

**IMPROVING LEARNING OUTCOMES IN THE CARIBBEAN:
CHALLENGES AND LESSONS**

CURRICULUM REFORM

**A Regional Study
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EXECUTIVE SUMMARY

This discussion paper has been commissioned by the Economic Development Institute of the World Bank for a workshop held in Trinidad & Tobago, April 21-23, 1999. The workshop was intended to exchange ideas, learned lessons and achievements among the leaders of educational reform in the participating countries of the Caribbean centres around four themes: Teacher development, School-based Management, Educational Assessment, and Curriculum Reform. The last of these is the subject of this paper.

Current education reform efforts, including curriculum reform, have emerged from two global trends of the last decade: first the renewed emphasis on *Education for All* following the 1990 Jomtien conference, and second, the pressures that accelerating technological change, globalization and increasingly competitive and interconnected economies put on education systems. All countries need to re-assess constantly the issues of quality, access, relevance and efficiency in their delivery of education services to produce an educated citizenry, a qualified labour force, and a society based on life long learning; all of which must be accomplished in a climate of severely constrained resources.

We interpret 'curriculum' very broadly: starting with the *formal curriculum* developed by educational leaders but also encompassing the curriculum *implemented* by teachers, the curriculum *received* or learned by pupils, and the actual knowledge and skills *retained* after leaving school. Linking and coordinating these dimensions is a complex and extensive task, and we stress the values of stakeholder consultation, shared ownership, and trans-national cooperation and harmonization.

To set the context we examine two major curriculum reform efforts in countries that have exerted strong educational influences on the Caribbean: the National Commission on Excellence in Education in the USA (1983) and the National Curriculum in England and Wales (1988). These each provide both positive and negative lessons to be learned, and have influenced much of the literature and research on curriculum in recent years. Each was driven by the type of agenda described above, with mixed results and considerable controversy. The underlying issues turn out to have strong parallels in the Caribbean experiences of curriculum reform. Locally, however, these are made more complex by the particular contexts and constraints of small states with limited resources.

Caribbean models for developing new curriculum have been refined over the years and major efforts are under way in most of the countries reviewed. Typically the process is centralized through a curriculum unit or similar body in the Ministry of Education, but engages teachers with particular subject expertise as part of the team. The primary emphasis is on drafting of objectives and curriculum guides. Sustainable mechanisms for ongoing implementation of curriculum, including the provision of adequate supplies of documents and materials to schools; regular, planned delivery of in-service professional development to all teachers and principals; and a continuous process of monitoring and review of the quality and relevance of the curriculum as reflected in the learning outcomes achieved are all areas which usually need further attention.

Appropriate balance has to be struck between meeting learners' needs and international standards in an increasingly interdependent global context, while rooting the curriculum firmly in local values, culture, context, and needs. Teaching can be enriched by approaching content through concrete examples and experiences derived from the local environment and culture: this is as true in science and mathematics as in social studies or literature. Certain subject areas, including science and technology, family life education, entrepreneurship as well as issues such as the needs of Creole-speaking children, early identification of children with learning difficulties, special education and remedial programs all need further development. We examine some promising examples of local efforts that might usefully be shared within the region.

Indeed, regional cooperation in education, particularly in matters of curriculum, is gaining momentum. In part this is driven by globalization, and the pressures created by increased personal mobility for greater harmonization of content, methodology, and standards in the region's education systems. As well, there are obvious gains in efficiency and economies of scale if certain tasks can be approached as a joint, cooperative effort rather than being repeated independently in each country. This is critically important in a climate of severely constrained financial resources. The work of regional bodies such as CARICOM, the OECS, and institutions such as the UWI is thus of paramount importance in partnership with national efforts.

Much attention has been given to linking formal education more closely to the world of work. This is a considerable challenge in an era of swift technological change, volatile international markets and unpredictable labour force trends. Curriculum developers are faced with an already crowded timetable, and a long list of conflicting demands from a variety of stakeholders. The existence of a substantial youth unemployment problem side by side with jobs unfilled for lack of qualified applicants is a measure of the challenge. We argue that the strongest and most relevant contribution of formal education is to lay a base for life long learning. To produce a cadre of school leavers each year that are *trained* for existing jobs is unrealistic, but *every school leaver should have the basic skills to be trainable*.

Information and communication technologies (ICT), particularly computers and the Internet, have major education implications which are rapidly changing curriculum and classroom practice in many countries. This poses particular challenges for the Caribbean, with major resource implications. There is no doubt that basic computer literacy is quickly becoming a core competency which every school leaver should possess, but the investments required (in hardware, software, development of suitable instructional packages, teacher training, and ongoing technical support) pose a major problem. There are thus major equity issues and dangers of a growing gap between the computer "haves" and "have-nots" both between and within countries. The impact of computers on classroom instruction in other subjects has hardly been tapped, but much work is needed if the dangers of "quick fixes" and inappropriate pedagogy made attractive by flashy graphics and multimedia are to be avoided. As in other areas, the training and professional development of teachers to equip them to use new technological tools effectively is critically important.

The final section of our paper draws together some of the main issues, findings and

conclusions, and presents these as recommendations for further consideration by Caribbean educational leaders.

Note: An earlier draft of this paper was presented at a World Bank Seminar on Caribbean education reform held in Trinidad and Tobago April 21-24, 1999. We wish to acknowledge the important input, both through discussion and the provision of documents and reports, from officials of regional bodies such as the OECS and CARICOM and of the World Bank, officials of Caribbean Ministries of Education, teachers, students, parents and citizens of the Caribbean states. Participants at the seminar, particularly the discussant, Dr. Winston King, also provided valuable suggestions. This paper would not have been possible without their valuable contributions; as usual however, we take full responsibility for any shortcomings.

"Tell me, I forget. Show me, I remember.
Involve me, I understand." Confucius

1. INTRODUCTION: SETTING THE CONTEXT

This paper has been commissioned by the Economic Development Institute of the World Bank to review current activity in curriculum: its planning and development, its implementation in the schools, and the monitoring and assessment of its relevance and effectiveness. The focus is on selected countries of the Caribbean region. The challenges that they face, together with their responses and achievements are analysed in the broader context of current research and international practice in curriculum reform.

The English-speaking Caribbean Countries of the study: Barbados, Belize, Guyana, Jamaica, Trinidad & Tobago and the nine members of the Organization of Eastern Caribbean States (Anguilla, Antigua, British Virgin Islands, Dominica, Grenada, Montserrat, St Kitts & Nevis, St. Lucia, St Vincent & the Grenadines) all share a common history of evolution from a British colonial past to their present status as self governing or independent states. Their education systems reflect this experience. With origins strongly determined by British models, recent decades have seen increasing influence from North America in education, because of the proximity of the United States and Canada as well as the increasing flow of Caribbean people northward, both as students and emigrants. Indeed, as Miller (1984) has noted, the mother country/colony dichotomy has been successfully replaced in recent years by the developed/underdeveloped or North/South terminology.

Most importantly, the post-independence period has seen strong growth of national consciousness, and the development of approaches to education that are indigenously Caribbean. Ministries of Education moved relatively quickly to cast off the "dominance of the curriculum by British examinations"¹ and develop Caribbean syllabuses, curriculum and materials. The initial stages of this process culminated in the establishment of the Caribbean Examinations Council (CXC) in the 1970s. Progress in developing indigenous approaches while simultaneously expanding access to education at all levels has been impressive - to the degree that virtually all the English speaking states achieved universal primary education some years ago.

The Hispanic/Francophone countries of the region: Cuba, Dominican Republic and Haiti, have

¹ See Brathwaite & King (1996). Their paper describes the evolution of science curriculum from the colonial period to the present day.

quite different histories and traditions, but increasingly are drawn into the same web of education reform issues as their neighbours. Indeed, while the details of education reform will vary from one country to another, there is a common core of issues that have emerged during the past decade to drive all such efforts. This core includes:

- A concern to improve both the quality of and access to basic education. This was given strong impetus by the Jomtien Conference on Education For All in 1990 and reinforced in other conferences and fora [e.g. UNESCO's International Commission on Education for the Twenty-First Century, chaired by Jacques Delors, which reported in 1995].
- Severe economic constraints that limit the ability of governments to put more financial resources into education, despite the demands for increased access and the need to address quality issues.
- A concern for greater efficiency in the delivery of education services. This includes:
 - new accountability relationships, including the responsiveness of schools to their local communities and the recognition that public education involves many stakeholders;
 - the reform of administrative practices,
 - the monitoring and assessment of learning outcomes, with feedback into the system
 - the review of the sharing of educational costs among stakeholders and beneficiaries.
- A concern that curriculum should reflect, in practical terms, the real needs of learners. This includes:
 - emphasis on student-centred curriculum that focuses on the learning environment and values activity-based approaches over traditional "chalk and talk" teaching;
 - recognition that gender and class issues in curriculum are important. In the Caribbean this implies a focus both on the lower achievement of boys in school and the need to encourage girls in mathematics, science, and technical subjects;
 - issues related to school drop-outs, under-achievers, and youth unemployment.
- Education in school as a foundation for life long learning. This includes:
 - the re-assessment of the role of schools in skills and vocational training;
 - the recognition that school leavers should possess the basis for trainability and for self-directed learning at all later stages of their lives;
 - the recognition of the changing nature of education itself, and the need for teachers, principals, and administrators themselves to be life long learners, through continuous professional development.
- The importance of new technologies in education. This has several dimensions:
 - the use of computers in schools to strengthen instruction in various subjects;
 - technology content in the curriculum, including learning how to use computers (word processing, spreadsheets, etc.)
 - the use of computers as an administrative and management tool in schools and Ministries;
 - the use of computers as a communications and information accessing device (the Internet, e-mail, etc.)
 - multi-media distance education, both for students and for the professional development of educators

- Response of the education system to globalization. This includes:
 - responding to the needs of the local labour market in a rapidly changing and competitive global economy;
 - increased mobility of students, teachers, ideas and information.

