	-	-	8	-	-	-	-	540
Total	150 648	26 724	238 115	81 347	23 998	15 206	19 052	8 893	5 593	8 119	13 875	367 999	5 577	1 442	17 402	2 727	10 475	20 442	67 970	32 373	2 474	1 120 452

Source: Robert McMeekin. "Estudio de la coordinación de la asistencia externa a la educación en América Latina y el Caribe". UNESCO/WB/DB/UNICEF. Debate document.

Note: Preliminary figures. Explanatory notes to the table may be found in the source.

Table 21

COMPARISON BETWEEN INFORMATION PROVIDED BY THE VARIOUS COUNTRIES AND DATA SUBMITTED BY ALL OTHER SOURCES. AVERAGE ANNUAL EXTERNAL COOPERATION TO EDUCATION, 1990-1994 PERIOD
(Thousands of dollars)

Country	Reports by countries	Reports by all other sources ^a
Argentina	1 004.1	150 684.7
Brazil	607.7	238 190.0
Costa Rica	20 080.9 ^b	81 309.1
Chile	15 417.5	12 744.3
Cuba	58.9	58.9
Ecuador	26 681.4 ^c	19 093.7
El Salvador	11.9	10 816.2
Honduras	7 900.8	9 956.6
Nicaragua	10 328.2 ^d	9 090.5
Panama	562.2	1 487.8
Uruguay	21 301.9	20 489.9
Total	103 955.5	553 921.7

Source: Robert McMeekin. "Estudio de la coordinación de la asistencia externa a la educación en América Latina y el Caribe 1990-1994. UNESCO/WB/DB/UNICEF. Debate document.

^a Includes data by countries and international organizations from Table 20.

^b Report includes aid from Agencies that did not submit information to be included in Table 20.

^c Would include information for years outside the period under consideration.

^d Includes information on AID contributions that are not included in Table 20.

and several countries have successfully adapted the model to their own contexts, in a matter of a year or two. CTPD has increased its information exchange frequency and facilitated official visits among countries, for the purpose of becoming acquainted with successful experiences (at the regional, subregional and horizontal levels).

11. Contribution of higher education to the MPE

The countries have followed the recommendation adopted at PROMEDLAC II (1987), in the sense that efforts aimed at associating higher institutions with the attainment of MPE objectives through networks and other mechanisms devised by the Member States in order to implement their national policies, would have to be intensified.

In addition to efforts oriented at enhancing the quality of teacher training programmes (particularly, reading-writing instruction), university teams have launched a large number of studies and innovations (including preparation of material), with particular emphasis on measuring aca-

dem performance levels. Although education institutions carry out very little research, as shown by a study conducted by the Organization of Ibero-american States,⁷² there are university specialists in Psychology, Sociology and Economics whose contribution towards understanding the problems that afflict the region's educational systems, has been significant.

Some countries have attempted to give institutional support to the teaching profession by demanding a university or higher level (post-secondary) education. However, available evaluations have shown that teacher training seems to have no effect on academic performance and, for now, multiple formation modalities co-exist in the region: middle and higher level education (university and non-university). At the latter level, the pedagogical and the pluridisciplinary university models share the same spotlight. Efforts are currently

⁷² García-Sípido (1994), *op.cit.* See, also, Rodríguez, E. 1992. "La formación y el perfeccionamiento del profesor desde una perspectiva de profesionalización docente". OEI. Santiago, Chile.

being made to design a teacher training programme that raises the professional standard of future educators, to the extent that teachers perform as presenters (rather than transmitters) of learning experiences, and (through a learning "model") change the existing relationship between the potential teacher and knowledge, and teacher and know-how, and value (and pursue) the models used by educators in the very formation of the future teacher.

12. Lessons learned in the period

Analysis of the progress made towards achieving MPE objectives and the tasks that are still pending, show that there are distinct goals shared by all, and unfinished undertakings that require strong political will. To the extent that the region intends to simultaneously minimize the difference in development rates with other areas of the world –by successfully vying with Europe, North America and the emerging asian countries in the international markets, and taking active part in globalization– and narrow the poverty and inequality gap, it must complete profound reforms to the educational system with creativity, and long term policies and strategies inspired in a consequent social policy that enhances efficiency and effectiveness, promotes quality and equity, and the formation of human capital for development.

Since 1991 –when PROMEDLAC IV reformulated the importance of generating a new style of education centred on developing the individual's skills and attributes so he/she can participate in the fair, pacific and solidary society of the 21st. century– successful experiences have been carried out that evidence the feasibility of implementing effective innovations in the quality of education. Their analysis suggests the advisability of integrating them into a reform process designed for long term effects; such a process, would rely on a national consensus, different for each country. During this consensus-building stage, at least three of the elements present in any substantial reform, should be analyzed in some detail:

positive discrimination for deprived students; alternatives to the frontal teaching method, to be used at least part of the classroom time; and, reinforcing a tradition of empirical research in education.⁷³ Whatever the nature of the proposal, the experience accumulated by the Major Project points to ten strategic lineaments that should be considered before implementing: a) coordinate education and development strategies; b) encourage educational development strategies that integrate values, particularly those associated with peace, tolerance and democracy; c) structure alliances with other sectors and actors, specially with the mass media, on the subject of education; d) prevent learning difficulties through initial education; e) elaborate learning materials that reflect the curriculum, so that it may be smoothly implemented and thus raise the quality of basic education; f) use modern approaches to reading-writing learning techniques; g) train and professionalize teachers who catalyze the educational system; h) review the relevance of middle level learning objectives and processes; i) update planning and management modalities in keeping with the new role of the State; j) diversify the educational services' financial sources.

a. Coordinating education with development and poverty eradication strategies

The dialogue between national authorities of the social and educational sectors, including those responsible for economic and financial leadership, constitutes a powerful combination capable of disrupting the vicious cycle of poverty. Although education is not the only determining factor, but one of many, it clearly represents a tool for overcoming it, particularly

⁷³ Schiefelbein, E. 1995b. "Education reform in Latin America and the Caribbean: An agenda for Action". World Bank's Annual Conference on development in Latin America and the Caribbean (ABCD-LAC), Rio de Janeiro, Brazil (June 12-13, 1995). UNESCO. Santiago, Chile.

when the educational policies implemented and executed, are seen to bear such a close relationship to social and economic policies. Although programmes should be targeted, it is wise to remember that there is no better occupational training than a good quality education that includes rural areas, women and indigenous populations. In light of the considerable progress made by some countries, horizontal cooperation should be encouraged so that the understanding of problems and the design of effective national initiatives, may be visualized from a broader perspective.

b. Developing schools that promote peace, tolerance and democracy

Mainstream schools must continue to be developed, so that every student may learn within the boundaries of his own capacity, but also be offered the opportunity to work in groups and develop tolerance and consensus building capacities. These schools can integrate different types of students and provide a more flexible education customized to the various needs. They represent the most effective means for fighting discrimination, fostering solidarity and cooperation among students, providing an efficient education for all, and improving the cost-efficiency ratio of the entire educational system. These institutions are capable of handling children with learning needs, while keeping special schools closely linked to regular education proposals. On occasions, these schools can be turned into community or regular school support centres, offering guidance to parents and teachers, providing materials, contributing with diversified curricular proposals and more flexible evaluation procedures, incorporating more personalized and participative teaching methods, using a variety of material, and availing themselves of every possible specialist in order to deliver the type of education that best meets the students' needs.

c. Coordinating new alliances centred on education

Public opinion has a growing voice in defining priorities and allocating resources; information and communications, in turn, seem to bombard the school milieu. There is a need to promote, through the mass media, a national debate on problems and possibilities surrounding education. At the same time, students must have access to the debate, be given the capacity to confront the huge flow of information, be selective, and comprehend to a significant degree. Telecommunications will provide students with knowledge of various cultures and realities, as long as they receive opportune suggestions (through the teacher or learning material) to help them assess the characters or examine the presumptions and messages implicit in the mass media. Moreover, information may be examined in any order desired while it lends itself for simulating complex phenomena. These media facilitate the creation of teacher-student reflection spaces, and support the function of the educator. Multimedia technology makes possible the combination of images, texts, documents, graphic data, and sound right from the computer with the active participation of the user. For the student, its merit lies in the fact that the material may be utilized over and over again, and in the creation of work report and class presentations. This entails a new kind of training where teachers assume the role of "project task" designers in a multimedia environment, and learning "presenters" rather than mere information "transmitters".

d. Preventing learning difficulties

Most of the learning difficulties detected in basic education can be avoided (or reduced) with the proper early stimulation. Hence, countries have given priority to expanding pre-school coverage and implementing nutrition and health programmes for the entire family unit. These experiences must be systematized,

evaluated, and disseminated through the mass media, so that parents become involved in the early stimulation of their children. Curiously, advances in initial education make it mandatory for basic schools to improve their methodology, so that pre-school children who have benefited from ludic and group methods are not frustrated when encountering the frontal teaching techniques characteristic of basic education.

e. Expressing the curriculum through the learning material

Traditional curricula, seen as a list of objectives, and examples of applications and methodological suggestions, assumes the role of the teacher to be that of a mediator who adapts these elements and designs specific instructions for his/her students to follow (which are transmitted verbally). Since few teachers have enough time or training to accomplish a proper adaptation and prepare their classes professionally, the logical thing to do is to present the examples and suggestions contained in the curriculum directly, as "student guides or instruction modules", which the teacher selects and uses (directly or after adapting them) or discards in favour of his/her own designs (as long as a better outcome than that achievable with professionally designed and tested material can be guaranteed).

f. Giving priority to reading-writing and basic mathematics

UNESCO, in collaboration with top regional specialists, has promoted a review of current reading-writing methods adapting them to the learner's needs, and making sure that teachers are sufficiently trained to bring about the necessary changes in the classroom. Five national networks, in half a dozen countries, are fostering reading practices and functional literacy programmes. In-progress evaluation of these activities seem to indicate that they could soon be extended to the entire region. A similar initiative is under way in mathematics.

g. Teacher training and professionalization

Classroom changes depend, in the long run, on teacher training. To the extent they have been trained under the frontal method, future teachers tend to use it exclusively. Teacher trainers must become "paradigms" that inspire student teachers to learn actively, probing the educational reality and comparing it against accepted theories and recommended practices; in other words, reconstructing knowledge to make it theirs. This critical link to reality constitutes one of the action-research modalities that, along with other active methodologies, should be encouraged. Higher education has much to accomplish in the area of better salaries and, eventually, possible inducements. In addition to promoting initial teacher training, on-going upgrading programmes must be provided to instructors at the different levels of the educational system, through workshops set up in their own or nearby schools. This demands preparing "teachers of teacher training centres", an endeavor that may take a considerable period of time. Argentina has suspended enrollment in the teaching career for one year, in order to improve teacher education. This is an area where the collaboration of regional and subregional research-experimentation on teacher training, is particularly valuable.

h. Redefining middle education: general and occupational

The countries in the region are beginning to face up to the tremendous discrepancy between the current educational supply for youths, their demands, and those of society. The challenge consists of finding relevant answers to both the shifting demands of the labour world and the interests of the younger population, in order to provide a pertinent and motivating education that facilitates their personal growth, and effective integration into the region's development process. This implies offering to basic school graduates a good quality general education (not just memorization requirements).

This task becomes progressively tougher, as a consequence of the rapid expansion of basic school graduates in most countries, and changing requirements imposed by modernity and the society of the future.

i. Institutional and management models adapted to the new role of the State

The newly acquired capacity of the State to promote educational policy within a context of decentralization and greater participation by other social actors, demands a more aggressive role on the part of the school principal, and greater autonomy on the part of educational units and teachers. New management and information utilization methods are being tried in decision-making (which take into account research findings, educational statistics and standardized quality measurements), while efforts are being made to perfect and increase the sources of finance, and fine-tune international cooperation initiatives.

j. Diversifying finance sources

Education is in dire need of increased financing. Salaries ought to be proportional to the new professionalization of modern teachers, the school year should be lengthened, and initial education must be guaranteed to the greatest possible number of children. However, more resources are needed to meet these objectives, and these resources can be procured by enlisting the participation of society as a whole, and making sure that those groups that can provide financial assistance, do so at their fullest. UNESCO has emphasized the growing demand for permanent education for all, and the need for all social actors to share the cost of building a stable society that through the wise utilization of freedom and democracy spaces, may ensure the peace and equity that all Latin America and the Caribbean desire.

PEDAGOGY 97

Since 1986, Cuba's Ministry of Education has hosted congresses on pedagogy aimed at opening a space where educators from Latin America, the Caribbean, and other parts of the world, may exchange experiences, look for common grounds, and disseminate possible solutions to the major problems afflicting their countries.

With this objective in mind, Cuba –as the host country and in joint cooperation with international organizations such as UNESCO and UNICEF, teacher organizations such as the Latin American and Caribbean Teacher Association (ADLAC)– invites educators from the region and the world to participate in PEDAGOGY CONGRESS 97, to be held in La Havana in early February 1997.

It is hoped that the rich educational tradition of each reality will be manifested through discussions in commissions, round tables, conferences and publications of issues such as the quality of education; value building; environmental education; educating for peace and democracy; the school-family-community relationship; early childhood education; rural schools; creativity and the teaching staff; the work-study relationship; education for handicapped children; technical and professional training; adult education; higher education; school administration and supervision; sex education, and others.

For further information, please contact: Organizing Committee, CONGRESO PEDAGOGIA 97. Ministerio de Educación. Obispo N° 160. CP 10100. Havana, Cuba. Fax (537) 622547.

MATHEMATICS IN CARIBBEAN SCHOOLS: THE 90s AND BEYOND

Desmond Broomes*

Current changes in the mathematics curriculum of Caribbean countries contain one clear message. Teachers in primary and secondary schools must emphasize teaching mathematics for understanding and not merely for computational speed and accuracy.

There are many factors that enabled the same clear message to emerge in most countries during the late 80s and early 90s.

First, curriculum developers and mathematics teachers have been very fortunate. Teachers and researchers in no other subject on a school's curriculum have a similar tradition of working together (nationally, regionally and internationally) to address problems of teaching and learning mathematics. The way in which the major issues in mathematics education for the 1990s have been identified bears out the point.

The International Conference of Mathematical Educators (Hungary) 1988, Theme Group 1, The Profession of Teaching discussed issues related to the development of mathematics teachers. The panel members who organised the identification and analyses of issues included persons from USA, Hungary, France, Egypt, Japan, Canada, Italy and UK. In addition, about 30 other individuals from eight countries prepared, delivered and discussed papers within the main theme.

More than ever before, it becomes apparent that mathematics educators around the world (in Africa, in Asia, in Australia, in the Caribbean, in Europe, in North America, in South America) were converging on a common set of issues that affected mathematics in developed and developing nations alike. The Chief Organiser of this Group identified a set of is-

ssues that emerged across all notions as represented in the discussions.

Nine of these issues are presented below:

- Teachers must emphasize problem-solving and higher level thinking as the most important goals of studying mathematics.
- Teachers must stress conceptual development and understanding rather than the memorization of facts or rapid performance of calculations.
- Theories of constructivism and the ways pupils build representation of mathematical concept; have implications for the ways teachers teach mathematics. Teachers cannot be merely broadcasters of facts and theorems: they must provide classroom environments and activities that will facilitate the pupils' active construction of mathematical knowledge.
- Mathematics teaching needs to employ multi-sensory approaches -listening to teachers talk, using visual representations, studying physical modelling and acting out mathematical ideas.
- Estimation and mental mathematics are given increased emphasis in mathematics classes,

* Dr. Desmond Broomes was Senior Research Fellow at the Faculty of Education, University of the West Indies Cave Hill Campus.

especially when calculators are used to perform precise computations.

- Technology will continue to have profound implications for the way mathematics is taught.
- Both pupils and teachers possess unique styles of learning and doing mathematics and so teachers should develop a repertoire of teaching strategies that will better accommodate the needs of individual pupils.
- Testing and evaluation have become major concerns worldwide. The need for assessment which is compatible with goals of modern programmes is a priority concern.
- It is generally agreed that successful teachers integrate both mathematical and pedagogical knowledge. And that knowledge includes: how children think, how children learn, how to motivate children to learn mathematics, how to create appropriate learning experiences relevant to children's ideas, how to engage children in problem-solving, how to facilitate cooperative learning.

The mathematics educators also agreed that good teaching in mathematics is characterized by the following qualities: the flexibility to recognize and accommodate the learning styles of different children; the recognition that there is not just one "right way" of doing mathematics; incorporation of the richness of mathematics into the curriculum and building meaning in mathematics for all learners.

And that one important characteristic of good mathematics teachers is self-awareness of their own teaching, a quality enhanced by reflecting on their own learning as well as on that of the pupils, and by holding discussions with other teachers.

Second, the notional faces of mathematics are very similar in many ways. England and Wales, USA, and the Caribbean serve to illustrate.

About a decade ago an HMI Report (1982) on mathematics in the upper classes in secondary schools in England and Wales (Sixth Form Mathematics) described the major features of the mathematics programme in England as: exposition by teacher exercise done on chalk-board by teacher and student participation by questions posed by teachers exercises done by students in classrooms and home-

work assignment tests and examinations. A telling comment by the authors of this report was that this pattern was similar to the patterns observed in the lower classes and that classrooms "made only limited provision for the interchange of ideas with students and offered insufficient opportunity for students to gain more than a restricted view of the subject".

The same year Cockcroft (1982), reporting on the state of mathematics education in England and Wales, put forward what have become the most quoted lines in the report. Mathematics teaching at all levels should have at least six major features:

- Exposition by the teacher.
- Discussions between teacher and pupils and between pupils themselves.
- Appropriate practical work.
- Consolidation and practice of fundamental skills and routines.
- Problem-solving including the application of mathematics to everyday situations.
- Investigational work (Cockcroft 1982, p. 71).

In the USA the data on mathematics performance were also depressing. Carpenter *et al* (1980) studied data based on 70 000 students of ages 9, 13, and 17 in the USA. They reported: "At all age levels and in virtually every content area, performance was extremely low on exercises requiring problem-solving".

In general, respondents demonstrated a lack of the most basic problem-solving skills. Rather than attempting to think through a problem and figure out what needed to be done to solve the problem, most respondents simply tried to apply a single arithmetic operation to the numbers in the problem. The results indicate that students are not familiar with such basic problem-solving strategies as drawing a picture of a figure described in a problem or checking the reasonableness of a result. (Carpenter *et al*, 1980, p. 338)

Brown *et al* (1988) reviewed data from the National Assessment of Education Progress (NAEP) and concluded that: "students are lacking the conceptual knowledge that would enable them successfully to do the application, problem-solving, and reasoning items on the assessment" (p. 248)

The major mathematics organization in the USA, the National Council of Teachers of Mathematics (NCTM) recommended that problem-solving be regarded as the number one focus in mathematics education. (*An Agenda for Action: Recommendations for School Mathematics of the 1980s*. (1980)

In the Caribbean, the problem of the mathematics curriculum was even sterner. According to Broomes (1989): "The main teaching method used in schools seemed to have been derived from the dominant classroom arrangement. Fixed benches and desks... were arranged in parallel rows facing a blackboard about 120 cm by 120 cm mounted on an easel. The teacher wrote problems on the blackboard, verbally directed the class as she worked through the algorithm, and then presented the class with sets of similar exercises to be done. (p. 34)

Broomes and colleagues (1991) surveyed the status of primary mathematics in fifteen Caribbean countries, and identified the following limitations in the programmes.

Curriculum objectives

Caribbean teachers placed much emphasis on: reading the language, diagrams and figures in order to do mathematics problems in writing; and knowing and applying mathematical concepts and principles in routine problems.

On the other hand, less emphasis was placed on: relating mathematics to other disciplines in the curriculum; developing the ability to apply mathematical principles to different or new situations; and making use of the idea of a mathematical model.

Curriculum content

Teachers tended to place the introduction of topics in grades (classes) which were spread over a wide range. On the whole, they tended to move the introduction of topics to the higher grades in the primary schools and the lower forms of the secondary schools. The introduction of word-problems was often moved to the secondary school.

Teaching methods

Expository teaching was identified as the most popular way of teaching in Caribbean schools. Most teachers used concrete aids mainly in the lower grades of primary schools. The teaching pattern was the same in schools of all sizes –small, medium, and large. However, working in groups of five or six persons seemed popular among large schools' assessment practices. The most favoured assessment practice in primary schools was the written test done at the end of each of three terms in a school year. However, some teachers made use of oral tests, quizzes, and direct observation.

But these were not popular practices. Assessment was done mainly to report the pupils' achievement at the end of the school year.

Areas of difficulty in learning mathematics

Teachers stated that the areas that primary school pupils found difficult to learn include: addition and subtraction of whole numbers, doing word-problems, carrying out operations with fractions, dividing whole numbers by whole numbers, and using place value concepts.

Performance of pupils on tests

When test items were administered to pupils in all 15 Caribbean countries, pupil performance in the four arithmetic operations with whole numbers showed 88% mastery of addition, 78% for subtraction, 61% for multiplication, and 36% for division.

The table 1 shows the performance of pupils (Grades 4, 5, 6) on the four arithmetic operations.