Virtually all the countries in the study have, in recent years, embarked on substantial education reform projects, very often with support from the IFIs (The World Bank, the Inter-American Development Bank, the Caribbean Development Bank), from bilateral donors (Canada, the United Kingdom, the European Union) and from the re-allocation of domestic resources. While these projects often address a number of areas of education, up to and including tertiary education, the improvement of basic education is a central focus. Reports on curriculum activities produced by such projects form an important source of information that has guided the comments in section 3 of this paper.

As well, there is increased emphasis on regional cooperation in the reform of education. Due in large part to the leading role played by the University of the West Indies, there has always been a strong regional dimension in education - particularly related to the training of teachers and, by implication, matters of content, methodology and curriculum. This gained increased impetus after the establishment of the Caribbean Examinations Council (CXC) in 1972. By creating, in effect, a common syllabus for the higher years of secondary school, the CXC has exerted a strong downward influence that encourages common regional approaches to secondary education. As well, CXC has also played a continuing role in leading the development of secondary curriculum guides and materials.

In recent years, inter-governmental agencies in the region such as CARICOM and the OECS have played an active role in promoting cooperation in education reform. The OECS Education Reform Strategy² was developed in the early 1990s by the nine member states of the OECS in recognition that the challenges of education reform would severely strain the limited resources of individual small states. Indeed, progress would be much more effective (both in terms of cost-effectiveness and the quality of the results achieved) by utilizing strategies based on cooperative subregional action and a movement toward greater harmonization of their separate education systems. Several donors have channelled their contributions to education reform through mechanisms associated with the OECS and managed by its Education Reform Unit (the OERU).³

² See *Foundation for the Future* (1991) for a detailed description of the elements of the strategy, which encompasses some 65 sub-strategies addressing all levels from early childhood to adult and continuing education.

³ The OECS Education Reform Unit (OERU) is part of the OECS Secretariat and located in Castries, St. Lucia. The projects for which it is responsible include:

- The Eastern Caribbean Education Reform project (ECERP), supported by Canada (CIDA);
- Human Resource Development Tertiary Level Programme, supported by the European Union (EDF);
- Technical Education and Training Project, supported by the Federal Republic of Germany (GTZ);
- Primary Teacher Education Project, supported by the United Kingdom (DFID) and implemented by the UWI (Cave Hill).

Each of the resulting projects have components with direct implications for basic education curriculum. At the same time, the CARICOM secretariat's education unit has been supporting work to develop coordinated approaches to education in its member countries.

In the reform of education, it is important to note that "*curriculum*" needs to be interpreted as a broad complex of ideas. It includes the narrow definition of content: *the syllabus*, which describes what is to be taught (and learned). It also includes the range of methodologies, delivery methods, materials and textbooks that constitute the arsenal of educational resources that should be available to teachers and learners. It should also include a monitoring component that defines expected outcomes and the means of determining the degree to which these have been achieved.

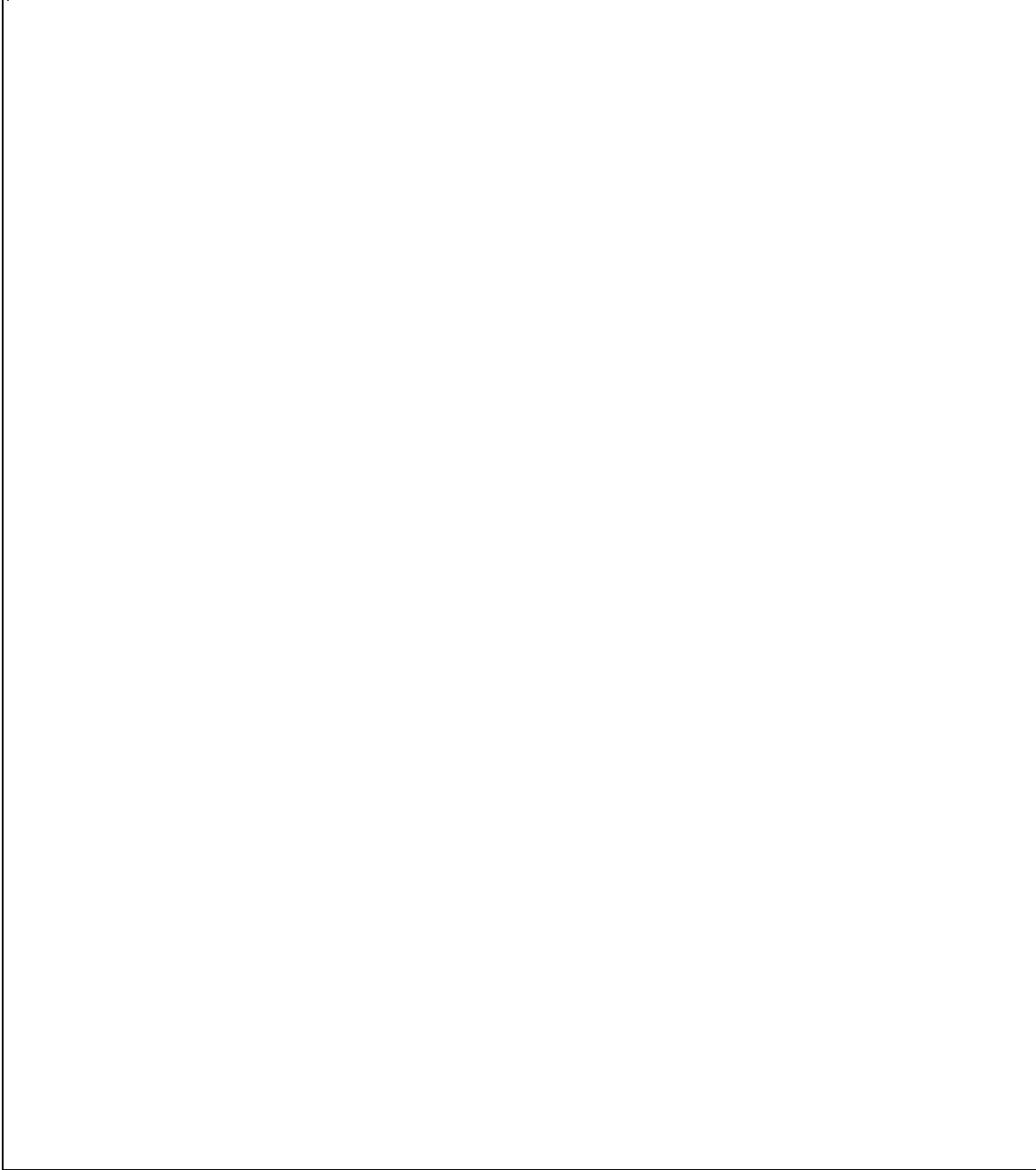
Finally, the implementation of curriculum is multi-dimensional, with at least four distinct layers of meaning impacting on different stakeholders:

- **The Formal Curriculum:** the written curriculum documents developed by the Ministry of Education educational authorities (often with the active involvement of teams of teachers) for use in the schools;
- **The Delivered or Implemented Curriculum:** what actually occurs in the classroom, what is taught and how it is taught;
- **The Received Curriculum:** that is, what the students actually learn;
- **The Retained Curriculum:** that is, what students actually remember, internalize, and use after they leave school.

The relationship between these levels is depicted in Figure 1. Throughout the world, it is the goal of educators to bring these four levels into congruence. The challenge is, of course, that in practice they diverge substantially. In the final analysis, only the last level is important. Curriculum as planned, delivered and received is only a means of achieving a literate, numerate society of productive citizens who are creative, critical thinkers and life long learners. Yet of the four levels, only the first is directly controlled and managed by the administrators of the education system. Only at the formal level do we have more or less complete knowledge of what is happening. The other three levels are subject to a great many external influences, both positive and negative, so that when we reach the level of **retained curriculum** the impact of the Ministry's efforts have been greatly diluted. Where the results really count, we are faced with ever greater uncertainty and ever less control - even as the costs, both to society and to the individual, of "getting it wrong" increase dramatically.

Just as in other parts of the world, Caribbean educators have tended to focus their energies and resources on "curriculum development": the review of objectives and the writing of appropriate curriculum documents - in other words, activity at the first level of **planned curriculum**. While this is a necessary activity, we believe along with an increasing number of Caribbean educators, that a broadening in emphasis (and a shift in resource allocation) to encompass the four levels of curriculum implementation is essential. Thus the sections below focus not only on the work of producing curriculum documents, but also on the experiences with their subsequent use, the training of principals and teachers to implement the curriculum effectively, the monitoring of curriculum effectiveness in the classroom, and the impact on learning outcomes.

Figure 1: Levels of Curriculum



2. INTERNATIONAL TRENDS IN CURRICULUM REFORM

Curriculum needs to be viewed within the entire context of schooling and society. Schooling must be relevant to the society it serves and meet the needs of individual learners and stakeholders alike. This section will analyse selected curriculum efforts in other parts of the world and tease out the issues that may be relevant and/or instructive for curriculum reform in the Caribbean nations. We first provide a stipulative definition of the term ‘curriculum’.

For our purposes, curriculum will be taken to mean the conscious selection and coherent organization of knowledge for teaching and learning. The phrase ‘conscious selection’ implies that a curriculum cannot include all the accumulated knowledge in that society; hence it is important to decide, using defensible and relevant criteria, what subjects or content are most valuable for the enhancement of that society. In conscious selection, it is clear that those who have the critical responsibility of making decisions about curricular inclusions must have a heightened sense of the needs of their nation and the specific needs of the learners. Spencer’s (1861) concern of “What knowledge is of most worth?” helps to focus and debate this issue that is the key to curriculum development. In this definition ‘coherent organization’ implies that knowledge of different types is not thrown together willy-nilly but rather some consideration has been given to such variables as sequence, levels of difficulty, type of learner, learning climate, and cross-curricular connections.

Any curriculum must serve the central functions of ‘teaching and learning’. In teaching we try to create the conditions for learners to use their potential to the fullest; this can involve the best instructional methods, the best materials available, motivational devices, respect for learners, and focussing on the purposes of schooling in that particular society. One of the primary purposes of the conscious selection of knowledge is to transmit the accumulated wisdom of that culture. Understanding, retaining, and using this knowledge is normally construed as school learning, but it should also result in a visible change of behaviour, including the accommodation of new knowledge. Thus curriculum simultaneously reproduces the past and creates the future.

Curriculum is driven by changes both locally and globally. It is often reformed locally to meet the demands of changing values or circumstances within a nation. Such change may have various causes, such as a shift in the means of production, political ideology, or level of affluence. Sometimes curriculum may even change locally because of influences from religious or immigrant groups. Although in large countries such as Canada and the USA local curriculum change may occur at the provincial or state level without directly affecting the national direction of education, in the small countries of the Caribbean there is hardly any geographic distinction between local and national when it comes to significant curricular decision-making; in each country educational decision-making (including curriculum) is centralized in the Ministry of Education.

Major changes in curriculum may occur in nations due to forces generated outside their borders. In 1957 when the Soviet Union launched Sputnik, the American people were shaken into thinking that they were no longer the superpower and that this should be blamed squarely on the education system. The massive educational engine in Washington DC was fired up to lead significant and enduring changes in school curricula. The education bureaucracies of individual states began implementing the new physics, mathematics, biology and social studies curriculum. There was even renewed interest in foreign languages. The motivation was clear: the USA was

not going to be second to any nation in the world; and the way to regain their leading position was clearly to reform the school curriculum and raise educational standards by introducing rigorous assessment criteria. The 1960s and 1970s were characterized by a multiplicity of experimentation in education from competency-based teacher education and specified competencies for each grade level to open area classrooms and student constructed courses.

During this period, curriculum-making in the USA came under heavy attack. The “reconceptualists” (Pinar, 1975) took issue with “scientific curriculum-making” (Bobbitt, 1918; Tyler, 1949) for being linear and inflexible; they proposed an examination of the deep structure of subjects and disciplines and suggested that the sociology of knowledge should play a significant role in developing curriculum.

After the ferment of the 1960s and the 1970s the dawn of the 1980s ushered in a new reality: the economic performance of the USA was fast eroding with serious competition from Japan. Again, the result was a major shakeup in education, triggered by the publication of the National Commission on Excellence in Education report—*A Nation at Risk: The Imperative for Educational Reform* (1983). In parallel, events in the United Kingdom led a few years later to the Education Reform Act which resulted in *The National Curriculum* (1988) for England and Wales. These two events will be analysed in relation to issues surrounding curriculum reform in the Caribbean.

A Nation at Risk

The purpose of the National Commission on Excellence in Education (henceforth referred to as the Commission) was “to help define the problems afflicting American education and to provide solutions, not search for scapegoats”(The National Commission on Excellence in Education, 1988, p.iii). The Commission was charged with the responsibility to assess the quality of teaching in public and private schools, colleges, and universities; compare American schools and colleges with those of other advanced nations; study student achievement and success; and define “. . . the problems which must be faced and overcome if [the American people] are successfully to pursue the course of excellence in education”(The National Commission on Excellence in Education, 1988, p.2).

The Commission was created on August 26, 1981 and reported on April 26 1983. It was frank and clear in its observations: it stated that most of the educational gains achieved immediately after the Sputnik era had been squandered, and went even further to state: “If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as *an act of war* (emphasis added)”(The National Commission on Excellence in Education, 1988, p.5).

The Commission was brutal in its observation when it said to the American people: “History is not kind to idlers”(The National Commission on Excellence in Education, 1988, p.6). The report stated unequivocally that America could not rely on its reserves of natural resources, enthusiasm, and isolation from problems of “older civilizations”. The world is becoming more interdependent and new competitors are challenging the supremacy of the USA in trade, commerce, and expertise. The risk was seen in the superiority of Japanese manufacturing, South Korean prowess in steel production, and the ascendancy of German machine products in the world market. In short, education was emphasized as a key factor in ensuring the nations future competitiveness in world markets.

The indicators of risk documented by the Commission included: the poor performance of students on academic tests internationally; high levels of functional illiteracy among adults (23 million), and among 17-year-olds (13 per cent); low scores of high school students on standardized tests, even lower than when Sputnik was launched; an unbroken decline in The College Board's Scholastic Aptitude Tests (SAT) from 1963 to 1980 including verbal, mathematics, physics, and English scores; excessive expenditures on remedial training in mathematics, and basic skills such as reading, writing, spelling, and computing. And to make matters worse, these deficiencies were surfacing when the knowledge explosion in business, manufacturing, the military, and labour was demanding new skills in the workplace based on the advent of the large-scale use of computers and other new technologies. A strenuous effort was made to balance this report with some good news and the observation was made “. . . the average citizen today is better educated and more knowledgeable than the average citizen of a generation ago--more literate, and exposed to more mathematics, literature, and science”(The National Commission on Excellence in Education, 1988, p.11). Despite this, an analyst was quoted in the report as follows:

Each generation of Americans has outstripped its parents in education, literacy, and in economic attainment. For the first time in the history of our country ,the educational skills of one generation will not surpass, will not equal, will not even approach, those of their parents.(The National Commission on Excellence in Education, 1988, p.12)

The report was scathing and constituted an indictment of the educational system, especially the high schools and the colleges.

The first recommendation dealt with the high school curriculum and the terseness of it removed all subtleties; it was direct and struck at the heart of the matter:

We recommend that the State and local high school graduation requirements be strengthened and that, at a minimum, all students seeking a diploma be required to lay the foundations in the *five new basics* (emphasis added)by taking the following curriculum during their 4 years of high school: (a) 4 years of English; (b) 3 years of mathematics; (c) 3 years of science; (d) 3 years of social studies; and (e) one-half year of computer science. For the college-bound, 2 years of foreign language in high school are strongly recommended in addition to those taken earlier.(The National Commission on Excellence in Education, 1988, p.24)

The report continued by providing 9 recommendations to implement the above. The first five provided objectives to be met in the areas of English, mathematics, science, social studies, and computer science. These objectives were quite specific and were meant to delineate the depth and breadth of the subject matter to be covered. Of the next three recommendations for implementation two dealt with elementary school specifying that a foreign language should be taught for 4-6 years because “ it is desirable that students achieve such proficiency because study of a foreign language introduces students to non-English-speaking cultures, heightens awareness and comprehension of one's native tongue, and serves the nation's needs in *commerce, diplomacy, defence, and education* (emphasis added)” (The National Commission on Excellence in Education, 1988, p.26). The other recommendation for implementing the elementary school curriculum emphasized the importance of establishing a firm grounding in the English language and writing, mathematics, science, social studies, foreign language, and the arts. The final recommendation simply encouraged organizations to continue their support for educational

innovations.

In summary it is clear that the Commission report was a catalyst for a return to the basics. However, the basics were extended to include science, social studies, and computer science along with the original English and mathematics. The low level of performance on international and local examinations were seen as a threat to maintaining the competitive edge; the USA was losing its grip on supremacy in the international economic order. The factors motivating curriculum reform came mainly, but not exclusively, from outside the nation. There was a clarion call for a return to high standards, educational accountability, and reliable assessment tools.

The National Curriculum

According to Lawton(1993), the idea of a common curriculum had been discussed in the United Kingdom since 1945, but a national curriculum appeared on the political agenda only in the mid 80s. Apparently the Conservative government was determined to centralize control of education and remove power from the Local Education Authorities. On January 9, 1987 the Secretary of State, Kenneth Baker, made a speech suggesting that: “the English education system was ‘eccentric’-- less centralized than that of France or Germany. He complained that standards were not high enough and that there was lack of agreement over a curriculum for the 14-16 age group” (Lawton, 1993,p.39). In fact Lawton points out that Baker really wanted “a school system that was more efficient, with higher standards and with better accountability” (Lawton, 1993,p.40). In 1988 the Education Reform Act (ERA) brought about many changes in education in England and Wales. A major part of this was the National Curriculum.

The introduction of the National Curriculum was controversial among teachers, education bureaucrats, parents, educators, and politicians. Ideology was at the base of this raging debate: some saw the new proposal for curriculum reform as elitist, some saw it as a political ploy for greater control of education by a central bureaucracy, while others acknowledged it as a search for accountability and efficiency in the educational system. As Gipps (1993) observed: “The Conservative government under Margaret Thatcher intended fundamentally to restructure the education system and improve the quality and availability of appropriate education in order to help overcome Britain’s economic problems”(Gipps, 1993,p.50). Britain’s economic downturn led to strong pressure for political action. Unfortunately education was chosen for this quick-fix and the ERA was pushed through parliament with little public consultation. This drew fire from many quarters.