Three findings which have been derived from the table and have useful implications for curriculum renewal and change are:

- At each grade, the levels of achievement across the four operations fall rapidly from very high performance in addition problems to very low performance in division problems.
- The differences between the levels of achievement for pupils of high and low ability are greatest in multiplication and division problems.

Table 1

PERCENT OF ITEMS CORRECT ANALISED BY GRADE ABILITY LEVEL AND ARITHMETIC OPERATION

Grade	Level of ability	Addition	Subtraction	Multiplication	Division
4	Low	67	72	28	10
	High	93	78	68	32
5	Low	78	66	39	10
	High	93	87	87	56
6	Low	87	81	60	25
	High	98	97	90	73

– The most able pupils in Grade 4 have achieved higher levels of performance in all four arithmetic operations than the less able pupils of Grade 5 and of Grade 6.

However, by the beginning of the 1990s, Caribbean educators were defining mathematics literacy for the 1990s as: “requiring much more than the acquisition of certain skills and items of knowledge Mathematics literacy demands that the person acquire meaning; understanding, and insight associated with the mathematical process; and it demands that the person conceive of mathematics as a way of thinking that can with profit be applied to everyday activity in the home, in the work-place, and in the market-place”.

Some responses

Enhancing the regional perspective

Caribbean curriculum developers and mathematics teachers need to go beyond national efforts and seek to become prominently involved in regional associations and commissions engaged in searching for solutions to problems. On the international scene, the Caribbean has much to learn and to teach. (See Broomes *What Caribbean Educators* 1989). It is critical that Caribbean mathematics educators use international organisations such as ICME in a cooperative way to address the problems that face mathematics teaching in the Caribbean region.

For example, one major motivation that

should drive the examinations and curriculum of CXC is the extent to which CXC examiners can place more emphasis on regionalism in the way the examinations are constructed and processed, in the way objectives and content of the syllabus are defined. Indeed this overarching concern with regionalism is a central integrating principle to be continually revised and refined. Therefore Caribbean mathematics curriculum developers should be addressing not the age-old arguments advanced for decades mathematics as utility, as a discipline, as developing reasoning powers as preparation for further studies, etc.

The issues Caribbean leaders in mathematics should address are: the emphasis and feel that are appropriate for different groups of students with different abilities, interests, and career orientations; the skillful weighing that should be assigned to the various reasons for studying mathematics, and; how to teach mathematics so that it is learnt as a way of thinking, communicating, reasoning and representing.

Shifting the teaching-learning paradigms of the classroom

A second response should focus on the classroom. Ideas for formulating this strategy may be gleaned from many sources.

In the Caribbean, the classroom as the place where teachers should probe the nature of teaching and learning is the major lesson learnt from the UNESCO RLA-142 project conducted in the Caribbean. The experiences of a British

researcher working in British classrooms seem valid for our purposes. Ruthven (1989) put forward “an exploratory teaching model” as opposed to a conventional model to address curriculum problems of teaching and learning mathematics.

In the conventional model new ideas are introduced through teacher exposition, in the exploratory model teacher exposition draws on the prior experiences of the students. In the conventional model, exposition is sometimes enhanced by assuming many forms: lecturer question-and-answer, class discussion, each under the central and consistent role of teacher as director and developer of new ideas. In the exploratory model new ideas are introduced through a two-phased process in which exploration (students as leaders and investigators) is followed by codification (with teachers and students playing similar roles).

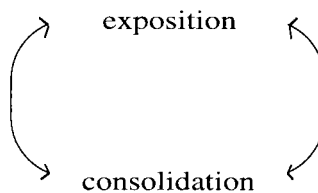
Establishing mathematics across the curriculum

Mathematics should relate intimately and in special ways to the other subjects on the curriculum. Thus at once mathematics presents its classical charm as being the most esoteric and the most practical of human creations.

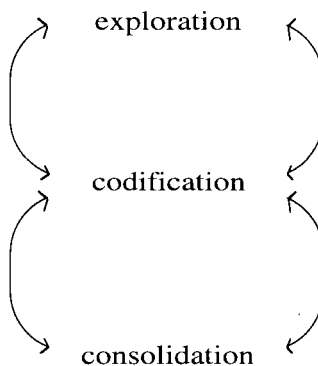
Problems in the real world have over the centuries inspired and stimulated the development of mathematical concepts and theoretical formulations have contributed to solving practical problems that confront us in all aspects of our lives and to giving us a better hold on the essential nature of our problems.

What appears to be happening is that (for example) Biology, Economics, Sociology have become more and more mathematized. Pollock (1979) in the UNESCO publication, *New Trends in Mathematics Teaching*, brings in the evidence of the pervasive interaction between mathematics and all the subjects in a school curriculum.

A useful explanation of the phenomenon may be obtained by presenting a simplified model for describing and studying the interrelations between Mathematics and the real world.



Model 1: conventional



Model 2: exploratory

A formulation by Blum (1988) is very appropriate and serves our present purposes.

The starting point is a situation in the real world with some open questions.

(Real Problem situation)

The situation is simplified, idealized, structured and made more precise according to the interests of the problem solver

(Real Model)

The data, concepts, relations, conditions and assumptions are translated into mathematics.

(Mathematical Model)

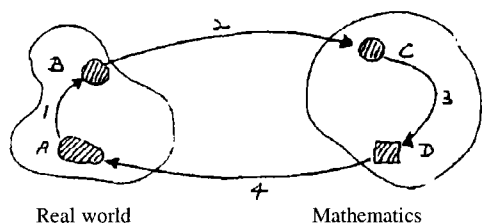
Working within mathematics, certain mathematical results are obtained.

(Mathematical Results)

Results are translated into the real world, that is, are interpreted in the original situation. Model has to be validated.

(Validating Model)

The diagram adapted from Blum (1988) shows the essential elements of the model.



- | | |
|----------------------------|---------------------------------------|
| A = Real problem situation | 1 Specifying, idealizing, structuring |
| B = Real model | 2 Mathematizing |
| C = Mathematical model | 3 Working mathematically |
| D = Mathematical results | 4 Interpreting, validating |

Validating the model may lead to acceptance of the model, modification of the model or replacement by a new model; and thus the latter two situations may require the problem solver to go around the loop in the diagram several times.

The essence of the mathematics curriculum

The data of this chapter, its arguments and its logic, should enable us to introduce a concept that permeated the presentation - mathematization.

- Mathematization is to be understood as a mental process through which the individual brings quantitative and spatial concepts into being, consciously and purposefully, in order to describe, explain or predict phenomena.
- The process has important intellectual, emotional, and physical aspects.
- All human beings have the power to mathematize, each at his/her own level of mathematical sophistication (which is considerably larger than the amount of knowledge the person verbalizes).
- Going beyond the first stage, persons can become aware of the process of mathematization, and so become aware, at least partially, of the way the mind works in certain situations. The existence of the concept of mathematization points to certain clear implications. (Wheeler 1983)
- Teachers' attitudes and perceptions of each student's ability must be optimistic and reflect a commitment that each student is a mathematician in his/her own right and has the ability to construct his/her own mathematics.

- The principal task that must be accepted by each teacher is how to excite into action the mathematical ability that resides in each individual student so that the student is enabled to construct his/her mathematical concepts, and not how to put mathematics into the student's head.
- Learning mathematics in schools requires teacher, student and textbook author to assume roles which are sometimes overlapping, sometimes complementary, sometimes supplementary. This appears to be a key implication.

Defining mathematics literacy for the 1990s

Mathematics literacy requires much more than the acquisition of certain skills and items of knowledge. It demands that each person acquire meaning, understanding, and insight associated with the mathematical process; and it demands that each person conceive of mathematics as a way of thinking that can with profit be applied to everyday activities in the home, in the workplace, in the market place, and on the playing field.

This proposition has at least one major implications: the image of mathematics as a body of fixed and unchangeable context which is passed on convergently to the learner by the teacher, has to be abandoned.

Mathematics literacy demands for its fulfillment, among other things, dialogue between: teacher and learner; learner and learner; learner and author(s) (throughbooks etc.).

Thus the rules that are applicable for language and language and communication situations, social and cultural relations among persons, and reading (that is, decoding and encoding symbols) should be valid for the mathematical learning process as it takes place in classrooms.

Therefore the learning of mathematics (in primary and secondary schools and tertiary institutions) is about a person (the learner) negotiating meaning through dialogue with a teacher or another learner or a textbook author. The learner is invited to view "error" making as an

important heuristic for activities such as problem-solving and problem-posing. Indeed, recent research has focused on investigating how mathematics has evolved as a result of the creative uses of supposed errors and also on how errors have served as stimuli for methods of inquiry.

It is within the dynamics and logic of dialogue that the learner can test the lawfulness of the concepts he is developing. But the dialogue has different dynamics according to the social situation in which it is set.

Guidelines for establishing mathematics literacy within classroom and schools

Mathematics educators in most other countries have come to realize and accept that the broad goals of mathematics education must change with time and respond reasonably quickly to changes taking place in society. An examination of the school mathematics curriculum suggests that in order to promote mathematical literacy school mathematics should at the very least focus on achieving three broad goals:

- Equipping persons with the basic mathematical skills and knowledge needed to engage everyday, real-life problems.
- Developing in persons, ways of thinking and reasoning which would serve to support and enhance their social, economic and technical activities.
- Inculcating in persons certain values and attitudes to enable them to participate in the progress of the community.

It is reasonable to assert that any mathematics programme in the 1990s should emphasize certain basic skills which seem useful for promoting mathematical literacy. These might include the practice of routine skills, using a variety of realistic applications with the aim of relating the mathematics taught in school to daily life; understanding of certain concepts and mathematical methods carefully selected for their wide usefulness; and practising computational mathematics so as to emphasize the conceptual understanding which persons must reach before they are able to apply their knowledge in a routine way.

Problem-solving would also be an important focus of mathematics in the 1990s. The mathematics curriculum should therefore provide opportunities for persons to question, to explore, to experiment, to develop the ability to tackle problems and explore ideas in discussions with others, to confront problems in a variety of forms of a non-routine nature. Developing the ability to think clearly and reason logically is basic to any successful human endeavour. Persons can develop these skills as they learn to explore mathematical ideas, manipulate symbols, develop perceptions of space as they measure and transform objects. In this connection, computers and calculators are used not simply to check the accuracy of computation done manually but as important tools for exploring mathematical ideas thus extending the scope of mathematics activities in schools.

Whatever the outcomes of their learning experiences in mathematics, persons will acquire certain attitudes towards the subject. It is hoped that the teaching strategies used will help persons to understand the links between school mathematics and its application in their own lives; the lives of their parents and the lives of citizens in the market place.

The available evidence shows that the way mathematics is taught in schools and the materials used for teaching it, have tended to remove mathematics from the conscious minds of persons in the community, e.g. the housewife, the farmer, the construction worker, the mother, the father.

When mathematics is taught away from the context in which the subject occurs in real life, the learners may acquire skills needed for doing computations and simple applications, but will seldom be able to apply their mathematics to everyday problems which they meet as citizens.

Awareness of the uses of mathematics in the environment outside the classroom should help pupils think through problems they meet and understand better, many of the things they see. It should also help them to appreciate that an ability to use mathematics in real-life tasks can contribute significantly to the development of themselves and of the economy, and is thus of great importance for nation-building.

The problem of developing mathematical literacy for each individual person needs to be explicated in terms of: clear analyses of the nature and causes of individual differences among learners of mathematics; construction and use of diagnostic aids in mathematics by all teachers who teach mathematics; appropriate and corresponding experiences for teachers of training institutions, at the work-place, and at the market-place; new and corresponding definitions of classroom management and school organization.

The view is widely held that teacher orientation and education is the weakest link in the chain of mathematics education. The teacher should therefore be an important component in any attempts to promote mathematical literacy.

What teachers in the 1990s should know and what teachers should be able to do, need to be motivated by:

The mathematics curriculum they are expected to teach and the mathematics demands of the workplace, the market-place and the playing-fields.

Plans should be carefully formulated in terms of:

- professional development programmes for teachers;
- articulation between programmes within and between levels of schooling;
- changes in management practices in mathematics classrooms;
- defining new roles for teachers, students and community, and in the development of the mathematical competence of students;
- emphasizing the range of human and material resources available for learning, encouraging their use in teaching;
- changes in the purposes, methods and uses of assessment within the classroom and the school;

Mathematics curriculum insights: time, space and content

Curriculum change on a large scale is very difficult to programme, and almost impossible to achieve regionally. This assertion derives from Caribbean experiences with curriculum

development at all levels (primary, secondary, and tertiary) in Caribbean territories, and from the insights of major international conferences over a long gestation period of two or more decades.

During the same time, a generation of educational administrators, curriculum developers, school teachers and advisers to funding agencies have grown up assuming that there exists a body of wisdom about how to programme and achieve large-scale changes in the curriculum. They assert that an appropriate implementation of any curriculum development would lead, with a high probability of success, to certain desired changes which had been carefully set down beforehand by the curriculum experts, that these changed behaviours would at least be present in all pupils, all teachers and in all schools, and would be visible in the short term and the long term.

Low responses to curriculum

That these assumptions are seldom realised have been the lament across the regional and international scenes. Curriculum developers from European, African and North American countries put forward as reasons for this low response among teachers and schools, identical responses as teachers in Caribbean countries.

Teachers, they stated, were unable to change their teaching approaches because:

- teachers and students lacked adequate resources (such as textbooks, workbooks, geometry sets, calculators);
- classes were too large;
- syllabuses and texts of examinations were too rigid;
- students were ill-disciplined and poorly motivated;
- parental interest and support were uneven and sporadic;
- teachers had inadequate time and opportunities for making change;
- teachers were not given the required support such as inservice staff development, helpers for the preparation of materials and for marking exercises.

And these teachers use a variety of languages, live and exist in a variety of cultural settings, and were trained under a variety of programmes.

In November 1992, Broomes again posed similar questions to mathematics educators from 15 countries and again their responses were the same.

Low responses to curriculum changes: An alternative viewpoint

However, there are alternative ways to give meaning to the some flux of impressions by focusing on the problems of low response to curriculum change among teachers and schools and account for this behaviour in terms of:

- *adaptation* whereby the teachers, instead of working in ways specified in the new curriculum, uses his/her preferred style of negotiating a curriculum.
- *corruption* whereby the teacher shortens a specified process in the new curriculum and so distorts the meaning of the process.
- *dilution* whereby the strategy used by a teacher to simplify a problem can result in creating artificial settings, thus making it almost meaningless for the student.
- *inertia* whereby the teacher ignores the curriculum guidelines given and continues to teach in his/her preferred style.
- *omission* whereby the teacher omits certain aspects of the new programme which he/she considers to be not critical.
- *trivialising* whereby the teacher applies important processes newly learnt to situations where other well-known methods are more appropriate.

Varieties of curriculum

The major question is: How can we ensure effective curriculum change in mathematics on a regional scale?

A review of the data on curriculum development shows that there are various definitions of the curriculum:

- C_1 is the curriculum as propounded by the experts.

- C_2 is the curriculum for which appropriate textbooks and other materials have been constructed or selected.
- C_3 is the curriculum which is put forward by the Ministry of Education.
- C_4 is the curriculum which a teacher actually teaches in his/her classroom. And there are as many varieties of C_4 as there are teachers.
- C_5 is the curriculum which is being tested by the accepted examination board. And there are as many varieties of C_5 as there are examination boards.

To be able to control the varieties of curriculum as described above, we need to focus on two related phenomena:

What each teacher does as he/she teaches mathematics in Caribbean classrooms, using mathematics materials with certain desirable qualities in order to prepare students to write certain acceptable examinations, and

What each student does as he/she learns mathematics in Caribbean classrooms, using mathematics materials with certain desirable qualities in order to prepare himself/ herself to write certain acceptable examinations.

Main components of curriculum changes in mathematics

An analysis of the two statements should enable us to set down the main components that should be addressed when curriculum change on a large scale is being planned and implemented:

Our experiences in the Caribbean and the international literature point unambiguously to five components:

Processes: What each teacher does.

What each student does.

Milieu: Mathematics in Caribbean classrooms.

Content: Materials with certain desirable qualities.

Assessment: Certain acceptable and valid examinations.

Research: Teaching and learning, developing curriculum materials, assessing pupil performance.

Summary

This chapter presents a framework through which the experiences of those who work within the mathematics curriculum of each Caribbean country, may be identified, given meaning and pooled in creative ways in order to address the issues that surround teaching and learning mathematics in primary and secondary schools.

The framework acquires its validity by being founded on insights gleaned from Caribbean data analysed and interpreted in terms of regional and international perspectives.

Teaching and learning mathematics is conceived as an intricate interplay between teacher and pupil, pupil and pupil and pupil and textbook author. The tenets of constructivism

are embraced with implications for what the teacher says and does and for what the learner says and does. All human beings are enabled to bring quantitative and spatial concepts into being in order to describe or explain or predict phenomena encountered in real-life situations.

All this requires deeper understanding of the nature of mathematics education in primary and secondary schools. The role of the teacher is elevated to the central plane in curriculum renewal and change. Further, there is an urgent and immediate need to involve teachers in developing materials (with special features) for use in classrooms and in devising appropriate measures and methods for assessing the learner performance and also for evaluating the effectiveness of materials, methods, etc.

References

- An Agenda for Action: Recommendations for school mathematics of the 90s. 1980. Reston, Va.: National Council of Teachers of Mathematics.
- Blum, W. *et al* (eds.). 1988. *Applications and Modelling in learning and teaching mathematics*. Chichester.
- Blum, Werner and Niss, Morgens. 1991. Applied mathematical problem-solving, modelling, applications, and links to other subjects-state, trends and issues in mathematics instruction. *Educational Studies In Mathematics*. 22: 37-68.
- Broomes, Desmond. 1989. What mathematics educators in third world countries can learn from the changing faces of the mathematics curriculum in Caribbean primary schools during the last two decades. In Alfren Warbecq (ed.). *Role and Conception of Mathematics Curricula*. Bruxelles: Le Centre Technique de l'Enseignement.
- Broomes, Desmond. *Survey of Mathematics Teaching in Fifteen Caribbean Countries*. A collection of fifteen studies done by leading mathematics educators in each country. To be published by UNESCO/CARNEID, Barbados.
- Brown, Catherine A., Tomas P Carpenter, Vicky L. Koula, Mary M. Lindquist, Edward. A, Silver and Jane O Swafford. 1988. "Secondary School Results for the Fourth NAEP Mathematics Assessment: Discrete Mathematics, Data Organization and Interpretation, Measurement, Number and Operations". *Mathematics Teacher*, 81, 241-249.
- Burrill, Gail. Implementing the Standards: Statistics and Probability. *Mathematics Teacher*, 1980, 83,113-118.
- Carpenter, Thomas P, Corbitt, Mary Kay, Kepper, Henry S Jr., Lindquist, Mary M., Reys, Robert. 1980. Results of the Second NAEP Mathematics Assessment: Secondary School. *Mathematics Teacher*, 73(5), 329-338.
- Cockcroft, Wilfred H. 1986. *Mathematics Counts*. London Her Majesty's Stationery Office.
- Dawson, Sandy. 1982. Words triggered by images: Images triggered by words. *Mathematics Teaching*, 98, 57-59.
- Her Majesty's Inspectorate (HMI). 1982. *Mathematics in the Sixth Form*. London: OLS.
- Kilpatrick, Jeremy. Reflection and Recursions. In Marjorie Carss (ed.). *Proceedings of the Fifth International Congress on Mathematical Education*. Boston: Birkhauser, 1984.
- Naisbitt, John and Aburdene, Patricia. 1990. *Megatrends 2000*. New York: William Morrow and Co. Inc.
- Pollack, H.O. 1979. The interaction between mathematics and other school subjects. In *New Trends in Mathematics Teaching*, Vol. IV Paris: UNESCO, 232-248.
- Ruthven, Kenneth. 1989. An explanatory approach to advanced mathematics. *Educational Studies in Mathematics*. 20 (4), 449-467.
- Wheeler, D. 1983. Mathematization: Its nature and use in education. In Marilyn Zweng *et al* (eds.). *Proceedings of the Fourth International Congress on Mathematical Education*. Boston: L. Birkhauser.

INTEGRATING SPECIAL NEEDS STUDENTS: CURRENT AND PROSPECTIVE STATUS IN LATIN AMERICA AND THE CARIBBEAN

Rosa Blanco and Cynthia Duk*

In recent years, the concept of special education has undergone important changes which, in turn, have given rise to a new educational approach that has transcended national borders. The integration of special needs students into regular schools, is seen as an essential step in social integration, while standardization is increasingly becoming the goal of the various educational systems.

Up until a few years ago, only students showing some form of deficit were regarded as candidates for special education, and the consensus was that they should attend special schools that could meet their schooling needs. The underlying assumption was that learning difficulties stem exclusively from personal limitations and underscored the need to identify the problem and prescribe the treatment to be followed.

From this perspective, special education was an all or none proposition, since only those students exhibiting concrete evidence of a disability would qualify, while many others who –for various reasons– also experienced learning difficulties, were kept in regular schools deprived from an adequate instruction.

In actual practice, this approach is still used. However, in the last two decades a trend favouring the integration of handicapped persons, and their active participation in society, has clearly emerged. The support they need is provided through regular health, employment, social services and educational institutions, while their rights are identical to those of the rest of the population. In the field of education, this state of affairs translates into an increasingly stronger development of educational policies that advocate an integrated school wherein all

children, regardless of personal features, may learn together.