The nodes of controversy were many. First, the structure of the curriculum was regarded as too restrictive because of its highly prescriptive directives. Second, the philosophical base was unclear: there was a lack of aims, values and organizing principles beyond the level of subjects. Third, there was a lack of coherence: integration of topics within the curriculum was seen to be arbitrary and the progression from level to level vague. Fourth, the curriculum content: core subjects: English (plus Welsh in Welsh-speaking schools), mathematics, and science; and foundation subjects: history, geography, technology, music, art, and physical education together with a foreign language (beginning at the secondary school level) was criticized over the absence of important areas such as values, morals, and citizen education. In 1990 however, the National Curriculum Council rectified this by identifying cross-curriculum themes, for example, economic and industrial understanding, careers education and guidance, health education, education for

citizenship, and environmental education (Hirst, 1993). Fifth, political ideology created major debates about centralization and control; teachers felt that they had not been sufficiently consulted, were being asked to implement a political agenda and, more so, were not given sufficient training and time to understand and prepare their work for maximum efficiency. Sixth, new structures for assessment and recording raised concerns among teachers about the over-emphasis on paper-and-pencil tests and pressures to 'teach to the test'. As Gipps (1993) points out:

It is partly political: assessment is being used by this administration, as in other countries, to gear up the education system, to raise standards and to force accountability on schools. In this climate, teachers are not to be trusted as their own evaluators. (p.50)

Finally, the whole area of implementation was seen as a top-down bureaucratic control mechanism. Key people such as head teachers (Littledyke, 1997) were not given enough time, resources, involvement, or training to understand what their specific roles were in this reform of the curriculum. The prime implementers were seen to be bureaucrats rather than the professional educators. Parents were also quite concerned that they lacked sufficient information about what their children were expected to learn and why.

In summary, the National Curriculum contained many positive features such as an attempt to address real problems in the education system in England and Wales and reverse the failure of many students "who leave school at 16 under-educated by international standards and inadequately prepared for adult working life in a complex modern society"(Bolton,1993, p.45). It was further pointed out by Bolton that:

As far back as 1978, the *HMI National Survey of Secondary Education* (DES 1978) revealed that the curricular provision for pupils were so uneven and varied nationally as to be indefensible.....(and) the Government of the day has become increasingly involved in that debate on the grounds that it, along with others, has an important interest in what is taught in our schools arising from its duty to the people of England and Wales as set out in the education law, and its responsibilities to foster the economic health and well-being of the nation.(p.45)

The structure and implementation of this reformed curriculum came under heavy attack by educationists, teachers, and parents as mentioned above. The emphasis by the Government of the day on centralization, a revised system of assessment, and the lack of adequate public consultation was seen as arrogance on the part of a government which was determined to effect change hastily in the education system.

Both *A Nation at Risk* and *The National Curriculum* provide useful lessons and examples (both positive and negative) for the process of Caribbean curriculum reform. Both were prompted by the desire to be economically competitive internationally and educationally accountable locally. Emphasis was placed on the need for the education system to be accountable to the public; there was a concerted effort to establish high standards through the implementation of rigorous demands in specified subjects; assessment was a key issue in this call for curriculum reform and the subjects included in the new curriculum were the basis of heated debates. The political ideology of both countries were similar--both being Conservative governments at the time, and their philosophy of containment and control were obvious to many in the public domain. The

bureaucrats' top-down approach to curriculum reform met with stiff opposition from many who saw some of their democratic rights being overridden. Although some changes were made, and are still being made, the positive outcomes include a heightened awareness of curricular issues, a renewed interest in education, and a continuing debate about accessibility, quality of education, and lifelong learning.

Caribbean Issues

It is misleading to assume that the Caribbean is a homogeneous entity, just as it is erroneous to view either the United Kingdom or the United States of America as a monolith. The Caribbean is made up of island nations and mainland territories with many ethnic and racial groups accompanied by several languages, cultures, and histories. There are several similarities such as economic base, aspirations, place in the world economic order, and education. What concerns us here is that aspect of education with which every nation must deal: the school curriculum. In the English-speaking Caribbean, curriculum is centralized in the Ministry of Education (MOE) and education decisions are made top-down. Curriculum decisions in these territories are heavily influenced by global events.

Canadians often say that when the USA sneezes, they catch a cold. Using this analogy, the Caribbean nations catch a cold every time the UK, the USA, Japan, Western Europe, or Canada sneezes. The economic ties between these countries and Caribbean nations involve a delicate and major balancing act. Catching the "economic cold" can be debilitating and even deadly. The obvious current example is the trade dispute over banana tariffs, but the economic vulnerability of small states is nothing new. Other, earlier examples include the case of Cuba, and Guyana during the Burnham regime. In both scenarios discussed above (*A Nation at Risk* and *The National Curriculum*), one of the driving forces behind curriculum reform was the need to remain competitive in a changing global economic order. This is, of course, critical in the Caribbean and current curriculum reform efforts are aimed at strengthening the type of training and education that will provide and maintain a viable place for each state in a global economy characterized by increasing competition and accelerating change.

Canada has recognized that dependency on a natural resource based economy will mean a loss of the competitive edge in the global market place; the move is towards a knowledge based economy supported by the most advanced technology. Should Caribbean nations move in a similar direction? And if there is a choice, what are the alternatives? The gap between the industrialized and the non-industrialized nations is getting bigger and rapid technological change only accelerates the growth of a "knowledge gap" between the North and the South. How can the curriculum be reformed to equip Caribbean citizens to reverse this trend and establish the conditions for a high quality of life?

The colonial legacy of "what's foreign is necessarily better" is dying a very slow death; for example the perception that the English grammar school is still the best education persists among many middle class parents. This in turn creates pressures on what the curriculum should include. Further, consumer tastes and patterns mimicking foreign countries (strongly influenced in recent decades by the arrival of multi-channel cable television) affect the economy and attitudes toward local production. Can the curriculum include patterns and themes that will help to strengthen indigenous values and attitudes?

The influence of the Common Entrance Examination looms large in many states, although a number have announced plans to phase it out in coming years. How does this examination influence the design and delivery of quality curriculum? Does it support or discourage the types of reforms and adaptations that are deemed necessary for the improvement of learning?

Politicians, educators, employers, and the general public are understandably concerned about the relationship of education to employment. While the personal benefits of education are important, both the USA and UK experiences were driven by the perception that the education system was failing the country in providing a labour force with the necessary education and skills for economic competitiveness. But traditionally, (particularly in colonial models), secondary schooling was designed to provide a pool of talent from which a minority could be selected for university education. It was seen as a path to higher education, not to employment. The challenge for curriculum now is to prepare all students, no matter at what point they finish formal schooling, with the basis for productive and fulfilling lives. Given the realities of accelerating technological change and volatile global economics (to which, as noted, small states are particularly vulnerable) the old paradigm of a “job for life” has disappeared. Skills obtained today are obsolete within a few years. Traditional jobs, even whole sectors, may disappear, while new types of employment lack suitably qualified people to fill the positions. Thus every school leaver or graduate should be equipped with adequate skills to pursue further job-related training. Every student must be prepared to be a life long learner. It has been observed that in Canada and the USA, for example, more training is now delivered through the private sector in the workplace than through the formal education system.

Curriculum development, often combined with the establishment of teaching resource centres, is a primary concern of many Caribbean countries (Poonwassie, 1997). As we shall explore below, new directions include the consideration of core and elective courses, curriculum for special needs students, the importance of technical and vocational education and training, the role of assessment, including examinations, the impact of new education technologies such as computers, distance education and life long learning. This is a large agenda, taxing the resources of the larger states and perhaps beyond the reach of smaller ones. Thus regional cooperation among Caribbean countries embarking on similar projects is gaining renewed attention. Cooperation carries the potential that costs can be shared, time-consuming work does not have to be repeated, and greater harmonization of curricula and other components of education may be achieved. In part these were the motivations for establishment of the OECS Education reform unit and the strengthening of educational activity in fora such as CARICOM.

Since most Caribbean nations are relatively small (geography and population) the question of centralization versus decentralization (that loomed large in the US and UK reforms) is more about power structures and control than about geographic dispersion. A literate and well-informed population is essential for democracy to flourish. Most Caribbean countries claim a high literacy rate; hence one would think that input from the general population would be sought in making decisions about the curriculum. Such consultation does indeed occur: the process leading to the report *Foundation for the Future* is an excellent example. Yet our experience in several Caribbean countries reveals that subsequent decision making remains at the bureaucratic level, and so places day-to-day control of education squarely in the MOEs.

The politics of control and decision-making in education, and curriculum in particular, are fraught with controversy and peril (sometimes personal) in small states. Decision makers cannot

hide in a small community and can be found and confronted at anytime. Nonetheless, decentralizing some decision making and encouraging the practice of school-based curriculum needs consideration. The wisdom of the teachers, principals, and parents should play an integral part in providing the correct balance. This becomes essential if the curriculum is to include values, morals, desirable attitudes, health education, family life education (including such topics as teenage pregnancy and sexually transmitted diseases). In addition this participatory approach will share ownership and responsibility for the curriculum. It may even generate community resources to support the local school's constrained budget for supplies, enrichment materials and facilities. So while leadership may come from the professionals and the elected officials, the sharing of control with concerned stakeholders will facilitate effective implementation.