Thus, speaking of different categories or types of students is no longer meaningful, but, rather we prefer talking of students who exhibit educational deficiencies, a great number collectively, although some individually. Among the latter, special needs are those that call for extraordinary arrangements. That is, a student will have special needs when –for whatever reasons (disability, maladjusted family or school life, affective problems, etc)– he/she exhibits learning difficulties which require different educational services (specific curricula, materials, aids) than those demanded by the rest of the student population. Learning difficulties, and consequently, the special learning

* Rosa Blanco and Cynthia Duk. Specialist of the Special Education Programme and Consultant respectively of UNESCO/SANTIAGO. Regional Office of Education in Latin America and the Caribbean.

needs derived thereof, may be either transitory or permanent.

On the other hand, the expression "special education needs" implies focusing on what schools can do to offset the student's learning shortcomings, since this approach acknowledges that learning difficulties are interactive and depend on the conditions of his/her environment and the educational response being offered, and not solely on an individual's handicap.

It is no longer enough to offer special education to specific students who are classified as such. Current curricula and educational practices should be changed, so that they may adapt themselves to one and all, and allow students to advance at their own pace. The idea is to progress towards inclusive schools where all students will learn together, independent of personal, social or cultural traits.

International experience shows that the integration of "special needs" children and youngsters is more effectively accomplished by schools that integrate all of the community children. These institutions represent a suitable framework to achieve equal opportunity and total participation, favour a more personalized type of education, encourage solidarity among students, and contribute to enhance the quality of education. From this point of view, special education should not be construed as a parallel system that caters to specific students, but, as a set of special resources at the service of a general education which benefits everybody.

Balance and prospects

As the countries in the region take strides towards meeting the first objective of the Major Project of Education, namely, guaranteeing universal access to basic education, the number of children afflicted by learning disabilities attending regular or special institutions, has been progressively rising.

In general, however, the extent and educational demand of the disability problem are not accurately known, while clear policies and specific strategies designed to combat it, are

conspicuously absent. Obscure data with respect to these students thwarts any efforts to plan for and evaluate the services rendered as well as the allocation and distribution of resources. In fact, statistics suggest that in Latin America many of these children attend regular schools and receive no special support, a factor that contributes to their academic failure.

Hence, one of the top priorities of the region is to determine the extent and educational demand of the problem posed by special needs students, so that clear and assertive policies that provide quick responses, may be formulated.

Developing a policy that results in an educational supply applicable to the diversity of special needs exhibited by these students, implies that a number of conditions must be gradually met.

It is essential to know where the region stands in terms of special education, in order to identify the major issues that must be addressed to advance towards a stage where special education no longer constitutes a subsystem concerned with a specific type of children, the handicapped, but instead, becomes a set of special resources at the service of general education. In the following pages, we will discuss the conditions that must be present to materialize this objective, the region's overall situation, and the challenges that must be met.

Legislation

A first step towards improving the supply of special education must include legislation that favours relevant policies, and guarantees the adoption and permanence of educational services for handicapped children and youths. An appropriate legislation, will contribute to elucidate and formulate educational policy, set forth rights and accountabilities, and establish a reference framework for educational supply and the provision of services and resources.

The Constitution of every country in the region upholds the rights of the handicapped and the need to integrate them into normal community and school life. However, in edu-

cational law, this acknowledgment is still insufficiently developed. Although every country has legislated on special education, school integration is still to be adopted by all of them. On the other hand, the scope and nature of this legislation differs from country to country, in some cases, taking the form of a mere declaration of general principles. In others, however, regulatory clauses ensure a wider coverage and a more efficient execution of educational initiatives. Despite existing legal voids, the current trend within the region is for children to be integrated into regular schools, except when the extent and type of handicap demands attention in special education centres.

It is extremely important that the new conceptualization of special education is included in the legislation, and that the necessary measures that will ensure its efficient implementation, are progressively brought into the foreground.

In most countries, special needs students represent children with permanent physical, sensorial or mental impairments, and on occasions, overarch into the realm of the gifted. Along these lines, the trend seems to consider special needs children almost exclusively, leaving outside this category numerous students who in the absence of a personal limitation, exhibit severe learning difficulties as the result of deprived social and familiar settings or poor schooling.

The elaboration of a broad-based legislation that unequivocally defines: special needs students; the agents who are accountable for their identification and assessment; the different educational procedures and modalities to be implemented; and the nature of the resources needed, constitutes one of the greatest challenges faced by the region. In order to facilitate standardization, guarantee equality in the eyes of the law, and ensure access to the services, it would be advisable to include special education in general education regulations. However, the risk of having the specific needs of these students diluted in general prescriptions, must be carefully avoided.

Educational administration: organization and support

A second critical factor in special education development has to do with its organization within the general educational system, and the strategies to enlist the support of educational administration structures. In actual practice, these can either help or hinder the development of specific proposals, as well as determine the existence, nature and quality of the educational supply. The proper organization of special education along with efficient educational administration support, will ensure the rational provision and distribution of resources, the effective coordination among the various agents involved, and the execution of specific proposals. Teaching children with special needs, requires a comprehensive and integrating strategy which relies on various institutions.

In every country in the region, special education is basically the responsibility of the Ministry of Education, although in many cases it may be shared with other entities such as Social Welfare, Health and Justice, etc. In most cases, however, an organizational unit or department within the Ministry of Education—which represents a subsystem parallel to regular education—takes the responsibility for special education. Increasing efforts to integrate the special subsystem of education into the regular system are being made in some countries. This trend should gather momentum in order to ensure that the educational proposals of special education share the same funds allotted to regular education, thus making school integration feasible. A basic responsibility of educational administration is the formulation of concrete special education and school integration strategies, as part of the general education programme, that will provide a clear framework and facilitate evaluation and subsequent action.

Slow progress has been made in the region along these lines, with perhaps a few notable exceptions such as Ecuador. This country has included in its General Education Programme

a three year Special Education Plan and a school Quality Enhancement Programme to be evaluated in a near future.

Funding

Funding is essential in special education policy-making. Special education budgets, although different for the different countries, are generally small in the region and usually the result of grants by private or international organizations, despite the fact that in most countries the state has been the traditional source of funding. This being the case, there is an urgent need to set priorities and develop national programmes that are consistent with each country's available resources.

The curriculum

Open and flexible curricula are a must if the various needs of the students are to be met and the different social and educational settings wherein the teaching/learning process takes place, are to be taken into account.

In order to guarantee equal educational opportunities, special needs should be part of the regular curriculum, modified and adjusted accordingly. If the regular curriculum reflects the various cultural skills and contents each society regards as basic to the formation of an active citizenry, schools must do everything in their power to ensure that every student will develop such abilities fully. Hence, it is vitally important to provide special needs students with a curriculum that in addition to containing all the necessary elements to satisfy their individual requirements, also considers the objectives of the rest of the students.

Here again, different countries have different realities. In many cases, special education is part of a parallel curriculum produced by the special education department of the Ministry of Education.

Countries that enjoy broader legislation and educational policies favouring integration, are formulating the need to design individual pro-

grammes, inspired in the regular curriculum, for these special students. Progress should move towards the elimination of the differentiated curricula and the creation of a single curriculum for the whole student population, flexible enough to allow for the necessary adjustments and respond to the students' differences.

Significant progress along the lines of educational and curricular reform is being made in the region. Countries such as Argentina, Paraguay, Ecuador, Bolivia and Chile, have reformulated their regular curricula broadening objectives and contents and applying methodologies that will facilitate responding to individual differences and promoting integration.

Educational services

The availability of educational services that meet the specific needs of special students, is another important feature of an adequate educational supply.

The various requirements call for a variety of educational services capable of providing differentiated solutions. Some students may benefit from the regular curriculum and the support of additional material or specialists; others may share common areas; still others may only share specific activities, and so on. It is crucial that legislation clearly establishes the various schooling modalities (full classroom integration, partial integration (some areas), special/regular school combined schedules, special schools, etc) to ensure that resources are being distributed correctly, and that education is being delivered according to the students' needs.

In the region, the educational supply is largely channeled through special schools which focus on traditional handicaps (mental, physical, visual, and hearing deficiencies). Some countries have expanded their coverage to include language problems, autism, slow learning, and other difficulties, although all too often based on clinical assessments and ill-defined or controversial claims. Special edu-

cation is concentrated in urban areas where 32% of the student population attends private schools.

In the region, the process of integrating special needs students into regular schools is just getting under way. In general, efforts in this direction have been sporadic and have lacked the benefits of a clear educational administration reference framework.

This is partly due, on the one hand, to a lack of effective legislation and concrete integration programmes, all of which implies that the strategies and necessary resources to implement these programmes are absent. On the other hand, low levels of investment in education by governments limits the use of resources to areas of higher priority, namely, the promotion of compulsory education for the majority, rather than the satisfaction of the needs of a minority.

Where broader legislation exists, different schooling modalities have been proposed. These, generally take the form of full integration in the classroom, combined regular/special school integration, and integration in certain extracurricular activities. In actual practice, however, the most popular modalities are full integration into regular classrooms or the creation of differential groups to carry out complementary activities.

In this respect, perhaps it would be advisable to rethink the way this educational supply is being delivered. Broadly speaking, full integration into the classroom lacks the support and aids these groups require and, therefore, does not adequately meet their special needs.

Likewise, differential groups do not constitute an integrating modality, since they usually include slow learners or individuals in danger of failing the term, who receive "compensatory" instruction for some time as a separate group, a concept that runs counter to the integrating philosophy.

Progress in this area, means materializing these different modalities, defining each in the legislation and setting forth the criteria that would lead to the adoption of one or the other.

As a result of this poorly diversified educational supply, more than half the population of handicapped children still attend traditional special schools, although it has been well established that merely 10% would actually require this type of education.¹

As stated in UNESCO's Consultation Report (1988) when demand is strong and resources weak, the educational needs of handicapped children and youths cannot be met by special schools. Furthermore, the resources earmarked for them, should be reassessed in the light of failed attempts to provide quality education. This dilemma, however, cannot be resolved if the educational supply of regular schools is not simultaneously examined. Lest we forget, the purpose of special schools is precisely to cater to students who have failed in regular schools.

Special students should be encouraged to become integrated into regular schools which, in turn, should be rid of those elements that caused these students to fail in the first place. Additionally, special schools should progressively decrease their numbers, and become more closely aligned with the regular education proposals meant for all students. Hegarty was right when observing that the challenge of special schools is finding ways of sharing their experiences and resources by incorporating them into a broader educational context.

Early access

Early access to education operates as an important compensating mechanism against the learning difficulties exhibited by handicapped students.

The education offered to pre-schoolers in Latin America is extremely small, since top priority is given to gaining access to compulsory -basic- education. This limited education

¹ Only 10%, or less, of all handicapped children (less than 1% of the children population) are afflicted with severe problems requiring special attention outside the regular educational system.

supply, becomes critical when it comes to special needs students, not just because of their impairment, but also due to attendant conditions of poverty or deprivation which accentuate their handicaps.

Very few countries include in their legislation education for pre-school children with special needs. Although the Major Project of Education in Latin America and the Caribbean gives top priority to children under six from deprived socioeconomic backgrounds, and to handicapped children in general, the educational supply for these groups is extremely scarce. In addition to increased coverage and access to education, greater efforts must be made in order that children in this category may benefit from standardized school settings, since differences are less significant at a young age, and the curricular proposal is better suited to be adapted to their needs.

Vocational education

An appropriate special education policy, must consider educating special needs students once basic or compulsory school has been completed, in order to facilitate their transition to adult life, integration to work, community participation and personal autonomy. The chief objective of schooling, is to develop the individual's skills so that he/she may become an active member of society; in other words, it constitutes a preparation for adulthood.

For special needs students, being an independent adult is important. One way to ensure this outcome, is to provide adequate education after the compulsory grades. Whenever possible, handicapped youths should access a general technical and professional education system duly modified to serve this purposes. Other alternatives for those who cannot benefit from comprehensive education, should not be ruled out.

Some countries include in their legislation the right of handicapped youths to vocational training that may contribute to easing their integration into the labour market. In real life, however, opportunities are small and not sufficiently systematized. The bulk of the educa-

tional supply is delivered by special education schools which, occasionally, have been known to collaborate with professional training institutes. Along these lines, the region's principal challenge consists of expanding the supply and progressing towards a more integrated approach based on community rehabilitation. To this end, Costa Rica has started an interesting experience which could well become a reference point for the whole region.

Parent participation

Parents of handicapped children, through active participation in the educational process, could contribute enormously to their adequate development. Participating in school activities such as helping with curricular evaluation and planning, supporting specific learning strategies in the home, and monitoring their children's progress, is of paramount importance. Getting parents involved, is but a first step in facilitating the integration of the child into the family milieu. The implementation of a community-based approach is particularly important in developing countries. Parent participation is specially significant in early childhood, since they are the child's first educators par excellence.

Parent participation in the educational process of their children is practically absent from the legislation of the various countries in the region, a fact that would explain why initiatives along these lines are sporadic, and lack coordination and systematization. Progress is urgently needed in this area, both from the legal and technical perspectives, so that parents may participate more intensely in the educational evolution of their children.

Teacher training

Since high quality special education is, to a great extent, contingent on the proper training of teachers and other professionals involved in the educational process, initial and in-service teacher training must be given top priority. It is essential to examine the concepts, models, and training programmes associated with spe-

cial education, from the fresh perspective and new definitions of special learning needs. Regular teachers should also be targeted for this kind of training since, as a rule, they are not prepared to handle special students who are, in fact, an important part of the integration process.

In most countries, formation focuses on special teachers at the expense of regular classroom educators. Broadly speaking, the training of special education teachers is seen as a specialization which may take different forms: specialty courses after graduating as a regular teacher, pre or post graduate careers or distance education courses, etc. The predominant approach to training is still tightly linked to clinical or rehabilitating strategies, and revolves about diagnoses and treatment of the various disorders.

Therefore, reformulating the training of special education teachers (objectives, contents, recipients, forms, etc) so that it focuses on learning difficulties from a more interactive perspective more closely aligned with regular educational and curricular proposals, is yet another important challenge the region must rise to. In this respect, some countries are beginning to reconsider the need to schedule spe-

cialization courses subsequent to having completed training in basic education. This trend should be encouraged in order to provide a better education to special needs students, and make plausible for regular and special teachers to work together. As integration moves along, every educator should pick up some knowledge about disabilities, and ways to organize the curriculum to adequately respond to the needs of all children.

Research and development

The education of handicapped students, is a complex task that relies on on-going research regarding the nature of the disability they exhibit, and the best way to offset specific difficulties through customized teaching strategies. The evaluation of educational programmes and integration projects is also critical, if reforms are to be introduced opportunely. In the region, research on special education is still in its initial stages. The reason is that special education is not regarded as a priority and, as mentioned earlier, there are insufficient funds, and no clear frameworks or referents, that might be used to assign priorities to research issues.

WWW AND NEW ADDRESSES OF ELECTRONIC MAIL

1. It is available our service WWW (World Wide Web) for access to information distributed by UNESCO through the address.

<http://www.unesco.org/>

which is possible to access by software Netscape, MOSAIC or other similar

2. UNESCO/SANTIAGO. Regional Office of Education in Latin America and the Caribbean and its Networks (REPLAD, REDALF, PICPEMCE, SIRI), may be acceded through the electronic mail by means of two INTERNET electronic mail boxes. The first is connected with the headquarters in UNESCO/Paris. Its address is:

uhstg@unesco.org

The second electronic mail box is through Universidad Católica de Chile. Its address is

unesco@lascar.puc.el

Through these mail boxes communications as well as documents may be forwarded.

ACTION FOR EQUALITY, DEVELOPMENT AND PEACE

UNESCO*

The preparations for the Fourth World Conference have provided substantial new knowledge on the status of the world's women. The prevailing gender-disparities, the feminization of poverty, and continued discrimination and violence against women have prompted a new search for effective strategies and concrete actions in order to remedy the situation and achieve the goals of equality, development and peace.

Women make up more than half the world's population. Their physical resources are currently overtaxed and under-valued. Their intellectual and creative potential is largely ignored. As transmitters of cultural values, in particular to children and youth, and as agents for change, women are an under-utilised source of creative energy, experience and wisdom. To marginalize women and to lock their potential is to deny ourselves –as individuals and societies– the chance to realise our full potential. By neglecting and seriously underestimating the contributions of women, whose perspectives and dynamism may offer new hope for the future, we fail to open a window of opportunity.

Women's manifold contributions to society are, however, increasingly being made visible and acknowledged, more recently in a series of major UN conferences. 'Women's issues' are gradually being taken out of isolation and made societal issues of justice, human rights and human resource development, to be tackled by men as well as by women.

A growing number of women and men are ready to combat outmoded stereotyped images and roles that correspond neither to changing realities nor to contemporary aspirations. There is a strong determination among women to seek parity and partnership with men at all levels and in all fields, including macro-political and macro-economic levels. Women's call for equality and full participation is being heard

across all cultures, traditions and religions. While development has to be rooted in its given socio-cultural context, we have to question traditions, norms, practices, cosmologies and religious customs that, when based on the hypothesis of male superiority, obstruct equality; especially at a time when traditional patriarchal ideas on women's place in society are simultaneously gathering force.

Responding to a global and ethical imperative, UNESCO is committed to improving women's status. It jointly takes responsibility with Member States, governments, parliaments, nongovernmental organisations, the UN system and the civil society at large for mobilising action toward equality, development and peace.

Education is a fundamental human right, and UNESCO considers it the most important key to development. UNESCO will continue to underscore access to knowledge and quality education for girls and women as a vital means

* Document presented by the Director General of UNESCO to the Fourth World Conference on Women, Beijing, China, 1995.

for endogenous capacity-building and women's self-empowerment. The Organization is giving top-priority to universal primary education and adult literacy with special concern for the Least Developed Countries (LDCs), Sub-Saharan Africa and the Nine High Population Developing Countries.

On the threshold of the 21st century, we need to develop a new vision for our common future, acknowledging the inextricable links between equality, development and peace. The world must acknowledge global interdependence as well as the need for solidarity between men and women. The long term gains from the current transformations towards true gender-balanced and gender-sensitive societies should be shared through broad information campaigns.

Combating gender disparities

Growing poverty, international and intra-national disparities, international debt, environmental degradation and natural disasters, wars, civil strife, violence, extremism and terrorism, population explosion, mass migration and epidemic diseases require urgent responses from governments and the international community.

There is a deficiency as to reliable gender-specific data. However, global statistics,¹ based on national data and case studies, show some reductions in infant and maternal mortality rates, better nutrition and hygiene and increasing life expectancies, improved school enrolments and rates of female adult literacy in many parts of the world. Yet these gains are not equally shared. The gap between the rich and the poor is widening, both between and within countries. New indicators measuring discrepancies in status and opportunities between women and men on a global scale have been developed in the 1995 Human Development Report: the Gender-Related Development Index (GDI) and the Gender Empowerment

Measure (GEM), rating countries according to their achievements in this field.

The material benefits conferred by higher levels of education and by advances in science and technology are visible in most parts of the world, yet they are not accessible to all. The situation of the majority of the world's women seems to be deteriorating, in particular in the LDCs and in sub-Saharan Africa. Women as major care-takers and single heads of more than one-third of the world's households continue to suffer the main consequences of cuts in social programmes induced by Structural Adjustment Programmes. About half a million women still die each year from pregnancy-related causes, largely due to inadequate health services, most of them in developing countries.

The movement from rural areas into the cities, the growing number of internally displaced persons and refugees –80% of whom are women and children– the rise in crime, in arms and drug trafficking, the increased alienation of whole segments of the population from the greater community, and the spreading of violence –especially against women– are both the symptoms and the causes of a fraying social fabric.

The effect of gender inequality is exacerbated for vulnerable groups, such as poor women in urban slums, poor women single heads of household, poor women in rural areas, disabled or elderly women, street girl children, women belonging to ethnic minorities, migrants, refugees and women victims of extreme discrimination.

A growing number of countries are now moving towards democracy. Nonetheless, the large majority of existing democracies are still but 'unfinished democracies' with an average of less than 10 percent women in positions of political decision-making. One third of the countries of the world have less than five percent or no women in parliament. Throughout world history there have been only 23 democratically elected female Heads of State or Government. All of them held office during the last fifty years, most of them in the last ten years, with a total maximum of ten women at

¹ The Statistical Yearbook (UNESCO), The World's Women: Trends and Statistics (UN) and The World Survey on the Role of Women in Development (UN).

the same time. Women have yet to take advantage of their majority position to influence political decision-making.

Scenarios for the 21st century

The creation of alternatives and the sharing of visions are essential in order to overcome pessimism and inertia and to inspire new dynamism and hope. Analyses of the world situation, as seen through the eyes of women, are urgently needed to complement, enrich and revise existing assumptions and cosmologies, codes and concepts.

Women have distinct contributions to make to the traditionally male-dominated and -defined power structures. Due to experiences gained from gender-specific roles, assigned throughout different life stages, and from the demands related to their 'mothering and caring functions', women might have different perspectives, alternative visions and methodological approaches. Largely excluded from formal decision-making, women share collective experiences from family and community work, despite their heterogeneity as a group. It is high time that this insight be used also in political policy-making. With more men in caring functions and more women in political decision-making, these patterns will change and the potentials of each human being will matter more than their sex.