The school principal is the key to the culture and educational practice in a school (Littledyke, 1997) and this includes curriculum implementation. The principal, as an effective educational leader, can encourage and lead staff to implement new ideas that in turn will improve teaching and learning and produce better students. Conversely, if principals and teachers are not consulted in the process of curriculum-making, implementation becomes almost impossible and a lot of effort and scarce dollars can be wasted. This lesson emerged clearly from the implementation of *The National Curriculum* in England and Wales; another is that teachers be given adequate time and resources to understand and plan for implementation in the classroom. Regardless of where curriculum is being implemented parents must be consulted and kept informed.

The effectiveness of a curriculum is determined in many ways that only start with test results: Does the curriculum include the most recent information? Is the curriculum flexible enough to include recent information? Are teachers trained and motivated to use the curriculum effectively? Are the methods of teaching and the resources adequate and relevant to the content? Are pupils learning the content? Is the content relevant to the society in which it is being implemented? Clearly, reliable answers to these complex questions must come from a variety of monitoring approaches that go well beyond standardized testing of individual student achievement.

In the Caribbean heavy emphasis is placed on examination results. This is no different from the findings of the Commission on Excellence in the USA where there was a call for tougher standards to be met by high school students. While assessment of student performance, properly designed, can provide valuable data on the degree to which the curriculum is being mastered, the effective monitoring of curriculum itself in relation to the issues discussed above is a much more complicated challenge. This issue of assessment is discussed in greater detail in another paper at this conference.

In the final analysis all societies make curriculum choices from their own culture. And yet the world is rapidly shrinking. With rapid globalization and the accelerating spread of information, any nation that fails to prepare its youth to participate in the knowledge-based industries of twenty-first century will be doomed to remain on the margins of the global economy, isolated and vulnerable. At the same time, one cannot ignore the importance of local needs, particularly primary production such as agriculture. A nation that cannot feed itself is susceptible to the vagaries of foreign-controlled markets. Many Caribbean nations rely on exports of food or primary products for a significant part of GNP. However, as small states they lack the leverage to influence world prices. Understanding of such issues is important to every citizen and should be included in curriculum content, rather than relegated for adoption as cross-curricular themes simply because they are considered to be marginal, not to be taken seriously by teachers or

students (Morris and Chan, 1997).

Curriculum which reflects the particular conditions that exist in the Caribbean nations will contribute to an education system that is relevant to the cultural, economic, and social conditions of the society (Gift, 1996). While nations must be careful to develop their own unique curriculum and education system, Caribbean educators must be prepared to draw on the best educational expertise from other parts of the world, even though major modifications to suit the Caribbean context may be required.

Finally, it is essential that leaders in the Caribbean nations project a vision of the characteristics of the ideal Caribbean person. Curriculum is the very life blood of the educational system and the educational system is a key to developing the citizens of tomorrow. The inclusion of the ideals of a nation in the curriculum becomes a motivating factor for youth to achieve their goals of success and the good life. In the next section we survey some of the current practices and experiences in curriculum reform that are addressing these issues.

3. THE CURRENT SITUATION: CARIBBEAN EXPERIENCES

In preparation of this report we have examined a large number of reports from individual basic education reform projects, from curriculum units and other sources in Caribbean Ministries of Education and the donor agencies. We now attempt to summarize the trends that are emerging and present some examples of significant activities that seem to bear promise of effective change in the quality of classroom instruction. We caution that our survey is anything but exhaustive; in the time and space available we can only touch on some examples.

As noted above, the original curriculum models in the English speaking Caribbean were essentially British. Indeed, until the 1970's the culmination of secondary school was the Cambridge external GCE examinations. With the establishment of the Caribbean Examinations Council (CXC) in 1972 the movement to take national ownership of curriculum matters gained great momentum and efforts to develop specifically Caribbean curriculum for all subjects and grade levels intensified.

Development of national curriculum, particularly at the infant and primary levels has proceeded rapidly since then. Some of these efforts were carried out cooperatively between a number of countries. For example, during the 1980's the USAID Primary Education Project supported the development of PEP curriculum materials jointly for a number of Eastern Caribbean countries covering core subjects in grades 1 to 5. This was a major cooperative effort involving a number of Caribbean states together with the three campuses of the U.W.I. . Although the subsequent dissemination and implementation of the PEP curriculum was uneven, it is still in use in some schools and its content and approaches have influenced many subsequent curriculum development efforts. The strongest lesson emerging from the PEP experience may be that design and production of appropriate curriculum materials is only a first step in what has to be a broader strategy⁴. This must include the provision by Ministries of Education of adequate resources, on a

⁴ Desmond Clarke has commented on PEP as follows:

“.. The severe shortage of instructional materials has tended to lead to disproportionate emphasis on producing such materials as the primary goal of the various attempts at systematic curriculum

sustainable (post-project basis) for:

2. Printing and distributing an adequate number of copies of the materials;
 - Training teachers in their use;
 - Training principals and education officers (school supervisors in some jurisdictions) to assume a leadership role as the trainers and monitors in the effective implementation of curriculum;
 - Organizing regular progress reviews to assess the impact of and the lessons learned from the curriculum reform;
 - Updating and modifying the curriculum, and preparing new supporting materials and teaching aids as necessary, based on feedback from the reviews.

CURRICULUM REFORM IN TRINIDAD & TOBAGO

Supported through its Basic Education Project, the Ministry of Education of Trinidad & Tobago mandated a major review to strengthen curriculum and classroom instruction in language arts and mathematics. The work began with a study involving expert consultants from the Caribbean and outside to examine the existing curriculum, identify new trends and issues that needed to be addressed, and to develop a plan for the restructuring of curriculum from Kindergarten to Standard 5. Key personnel (Ministry officers, teacher trainers, principals and teachers) formed a core team and subgroups that developed new guidelines, syllabus and materials. These were then piloted under close supervision in selected schools. The core group was expanded to create teams of trainers: first targeting principals, then selected experienced teachers. These were then expected to form a team within their school to train their colleagues. Enough copies of the core curriculum documents were produced through the Project to supply every school with at least five copies.

Models for Developing New Curriculum

As noted above, virtually every country has carried out substantial work on the development of new curriculum that responds to particular national needs and reflects the local context. In some instances this process has been iterated several times over the past decades. Typically the process is led by the curriculum unit of the Ministry of Education. Working groups involve the unit's professional staff along with experienced principals and teachers. Sometimes outside consultants, UWI faculty, etc., assist.

The recent experience of Trinidad & Tobago may be cited as an example of this process, which can be observed, in more or less similar forms, in nearly all the countries involved in the seminar. Here we see a thoroughly planned process, involving a careful sequence of steps leading to the production and dissemination of new curriculum documents, involving Ministry

innovation and staff development . . . Of course this emphasis on developing curriculum materials does not necessarily exclude process outcomes for teacher development nor does it necessarily imply top-down approaches. However field experience suggests that the interplay between reliance on external funding and the modest teacher background noted earlier explain, in large measure, why the teacher development objectives of such projects were not realised to any great extent.” (Clarke, 1996, p.6).

experts, principals, and teachers. From the perspective of a curriculum unit, the project has “done its work”.

But, considering that curriculum is an evolving, dynamic part of the education process, not a static product, some problems and questions remain unanswered. Who “owns the process”, and bears continuing responsibility for the implementation of curriculum, including the monitoring of its effectiveness and identifying the need for further focussed action? Curriculum officers, Education Officers (School Supervisors in Trinidad & Tobago), teacher trainers, principals, and teachers all have to bear responsibility for critical parts of the ongoing process. It appears that the sense of ownership, and consequently, the commitment to the reforms was not developed in some instances. Particularly at the level of school principals, the degree of commitment and the development of their role as *curriculum leaders and educational visionaries* in their schools appeared to be a key success factor in the dissemination and sustained implementation of the reformed curriculum.

Since the reforms in Trinidad & Tobago took place over the period 1995-1998 it is very early yet to see significant improvement in learning outcomes. But earlier benchmarks established for the Common Entrance Examination have shown a steady improvement up to 1998 so that a preliminary assessment would suggest that there has been a positive impact. The full story will emerge as the children exposed to the reformed curriculum in the earliest grades reach Common Entrance (and subsequently CXC) in years to come.

The model just described seems to have been repeated, with minor variations, in most Caribbean states. In recent years, additional issues have started to be considered. For example, there is starting to be a recognition that wider consultation may be beneficial. In its establishment of a new curriculum framework, for example, Belize involved parents and other community stakeholders in the process. In the OECS states, the establishment of national education reform councils or similar bodies, has been under discussion for some time. Certain countries already have functioning bodies of this type. To date, however, these do not appear to have been actively involved in the provision of external advice and input into the curriculum reform and strengthening process.

The development of Belize's curriculum framework in Belize has been designed around the participation of different people and cultures as subject areas and disciplines. These include:

- economic activity and the world of work;
- the physical world and natural environment;
- number quantity and spatial concepts;
- appreciation and participation in the arts;
- proficient communication in English;
- functional literacy in Spanish.

These goals are then translated into the formal subject areas of Language Arts, Mathematics, Science, Social Studies, and Physical Education.

In 1998 the CARICOM secretariat embarked on a significant research project to examine the common content of learning outcomes in the K-6 mathematics and language arts curricula of its member states (Ribiero, 1998 and Craig, 1998). Their work uncovered a strong common core of shared learning objectives in the curricula examined.