UNESCO acknowledges its responsibility within its fields of competence in a transitional period to encourage actively, in particular, women educators, scientists, artists and journalists to develop their competence in decision-making and their visions and scenarios for the future.

Partnership and dialogue

In order to stimulate a process towards full equality, releasing women and men from limiting stereotyped roles and expectations and to help them assume better control of their future, UNESCO renews its commitment to the active and full participation of women at all levels and fields of activity. The Organization

pays particular attention to women's priorities, perspectives and contribution to the rethinking and humanisation of development goals and processes. Special measures such as ensuring the minimum 30% 'critical mass' of women that seems to be needed in order for them to assert their experience and influence political agendas, as well as scholarships, stipends, training programmes and support to women's organizations and networks are stepping stones for the long-term goal of equal participation.

UNESCO will actively involve men in the questioning of traditional power relations between women and men, with a view to promote more equitable sharing of responsibilities and rights in the family and in society at large.

UNESCO's programmes are designed to raise awareness, foster dialogue and broaden the range of development viewpoints. In pursuing these ends, in which the future of our planet is at stake, the Organization will share its experience and expertise, as well as cooperate with partners that further these goals, and that are committed to the implementation of the Nairobi Forward-Looking Strategies for the Advancement of Women and the Beijing Platform for Action.

The Organization places strong emphasis on national execution favouring a decentralised and a differentiated approach. Some 100 UNESCO National Commissions have designated focal points on women. Through them, as well as through the Regional and sub-Regional Offices, the Organization expects to reach a broad constituency of women professionals within UNESCO's spheres of competence.

Transforming words into action: the road to Beijing and beyond

The Fourth World Conference on Women is the culmination of a series of recent international conferences that have referred to women's crucial role in the development of the political, social, cultural and economic well-being of societies. Coinciding with the 50th Anniversary year of the UN and of UNESCO, the Beijing Conference seeks to translate the goals

of equality, development and peace into concrete actions: objectives to which we have committed ourselves in the Universal Declaration of Human Rights, the UN Charter and UNESCO's Constitution.

The themes of the Fourth World Conference on Women: Action for Equality, Development and Peace are the same as for the three preceding Conferences in Mexico City 1975, Copenhagen 1980 and Nairobi 1985, except that the word 'action' has been added in order to underline the need to redress efficiently the gender gap. The task is ambitious and demanding, and we must avoid being simplistic or tempted to address only emergencies and symptoms. We have to unveil the intricate web of causes and effects, and show the disparities as well as the links in the lives and living conditions of women and men. We must stop accepting the blatant discrimination of girls and women; refuse to tolerate differences in standards and confront the obstacles hindering women's legitimate access to all levels of decision-making. It is no longer sufficient to speak only of compensating for injustices. We equally have to underline the vital need to profit from women's participation and contribution especially at the macro-political levels, in order to meet the challenges of the world today.

UNESCO firmly believes that it is only through co-operation between different partners that we will be able to move to new practices, dismantling the obstacles impeding women's broad and active participation in society. Political statements, however important, will never in themselves create a better quality of life for the majority of the world's women. We must face these problems together to avoid failure: the international organizations, Member States, non-governmental bodies, professional organizations, the young and the elderly, women and men, together as equal partners on the road to equality, development and peace.

Landmarks

UNESCO sees the following as major landmarks in the establishment of a World Agenda for Gender Equality:

- UNESCO's Convention Against Discrimination in Education, 1960.
- International Women's Year, 1975.
- UN Decade for Women, 1976-1985.
- First International Conference on Women, Mexico City, 1975.
- Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) (1979).
- Second International Conference on Women (mid-decade review), Copenhagen, 1980
- Nairobi Forward-Looking Strategies for the Advancement of Women towards the year 2000 - Third World Conference on Women (1985).
- Jomtien Declaration and Framework for Action on Education for All (1990), appealed to Heads of State and other leaders to give priority to education for all as a life-long commitment, giving special importance to education for women and girls
- Agenda 21 of the Earth Summit in Rio de Janeiro (1992) highlighted the role of women in protecting natural resources and the environment, especially in chapter 24 "Global Action for Women towards Sustainable and Equitable Development."
- The Convention on the Rights of the Child (1992).
- Vienna Declaration and Programme of Action of the 1993 UN World Conference on Human Rights, recognised the right to development as a human right and the human rights of women and of the girl child as an inalienable, integral and indivisible part of human rights, not to be confined to the invisible private sphere,
- UN Declaration on Violence Against Women (1993) defined a broad spectre of unacceptable forms of violence against women and lead to the nomination of a Special Rapporteur on Violence Against Women.
- Ouagadougou Declaration on Girl's Education in Africa, (1993) identified priority areas for a regional framework for action and for national programmes and plans to improve girls' opportunities for education and considered strategies for resource mobilisation at national level, giving special attention to new partnership.

- The Delhi Declaration and Framework for Action of Education for All in the Nine-High Population Developing Nations (1993) emphasised that, education and empowerment of girls and women are important goals in themselves and are key factors in contributing to social development, well-being and education of present and future generations, and the expansion of the choices available to women for the development of their full potential. (New Delhi Declaration, para. 2.6)
- Cairo Programme of Action of the International Conference on Population and Development (1994) demonstrated how education, when accompanied by other measures which reduce poverty, is the most powerful single factor in empowering women and moderating population growth. It stipulated that, advancing gender equality and equity and the empowerment of women, and the elimination of all kinds of violence against women, and ensuring women's ability to control their own fertility, are cornerstones of population and development related programmes.
- The Declaration and Integrated Framework of Action on Education for Peace, Human Rights and Democracy (1994 International Conference on Education, 1995 General Conference of UNESCO) promoted the rights of women as an integral and indivisible part of universal human rights and fundamental to education for peace, human rights and democracy.
- Copenhagen Declaration and Programme of Action of the World Summit for Social Development (1995), reaffirmed the importance of formulating national policies that provide women with equal opportunities for education and capacity-building and endorsed that developing countries and donor nations should move progressively towards earmarking at least 20% of their budget to human priority concerns including basic education, primary health care, safe drinking water, family planning and nutrition programmes for the most deprived sections of society.

UNESCO's strategy

Pursuing its long-standing commitment to the improvement of the status of women, in the context of its next Medium-Term Strategy (1996-2001) UNESCO will continue promoting equality between women and men, women's human rights, endogenous capacity-building, full citizenship and self-empowerment within its fields of competence.²

UNESCO's strategy is based on a three-pronged approach:

- mainstreaming of a gender perspective in all planning, programming, implementation and evaluation;
- full use of women's visions, competence, experience and potential in meeting world challenges;
- specific programmes, projects and action to benefit girls and women.

A shift in perspective

While mainstreaming a gender perspective, UNESCO will continue to implement specific compensatory programmes and activities designed to meet the most urgent needs, interests and concerns of girls and women. Top priority within its programme and budget is given to assisting Member States in obtaining universal primary education and adult literacy for girls and women.

By introducing a gender perspective, in UNESCO's strategy, the focus shifts from viewing women as a homogeneous group to viewing women's strength, roles, needs, and aspirations in the wider context of society and culture, and in relation to the roles and situation of men. One of the consequences of such a perspective is the recognition of women as a heterogeneous group, entitled to the same freedoms, responsibilities, rights and rewards

² For further reference to UNESCO's activities, see UNESCO's Programme and Budget 1996-1997(28 C/5), the brochure 'What about women?.'

as men. The term gender refers to socially-constructed differences between men and women. The gender approach is a methodological tool that offers additional insight into development issues, with emphasis on interaction.

To overcome myths, design appropriate strategies, and contribute to national and international policy-making and public debate, UNESCO will regularly collect and analyse gender-specific statistical data within all its fields of competence.

Relevant quality education

Education is a basic human right, and UNESCO considers education the most powerful means to obtain gender-equality and women's self-empowerment.

UNESCO equally considers basic education for girls and women to be the single most effective factor for change towards development with a human face.

Lifelong, relevant, quality education and training are major keys to personal fulfilment, economic self-reliance and full citizenship. Despite slight drops in the number of illiterates, now estimated at 885 million, about 140 million children are not enrolled in school and will soon join the ranks of illiterate adults. Nearly two-thirds of the world's illiterate are girls and women. One out of three adult women in the world today cannot read and write. Unless the world community commits itself more genuinely and targets female illiteracy more effectively, this gender gap will continue well into the next century.

In most parts of the world, girls are under-represented at every school level. The gender gap widens the higher one advances in the educational system. Such factors as economic constraints, son preference, the distance to school, early marriage and teen-age pregnancy constitute major obstacles and must be addressed.

Equal access to education and training does not suffice. Renewed attention must be given to the relevance, quality and content of educa-

tion. It should reflect the needs and aspirations of both girls and boys. UNESCO is therefore reinforcing its support to Member States for the improvement and reconstruction of educational systems. Both formal and non-formal education are being promoted, bearing in mind that formal education confers higher status, a fact of utmost significance to any under-represented or minority group.

The lesser status assigned to women and girls in most societies and the resulting negative psychological effects hamper their pursuit of studies, work and social position. Specific measures such as the promotion of a broader implementation of relevant normative instruments and the development of appropriate gender-sensitive teacher-training, curricula and teaching material are required. Higher education can play an influential role in relation to other levels of the education system in this respect.

Given existing gender imbalances, it might be important to stimulate boys and girls differently, under the same curricula, to compensate for past biases in opportunities and expectations. Although basics of home economics, life skills education, preparation for parenting and values education based on gender equality are important for both girls and boys, these elements would, for compensatory reasons, be of particular benefit to boys, also as a vital means of reversing socialization processes that lead to aggression and violence.

UNESCO is increasingly concerned about the situation of the adolescent girl. Adolescence is a crucial period when important decisions are made regarding family-life and careers. There are some positive trends towards longer schooling and delayed marriages. But there is also an increasing number of adolescent pregnancies and a growing exploitation of young women, both detrimental to their health and dignity. The aggregated impact of HIV and AIDs on education will likely affect the education of girls more than boys, thereby hindering the progress made in female education over the last decade.

Education, as an important factor for poverty alleviation, must also stimulate creativity and entrepreneurship, and be geared towards the world of work. In a world increasingly monetised, technical and vocational education and training, educational and vocational guidance and career counseling, as well as higher education need to target girls and women in order to break with practices confining women to low-skill, low-paid jobs, highlighting the correlation between education levels, occupational status, power and income. UNESCO will continue to pay special attention to the equal access of girls and women to technical and vocational education and training in particular through international programmes of cooperation.