Such mechanisms can be important in developing curriculum approaches that reflect and are strengthened by local culture, thus building pride and national consciousness and in turn building on such awareness as a tool for learning. The possibilities are many: using local music as a teaching tool is often cited. (This is not without its hazards, particularly when racial or ethnic diversity is neglected in the curriculum. For example in Trinidad and Tobago, this became a major issue when the music of one racial group was left out of the curriculum.) Integrated multi-subject curriculum units around local themes: particular sectors such as fishing, bananas, tourism, festivals such as carnival, or environmental realities such as rain forest, coral reefs, volcanos can address subjects as diverse as language arts,

mathematics, science, social studies, and technology. Curriculum implementation requires the cultivation of a sense of adventure, a desire for improvement, and the hope that what is to be taught and learned will truly make a positive difference. All of this is much easier if the curriculum is firmly rooted in local values, culture, and experiences.

In 1998 the OERU launched a curriculum harmonization effort in elementary mathematics and language arts among the OECS member states. The development of common sets of learning outcomes was used by participants to identify areas where existing approaches and materials could be shared among states, or cooperative efforts to develop new materials, on a sub-regional cooperative basis, could be launched. The OERU is facilitating follow up actions, and a similar effort is planned for social studies and science in late 1999. (Berry et.al., 1998 and 1999)

Harmonization of curriculum within the region is also a significant emerging issue. For several reasons. Increased personal mobility makes it desirable for students (and teachers) to be able to move between school systems in different states with minimal disruption. Moreover, the tendency to greater cooperation in education, sharing of tasks and common facilitating structures such as CARICOM and the OERU, can only be strengthened if the curricula of individual states operate along broadly parallel lines.

The OECS Education Reform Unit, supported by the ECERP project, has been directed by OECS Ministers of Education to promote the harmonization of curriculum in the primary grades actively. In approving a common system of grade names in 1997, Ministers observed that in time, the names of the grades should not only *be the same*, but should *mean the same thing*.

Models for Disseminating, Implementing, and Monitoring Curriculum

As noted above, the best curriculum development efforts will have little impact if they remain as documents “on the shelf”. Curriculum must be implemented in living classroom settings by teacher and students engaged in teaching and learning, just as a conductor and orchestra turn notes on a page into beautiful music. Sadly, all too often teachers may lack the tools (up to and including basic familiarity with the curriculum documents) that are necessary for this to happen. Increasingly Ministry’s curriculum units are realising that the initial development of curriculum documents is only the first (and easiest) part of their work.

To cite but one example, Dominica has recently done excellent work in producing a new mathematics curriculum for the primary grades. However, by 1998 it was only being used in those schools where there are teachers who had served on the drafting committees. There appear to have been no significant resources to disseminate the curriculum proactively into other schools that had no prior involvement in the process. As well, the buy in and sense of ownership of principals and teachers in these other schools had not been developed. So, at least initially, the benefits of the work on curriculum development were very slow to be realized in the country’s classrooms.

It is essential to have mechanisms for professional development and in-service training of teachers, to provide them with the information, tools and skills to be effective managers of the curriculum and leaning process in their classrooms. Too often the initial two year certification is regarded (as much by policy makers and planners as those who hold the certificate) as the end of training rather than the beginning.

Many territories (e.g. St. Kitts-Nevis, see box) are creating new teachers resource centres or

expanding existing ones. Particularly in situations where the provision of adequate instructional and reference resources to every individual school is prohibitively expensive, such centres provide a relatively cost-effective way of providing teachers with a source of information, models, teaching aids and reference documents. They are also an important tool for networking among teachers and building morale and a sense of community in the teaching service.

There is a further issue of coordination between curriculum units and the teacher training institutions. Both curriculum officers and TLI instructors have observed that curriculum changes and innovations are not reflected in the certification programs. The graduates of these programs are thus under considerable tension when they return to the classroom to reconcile what they have been taught with the quite different reality in their schools. Many instructors are well aware of the problem but claim that they are constrained to “teach to the UWI examinations”.

**CURRICULUM REFORM UNDER
THE ST. KITTS-NEVIS
BASIC EDUCATION REFORM PROJECT**

St. Kitts and Nevis has undertaken an extensive program of curriculum reform under its Basic Education Project. The final report of a consultancy on curriculum policy was submitted to the MOE in December 1997 (Poonwassie, 1997). This report contained policy directions for curriculum development, implementation and assessment. A three-year work plan was designed with emphasis on consultation with stakeholders, needs assessment, and the organization of representative working groups. Policies for the organization of teacher resource centres and a curriculum development unit were put in place. The curriculum development centre was established with staff in each of the subject areas assigned. A teacher resource centre was established in Basseterre and is being furnished with books and materials. This approach reflects simultaneous establishment of the curriculum development unit, the relevant consultation committees, suitable staff training exercises, and an adequate teacher resource centre, thus focussing on the sequence of development, implementation, and assessment.

A further coordination issue arises in those states which have significant private school components that may be less amenable to MOE control than the public school system. Haiti is perhaps the extreme case, where over 80% of primary places are provided by the private not-for-profit schools. In their case, the role of coordinating bodies outside the MOE, such as la Fondation Haïtienne de l'Enseignement Privé (FONHEP) is critically important and the development of appropriate consultative and cooperative arrangements with the MOE provides a model which may have wider applicability.

These dissemination and coordination issues are linked to the issues surrounding decentralisation of education. A number of Ministries report plans to establish regional or district education centres. In some states these already exist. They can become focal points for the dissemination of curriculum, depositories of supporting materials and resources for teachers. Some Ministries (e.g. Belize) are setting up administrative structures around the district education centres, including transfer of education officers away from the central Ministry offices, establishment of District Councils, etc. But perhaps the most critical aspect of decentralization is the recognition that the individual school, in its local community, led by a committed, experienced and visionary principal, is the point where success or failure in curriculum implementation is determined. Indeed, Trinidad & Tobago identified the commitment and experience of the principal as *the* key success factor in implementation of their new curriculum in individual schools.

Mechanisms are urgently needed for building coherence between the four levels of curriculum cited at the end of section 1. Ministries cite the need for greater responsiveness of curriculum to the needs of employers, coherence with predicted labour force trends, etc. In the OECS states, ECERP supports a substantial public awareness activity that is assisting Ministries to consult more effectively with external stakeholders about educational issues, including curriculum.

Similarly, the OECS-GTZ project is supporting the creation of national councils that will involve both educators, employers, and community representatives in the planning of relevant workplace-related training.

Monitoring of curriculum has many dimensions. We do not pursue these in detail since evaluation and assessment is the subject of a separate paper. It is important to note, however, that measuring the achievement of individual students through standardized tests is only one component of a comprehensive curriculum monitoring strategy. Such a strategy includes both monitoring of classroom practice to determine the effectiveness of implementation, and also the ongoing review of curriculum content to assess its continuing relevance and effectiveness in the local context. Education officers, curriculum officers, teacher trainers and critically, school principals, all have essential roles to play in these processes. Indeed the most valuable monitoring information may come from the qualitative data these senior educators can gather through the investment of time when they are dynamically engaged with the actual classroom practice of individual teachers and learners.

Typically Ministries report “lack of congruence between the overt requirements of the curriculum documentation and the quality and style of teaching” (Anguilla: Education Sector Survey, 1997, sec. 6.6.2). This continues to occur in spite of efforts to move education officers into the schools for a greater proportion of their time. Anguilla has recently increased the time spent on monitoring, requiring all education officers, coordinators and teacher trainers to work closely with principals and spend a considerable portion of their time (the former benchmark was one day per week) in the classroom.

The Language of Instruction

In recent years there has been a growing recognition that curriculum, particularly the approach to language arts in the early grades, should reflect the reality that for many young children, a local Creole or patois is their ‘first language’. The details may vary - for example in some of the Commonwealth Caribbean the patois is French-based, as it is in Haiti, while elsewhere it is an English-based Creole. The underlying issue remains the same: the vernacular which children carry with them into the classroom is strikingly different from the language of instruction in all subjects and the language to be mastered in all components of language arts: reading writing, comprehension, spelling, grammar, etc.

Caribbean education researchers are increasingly aware of the implications of this for education in the early years, but little impact has yet been felt in the classroom. A recent CARICOM study of curriculum materials in 8 states (Bahamas, Barbados, Dominica, Grenada, Guyana, Jamaica, St. Kitts/Nevis, Trinidad & Tobago) noted that:

. . . although practically all primary children in the Caribbean habitually speak a Creole-related vernacular of one kind or another, no treatment of Reading in the submitted materials, except that in the St Kitts/Nevis Integrated curriculum, takes any specific account of this fact. It is true that a ‘language experience’ approach is sometimes mentioned but this is not in any way coordinated with the standard reading programme components . . . (Craig, 1998, p. 10)

Current curriculum reform in language arts in the primary grades of a number of territories (e.g. St. Lucia, Dominica, . . .) includes two key elements: an increased emphasis on oral language,

and structuring the curriculum (and often the timetable) around a “language block” rather than reading, writing, spelling, etc., as distinct subjects. This creates a setting in which further work on integrating the needs of Creole-speaking children into the curriculum could be pursued. In some islands non-governmental agencies are moving to fill a perceived need for Creole-based materials. In St. Lucia, for example, one publisher has begun to produce a series of pre-school level reading primers in St. Lucian Kweyol.

In St. Kitts & Nevis, the Ministry has developed, in addition to the Special Education Unit, a *Learning Support Unit*, which addresses the needs of remedial students in regular classrooms (both primary & secondary). It is developing a skill based profile system for diagnosis and subsequent remediation within the regular curriculum. By targeting “at risk” learners in regular classes, they hope to improve the transition to secondary school and reduce the level of difficulties encountered by weaker students, who up to now have been unprepared for secondary level work.

The problem has been identified as particularly urgent by the MOE in Haiti, and support has been provided by the IDB to evaluate the role of Creole as a medium of instruction in the primary grades. FONHEP has been active in producing some Creole teaching materials.

At the same time it is recognized that monolingualism is not an option in an increasingly internationalized environment. This issue reflects the increasingly global outlook of Caribbean states as well as the increasing mobility of both ideas and people. There has been a rapid growth of interest in certain English speaking countries (particularly Belize, Guyana, Trinidad & Tobago) in the introduction or strengthening of Spanish as a second language in the schools. In the other direction, Hispanic immigration into some English speaking countries (e.g. Anguilla) has increased the demand for and interest in ESL (English as a second language) teaching.

Special Education

A UNESCO report (1995) surveyed the present situation about provision of services to children with special needs in a number of countries, including two Caribbean states: Barbados and Jamaica. In both countries the survey indicated that children with physical disabilities, visual or hearing impairment tend to be in special schools, or special classes in regular schools, while some integration into regular classes occurs for children with language or learning disabilities, emotional and behavioural problems, and severe learning difficulties. While this type of integration is officially encouraged, it seems to encounter

much opposition. Moreover, there is a severe shortage of resources to support these children in regular classes, including trained resource persons or consultants who can assist the regular classroom teacher to develop the appropriate instructional modifications to the curriculum. It seems likely that this situation is fairly typical of Caribbean states.

Anguilla has placed priority on the early identification and remediation of children experiencing difficulty in mastering reading skills. They have committed their schools to implementation of the *Reading Recovery Program*, a specialized approach for beginning troubled readers initially developed in New Zealand. They have sent one teacher to the U.K. for the required training, and are now in the process of implementing the program in the island's schools. The OERU is planning a workshop later in 1999 to share their experiences with other Ministries of Education in the OECS.

UNICEF is working with the Ministry of Education in Dominica to develop a specific instrument for the early identification of children with learning difficulties. The need is felt for a diagnostic tool that will accommodate the particular local context, including the reality that for most children entering an English language based system, their vernacular is a French-based Creole. This in itself does not indicate that the child has any learning problems; rather it is a consequence

of a mismatch between the curriculum and the local context in which it is being used. This makes the identification of genuine learning problems more complex than in situations where there is no conflict between the child's vernacular language and the language of instruction. As work in this area progresses in Dominica, the OERU plans a workshop to share the results with other OECS Ministries of Education.

Family Life Education

Educators have identified the need for greater intervention in the middle years of schooling to address problems faced by Caribbean teenagers which they "do not leave at the classroom door". These include issues such as teen age pregnancy, drugs, and sexually transmitted diseases. A number of states have increased their emphasis on family life education (FLE) in recent years. Dominica, to cite one example, has targeted this area with a major review and development of new curriculum at the secondary level. Their work was based on guidelines developed at the regional level by a CARICOM project supported by the Carnegie Foundation, PAHO, and the UWI.

Family Life Education issues cannot be divorced from broader attitudinal and societal concerns. Many educators feel there is a serious disjunction growing between the values and culture of the classroom (as reflected in the curriculum) and the external culture in which students spend so many of their waking hours. In the absence of definitive research, there is strong anecdotal evidence (tastes in music, hair styles, clothing, slang language, etc.) that the major intrusion of North American television into what were previously rather insulated societies has been a major factor in the changing mores of Caribbean youth.

Education and Employability

Ministries are having to grapple with increasingly urgent questions about the relevance of curriculum. This is linked to debates about the future directions of economic development and labour force trends - particularly the need for strengthening science and technology education, starting, but certainly not ending, in the primary schools. As in other parts of the world, critical problems emerge. The curriculum is already overcrowded. How can more time be spent on science, technology and mathematics without sacrificing the needs of other subjects? Perhaps the answer is *better, more relevant material* rather than simply *more material*. Gender issues need to be considered, particularly the traditional avoidance of science and technology subjects by girls and the related anxiety and lack of confidence about these subjects held by many teachers. The OERU is launching a study on science and technology education, and its links to the world of work, that may suggest some strategies.

Effective teaching of science is action-oriented and traditional approaches, using laboratory-type experiments, are often prohibitively expensive. This is an area where the extensive work in various countries on teaching science based on local and "found" materials, so-called "kitchen science", etc., holds considerable promise, but much remains to be done in developing these

In the OECS States, a project supported by the German Government (GTZ) is working with the Ministries of Education to grapple with these issues. It focuses on the upgrading and retraining of TVET instructors, and efforts to integrate TVET

into the mainstream curriculum. In an effort to gain a better understanding of the educational implications of these phenomena, the OECS Education Reform Unit, under the ECERP project, has implemented a major Student Attitudes Survey among the youth of the nine OECS member states. The results are currently being analysed, and are expected to provide useful data for the reform of guidance and counselling services, as well as the revision of certain aspects of curriculum.

approaches in a Caribbean context and disseminating such techniques widely among curriculum leaders, principals, and teachers. Again, this is an activity in which regional cooperative action might produce considerable savings of resources, time and effort.

Traditionally, discussions of relevance centred on the distinction between an academic curriculum, regarded as preparation for advanced education and appropriate for the “brightest” students, and technical/vocational training (TVET), designed to provide students with skills directly relevant to the job market and considered to be suitable for weaker students who would leave school in their teens. Negative social attitudes remain attached to TVET and constitute a significant obstacle to relating education more effectively to the labour market, particularly for those students who do not proceed to post secondary education.

Changes in the labour market, changes in technology, and changes (particularly rising expectations) in society are now driving a different agenda. Increasingly, jobs for which traditional TVET provided training need much stronger literacy and numeracy skills. Moreover, changes in technology indicate that technical and vocational employees must be life long learners, with the capacity to learn new skills throughout their working lives. Public perceptions of TVET training, however, remain prejudicial: it is viewed as ‘second-class’ education for weak students. Moreover, traditional TVET training has not been very successful in meeting employment needs. Youth unemployment remains high, while simultaneously, employers complain that they cannot find suitably trained applicants to fill technical positions⁵.

On the other side, the “academic” curriculum has been criticised for being too removed from the needs of everyday life, and inappropriate for a large number of students who need a well rounded basic education as preparation for a wide variety of future options which may include moving back and forth between further education and the labour market for many years. This critique extends downward to the primary level, where the excessive focus on a narrow interpretation of academic achievement has been blamed for the poor performance of many children in the Common Entrance Examination.⁶ Responses include the development of integrated curriculum, including the development of materials on particular topics which can be used to simultaneously teach mathematics, English language, social studies, science, etc. In a number of states block curriculum in language arts is replacing the traditional divisions into reading, grammar, spelling, writing, etc. Several Basic Education Reform Projects are addressing such activities in their efforts to reform curriculum, starting at the primary level.

⁵ These issues relating curriculum to the labour market are explored in detail, with useful data, in Gift (1996).

⁶ To quote the World Bank Staff Appraisal Report for the Trinidad & Tobago Basic Education Project (1995):

“Increasingly schools, communities and parents in Trinidad & Tobago are questioning the primary level curriculum, focussed in the subjects tested in the CEE: math, English language, science and social studies. The teaching of disciplines such as arts and crafts, music, drama and culture, which inherently make use of the socio-cultural context of the child and could motivate and facilitate learning, is almost non-existent. Yet, in spite of the traditional focus of the curriculum, some 50% of primary graduates have failed English language and mathematics in the CEE. In response, the teaching of literacy and numeracy is to be integrated into a well-rounded and socio-culturally sensitive curriculum.”

Information Technology and Education

Virtually every Ministry has identified the priority of computers in schools and related matters and a substantial amount of activity is already underway. The issue can be broken into several parts, which are nevertheless closely related.

Information technology and the study of computers at various levels (Computers and information technology as content to be studied).

This includes the technical study of information science, occurring at the secondary level and leading to CXC qualification. Given the rapid rate of technological change, one can expect that keeping the syllabus current in this area will be a significant challenge for CXC - one for which such a regional body is ideally suited.

For a larger number of students, the study of the computer as a *productivity tool* is perhaps more important. This includes mastery of a variety of software tools used in business and commerce: word processors, spread sheets, data bases, and Internet skills including e-mail and search tools. This appears to be the principal instructional use of computers in the secondary school for the present in the Caribbean. One can assume a continuing demand for this type of instruction, extending to a larger clientele including adult and continuing education. Indeed, the rapid growth of private sector training in computer skills is evidence of this growth. We have reached the point where computer literacy is a basic skill that should be achieved by every school leaver, along with literacy and numeracy. This is particularly important for those students who leave school before completing secondary school. Experience in many countries has shown that instruction in computer literacy can begin with very young children in the earliest grades. Caribbean schools, however, are not yet in a position to provide such training universally.

Instruction in basic computer skills and the use of common software packages is perhaps the easiest part of the “computer revolution” to integrate into schools. The objectives are clear. In effect a new subject is being added to the curriculum and the immediate implications for other subjects are minimal. The learning is very “hands-on” and is an area that most students embrace with enthusiasm.