Adult education and higher education: The need for a flexible response

Adult education facilitates skills training and retraining in a society in which the skills needed for survival are rapidly changing. Women still lag behind, despite the fact that women might be better prepared than men to confront uncertainties and instability, as they historically have had to cope with shifting life situations – imposed mainly by child bearing and rearing and economic trends which have made women move in and out of the labour market. This is largely the result of existing role patterns preventing women from getting appropriate education and training throughout different life-stages.

Adult education is crucial for women to keep up with new challenges and to compensate for past educational deprivation. Non-formal education, tailored to adult needs and interests, may contribute to financial autonomy and to strengthening participation in community life. For women in rural areas, or isolated communities where poverty strikes, the combination of relevant technologies and innovative teaching methods may offer new hope. Involving women in research and in development, use and control of technologies is of great importance and requires life-long education and training.

UNESCO supports distance education which has proved to be of particular value to women, who often are less geographically mobile than men, due to family obligations and cultural factors. Community radio, local-language newspapers, mobile teacher teams and libraries, solar-powered transmitters, desktop publishing and satellites are all examples of distance education and learning across frontiers, effective means for reaching the unreached.

Higher education is a key component in the empowerment process, as it provides women with the necessary decision-making skills. To this end, and building on already existing inter-university networks which provide leadership and management training for women in higher education institutions, UNESCO will promote the establishment of UNESCO chairs in the field of “Women, Higher Education and Human Development.” These chairs will seek to strengthen women’s status and empowerment in specific professional fields. Chairs and their networks will promote the contribution of women students and graduates to higher education management, science and technology, community health, sustainable development, communication, population studies, and the development of a culture of peace. UNESCO chairs will also be established in support of gender studies and long-term strategic studies on development in Africa from a gender perspective.

The present gender imbalance in educational opportunities is a challenge to concepts of justice and development. It is equally a challenge to peace. The world deserves literate women and men, critically and constructively participating in shaping our common future.

Shared power through knowledge and communication

Low female representation in the sciences, both in research and application, is largely a manifestation of gender biases in expectations and the quantity and quality of education that girls and women receive. Poor education and training hamper women’s ability to articulate their needs and priorities and to make full use of

existing opportunities. If women and men are to be partners in development, they must have equal access to knowledge. UNESCO aims at substantially increasing the participation of women in scientific and technical education programmes, and encouraging their access to scientific careers and decision-making bodies.

The prevailing paradigm emphasises the scientific and rational, often to the exclusion of other ways of knowing, including a devaluing of the richness of women's contribution. To curtail a limiting and technocratic world view, UNESCO will continue to promote and draw on indigenous knowledge and survival skills, especially those of women, which have proved to be important particularly in water and natural resources management and the use of medicinal plants.

The development of appropriate technology relies greatly on the ability to work in close contact with the end users, in particular women who are a sizeable and often overlooked group. The development of alternative renewable energy sources, especially solar energy, is of primary importance for the rational management of dwindling natural resources and would greatly facilitate poor women's living conditions and heighten living standards for women and men.

Women are particularly concerned by genetics research and its application to biotechnology. One of the objectives of the Declaration on the protection of the human genome that is under preparation is to ensure that 'the application of genetic research be regulated to guard against any eugenic practice that runs counter to human dignity or human freedom.' Since women are particularly concerned as bearers of children, UNESCO will strengthen its efforts to involve women actively in the on-going debate on bioethics.

New technologies offer both challenges and opportunities, including the promise of greater interaction among people. To involve media in the establishment of a new type of dialogue and partnership between women and men in the process of finding solutions to major world problems, is a task to which UNESCO is highly committed. Where efforts have been made to

portray women's contributions accurately, experience shows that the media can be a significant force for change and for promoting equality, presenting diversified images and viewpoints that reflect the varied interests and heterogeneous nature of both audiences and actors. The media also plays a significant role in sensitisation and capacity-building and could lead the way in the use of non-sexist language.

UNESCO's aim is to reach a fair equilibrium between women and men in the field of communication and to promote equality, while maintaining an editorially independent and pluralistic press. The objective is to enhance and encourage a true, more diversified and non-stereotyped image of women in and through the media.

UNESCO promotes initiatives on a continual basis that help to develop and expand the technical and professional skills and knowledge of women media professionals. Special importance is given to favouring the access and participation of women in decision-making and in the implementation of the Toronto Platform for Action. UNESCO thereby contributes in partnership with NGOs in the development of critical thinking as well as awareness of discriminatory images that feed gender inequality. These initiatives encourage the media to give more prominence to women's priorities in the presentation and analysis of world news and aim at curbing violence in the media.

UNESCO supports programmes for training of women journalists; the development and strengthening of traditional forms of communication in rural areas; the establishment of regional and international on-line networks to facilitate the cooperation and exchange of information between communication professionals and facilitates the equal access to and training of women in new technologies and telecommunications.

Full enjoyment of human rights

The full enjoyment of human rights by women as well as by men is inseparable from human development and democratic governance. Acknowledgement of the human rights of women

is both a gateway to development and a measure of that development. Democratic societies, however diverse, require de facto participation of all groups of society including the full citizenship of women.

Awareness of possible options, alternatives and rights is a prerequisite for making informed choices and fostering autonomy. For this reason, UNESCO places great emphasis on education as a means of expanding opportunities for both individual and social development. The Organization has developed a World Plan of Action on Education for Human Rights and Democracy to strengthen one of its long-standing priorities.

In addition to strengthening its own normative instruments from a gender perspective, UNESCO is developing innovative didactic methods for making the human rights of women better known to both women and men. UNESCO supports initiatives for a broader ratification and for a more effective implementation of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), in particular by encouraging Member States to acknowledge the principle of gender equality and to integrate information on the human rights of women, legal literacy, at all levels of the school system. 134 countries have ratified the CEDAW, but only 90 without reservations. In countries with a long history of traditional law, UNESCO can offer help in harmonising traditional practices and formal legislation concerning equality between women and men.

Prejudice, a product of socialisation, can lead to the acceptance of repression, including in some cases, the identification of women as the property of men. Violence against women is often seen as belonging to the domestic realm. Thus these crimes are made a private matter, refused public recognition and denied their political significance. UNESCO cannot accept that cultural and traditional practices, often developed to protect women, be used to legitimise continued discrimination and violence against them. Emerging new forms of sexual and commercial exploitation, especially of girls and women, must also be vigorously denounced.

Making the invisible visible: Women's creativity

A series of obstacles and structural barriers, often based on stereotyped expectations and false perceptions, still hampers women's creative, artistic and entrepreneurial work. Time-use statistics show that women have by far longer working hours than men. However, only one third of women's work is remunerated, compared to two thirds of men's work. In addition, women normally receive much lower wages than men. This is due to part-time work, to low-paid work in the informal sector or to less pay than men for equal work, as a reminiscence of the privileges given to men conceived as the main breadwinners. Women's work is largely invisible. It does not figure in statistics or in GNPs and is thereby seriously underestimated. This has hampered women's access to loans and credit. UNESCO will continue to study these problems, focusing particularly on women living in poverty and women in the informal sector.

Women's creative work is generally unnoticed; more often seen mainly as side-activities. UNESCO supports and promotes women as creative artists, facilitates their freedom of expression and assists in making women's creativity more visible.

The work of women artisans is encouraged primarily through training designed to preserve and develop their skills, while promoting the marketing of their products as a means to alleviate poverty and contribute to development, particularly in rural areas.

All over the world, women's lives are changing, yet the cultural codes that define women's choices and their life-stages are only just beginning to change. The childhood, adolescence, adulthood, motherhood and grandmother roles of women are perceived and codified in different ways in different cultures. In many societies, development has expanded the period of childhood and adolescence for young women and created new cultural expectations and practices. New areas have to be addressed which take account of women's changing role in work and the changing definitions of the

family, while valuing women's reproductive role. In search of greater community participation, the life-enhancing aspects of traditional cultures need to be blended with the new benefits of economic and social development. There is an urgent need to carefully analyze and address the prevailing patriarchal ideologies and cultural and social traditions that burden women's lives with heavy responsibilities, and make inordinate demands upon women's time and energy. UNESCO will give special attention to cultural changes in women's life stages through cross-cultural studies.

Building a culture of peace in the minds of women and men

UNESCO's mission is to promote peace based on democratic principles, freedom and equality. The building of a culture of peace requires the active participation of all groups in society to solve and prevent violent conflicts. It is inconceivable that this task could be accomplished without the active participation of the whole of humanity. Women's visions, energy, intelligence and experience are essential.

A culture of peace is one that celebrates human differences and the diversity of cultures. It is a culture of freedom and respect, which implies an authentic approach to upholding all human rights, eliminating double standards and acknowledging the responsibilities of human solidarity. Such a culture can only be achieved within the context of complete refusal of dominance, *de jure* and *de facto* equality between women and men, a halt to discrimination and a rejection of the culture of violence in all its forms.

There is growing evidence of gender differences both in the nature and in the severity of civil strife, armed conflicts and natural disasters. In times of war, when civilian populations are increasingly affected, women have to assume most of the responsibility for the survival of their families and to maintain the social fabric. Absent at the highest levels of political decision-making, women are rarely principal actors in the decisions that lead to war.

Moreover, women and girls are in particular victims of violence, exploitation, and sexual

abuse in periods of conflict or emergencies. UNESCO cannot tolerate the intolerable such as the use of rape as a tool of war. UNESCO will further address the risks women face in these situations, especially through gender-conscious need-assessments and planning, and by closely involving women in the elaboration of strategies and management of programme activities. UNESCO will provide relevant educational and training components to UN-wide programmes.

An awareness of gender issues could help to alter our perceptions of reality and lead us to adopt new modes of behaviour that prevent conflicts from turning violent. This can be achieved by placing new emphasis on gender-sensitive values education and cross-cultural co-operation. It is important to further women's conceptualisations, visions and contributions to the building of a culture of peace, and to study traditional male and female roles within various socio-cultural contexts and examine the factors which thwart or inspire the development of a culture of peace.

Building peace in the world is a long-term process. It begins in a person's childhood experiences, within the family and the community, and continues through school. It is influenced by whether these early relationships and experiences are based on inequality and force, or respect and love. To create peace is to create conditions conducive to peace by addressing and confronting the root causes of injustice, discrimination and poverty.

The importance of the family as a bearer of cultural values means that the domestic realm cannot be confined to silence and inattention.

Thus, the role and education of parents, fathers and mothers and all adult care-givers, is crucial to the development of the entire person. Violence in the family is as significant a barrier to a culture of peace as other types of violence; just as equality between men and women in the family as well as in the entire society is essential to transforming the culture of violence to a culture of peace.

There can be no lasting peace without democracy, and no democracy without equality before the law and the full enjoyment of human rights by men and women.