Nonetheless, there are major obstacles, primarily related to resources, infrastructure, and the training or retraining of teachers to provide suitable leadership and instruction. Potashnik & Adams (1996) conducted a World Bank study of the costs involved for a number of developing countries, including several Caribbean and Central American States. Working with Jamaican data, they estimated the recurrent costs of maintaining a computerized classroom as approximately twice the investment cost in hardware (annualized across five years). In short, the cost of providing computers (hardware and software) is about 1/3 of the real recurrent costs of computerizing a classroom. And these figures do not include the opportunity costs of staff release time for training, and put space costs at zero, on the assumption that suitable space (secured, air conditioned and dust-free) is available!

Nevertheless, some of the larger Caribbean states, such as Barbados and Jamaica, are moving rapidly into the provision of computers in every classroom. This is an expensive proposition. Barbados, for example, is using the biggest share (about \$US 75 million) of a \$US\$ 116 million dollar loan to finance this. (For comparative purposes, Jamaica spent US\$1.2 million to equip 21

primary classrooms). It is doubtful whether most states could muster these levels of resources, or whether they could justify such a large allocation to computerization, in the face of conflicting demands from other items on the education agenda!

Jamaica has tapped several sources of resources: both loans from the IFIs as well as substantial private support (businesses, community groups, etc.) from within the country. The Ministry has engaged the Jamaica Computer Society Education Foundation (JCSEF) to provide an ongoing source of professional advice, expertise and support which will help to ensure that their efforts in computerization are sustainable beyond the life cycle of specific projects.

The impact of computers on classroom instruction in a variety of subjects at various levels (Computers as an instructional resource)

Efforts in this area are perhaps most advanced in Jamaica and Barbados, although many other countries have made progress, and the issues involved will arise for all Ministries in the near future. In considering computers as a tool for the implementation of curriculum, let us contrast two extreme positions:

Constructivist Pedagogy: This type of approach uses the computer to enhance creative, exploratory learning by students. The teachers task is to create contexts and learning challenges in which the student uses the computer to actively pursue knowledge rather than to passively receive it. Perhaps the earliest and most famous early example of this approach was the use of LOGO with young children.

In Jamaica, the JCSEF has worked closely with individual schools and principals to ensure that schools have informed and committed leadership "at the top" by first providing appropriate training to principals. They then can function as leaders, mentors and trainers in their own schools. The JCSEF also encourages and assists the schools to become entrepreneurial by, for example, utilizing their computer labs for paid adult education courses in the evenings, or by providing computer services to the community such as preparing greeting cards, church announcements, etc. Such activities can help to offset some of the high costs of technical support, equipment servicing, etc.

Integrated Learning Systems: This approach uses the computer as a mechanized tutor who provides individualised instruction to students based on a careful structure of integrated lessons with a careful sequencing of skills to be mastered at each level before the student progresses to the next. It is typically used for the provision of individualised practice in basic skills related to literacy and numeracy.

Between these two approaches one can situate most software packages as well as teacher or student-driven approaches to using the computer as a learning tool in various subjects. But two key issues emerge regardless of where the activity is located along this continuum:

First, the choice of software is critical. The market is now flooded with literally thousands of instructional packages, for all levels from pre-school to university. Many are excellent products, when applied in the right context and matched by an experienced and well-trained teacher to the particular needs of the curriculum and the learner. But many have been hastily put together by distributors anxious to reap quick profits in a quickly expanding market in which flashy graphics are often a substitute for sound education. *Bad pedagogy implemented on a computer can still attract the learner, and thus is dangerous pedagogy.* So there is a need for training of educators to make wise choices among the available packages.

Second, the training of teachers is also critically important. Whether using the computer in *Constructivist* mode for free exploration, or implementing an integrated learning system with an entire class, the teacher must be keenly aware of the match between the software and the learner, and be prepared to integrate the use of the computer into a comprehensive approach to learning that meets all the child's needs. In the hands of poorly trained teachers, computers can be extremely dangerous, even when the software is well designed. The point is that computer assisted instruction can only be effective in the broad and long term improvement of the quality of learning if it is managed by skilled, professional teachers. Without this, as Potashnik & Adkins (1996) have emphasized, the returns to investment in establishing the computer infrastructure are not realized. They also observed that this training aspect is "the hardest of all areas to get right" (Potashnik & Adkins, 1996,p.19).

JCSEF is currently conducting research on the effectiveness of the Computer Assisted Instruction (CAI) packages that they have supported in the schools, focussing particularly on gains in literacy and numeracy in the primary grades. When the results are known, the information will be of value to other Caribbean states in assessing the value of particular approaches and software packages in relation to their cost and their effectiveness in a Caribbean context. The latter point is particularly important as such packages are generally developed for North American classrooms where they are used under quite different conditions. Thus local determination of their effectiveness in typical Caribbean classroom contexts is essential.

The use of multimedia communications as a means of enhancing access to education (Distance Education);

Distance education in the Caribbean has a long history. Given the geographic dispersion of its target population and the role of the UWI as a regional institution with three campuses, it was inevitable that the UWI would play a leading role in the provision of distance education in the region. Thus systems such as UWIDITE have had a major influence on the provision of higher education, including teacher training, throughout the region. The number of providers has grown in recent years, with individual Ministries providing certain self-paced (or "asynchronous") packages as well as the availability of many offshore programs from North American institutions that are used as another alternative source of education by many in the Caribbean.

The delivery of such programs uses many approaches and technologies, with print medium ("correspondence courses") still widely used and quite appropriate in many circumstances. But advances in information technologies have opened up a whole range of new delivery mechanisms that provide means of reaching students at a distance as well as the flexibility and system management power to customize both the content and instructional schedule to meet the needs and circumstances of individual learners.

Analysis of the relative merits of particular technologies relative to specific learning needs would require another full paper to do it justice. Suffice it to say that the impact of information and communications technology has profound implications for the delivery of education services that all governments and educators, not just in the Caribbean, are striving to understand. Computers are an instructional tool, an information accessing, processing and organizing tool, and a highly sophisticated communications device (the Internet). Moreover, these functions are all integrated in the same technology platform, giving the computer its unique (and growing) power in the

hands of the skilled practitioner. The situation is further complicated by the accelerating pace of technological change, so that we are struggling, with limited resources, to develop appropriate strategies for a moving target. While quick fixes are not an option, quick action is an imperative. This is an area in which joint efforts, including the pooling of expertise, resources *and solutions* seems virtually mandatory for the small states of the Caribbean if they are to avoid being left behind in the technological revolution.

4. LOOKING FORWARD: CONCLUSIONS AND RECOMMENDATIONS

The discussion above presents a mixed picture: considerable activity and energy is being focussed on curriculum; governments are committed to change; yet major challenges remain and many long standing problems remain stubbornly resistant to solution. In this final section we draw together some of the chief conclusions of our analysis and present them as recommendations.

PROCESS: Ministries are urged to view curriculum development as an ongoing, multidimensional and critical component of the reform process. The process should include review of current practice and its effectiveness, planning and production of new materials and documents, dissemination to schools, training of principals and teachers in their implementation, and continuous monitoring of the learning outcomes achieved and their relevance to societal needs.

In particular, since past reform efforts have often not generated the intended results, there needs to be a continual diagnostic component, which focuses on what works, what has failed, and why. Greater attention needs to be paid to the challenges and obstacles of educational change and, particularly, the extent to which the role of teachers in preparing students for standardised examinations reinforces the status quo and impedes the growth of teachers as curriculum innovators (King, 1999).

IMPLEMENTATION: Curriculum development efforts led from the “centre” are useless if they “stay on the shelf”. Sustained effort at the local school level is essential for sound curriculum implementation. This has a number of aspects:

- Senior educators, such as curriculum officers, education officers, and teacher trainers should maximize the time they spend in the classroom working with teachers at the implementation level of curriculum. Their role in in-service training and the qualitative monitoring of curriculum implementation is of critical importance.
- Recurrent resource provision must be made for the production and distribution of curriculum materials and teaching aids in sufficient quantities for every classroom. For more specialized materials and reference works, teachers resource centres, either in the school or at the district level, are a cost effective approach.
- Recognition of the central role of the school principal as curriculum leader must be strengthened. This should be reflected in the principal’s job description, allocation of time, provision of administrative support, etc.
- External consultation is a valuable source of information about the relevance of curriculum to society. Such consultation may be national (for example with employers groups), or local (with parents, community groups, etc.). Mechanisms and resources to put such consultation process on a regular, structured basis, are necessary. The processes should be designed to *share ownership* with such external stakeholders, so that over time they will accept that quality education is a responsibility that they share with the Ministry of Education.

RESOURCES: Curriculum must be supported through the provision of recurrent resources on a continuing basis at a sustainable level. While externally funded projects inject

one-time resources that can accelerate progress in certain areas, project funding is not a substitute for the recurrent support necessary to sustain the quality and effectiveness of curriculum efforts at all levels, both in central facilities, regional centres, and in individual schools.

Increased provision of resources for the continuing professional development of teachers, principals and administrators is necessary. Such training can take many forms, whether through group workshops and seminars or through asynchronous self-study. Attention should be given to increasing the availability of specialized courses and professional development options that are not part of formal degree or diploma programs.

Teachers need better access to information, resources and materials. Teacher resource centres are one approach that has been found to be cost effective. Beyond functioning as a depository and library of materials, such centres can provide a meeting place, opportunities for networking, access to computers, photocopiers and other hardware, and a focal point for professional development activities in the community. The use of existing library facilities should also be reviewed as an option, including the possibility of extending their hours of operation to make them more accessible to teachers.

RELEVANCE: Curriculum content and methodology must reflect the best of international practice but be firmly rooted in local realities and needs. The imperatives of self-reliance and self-sufficiency are paramount for survival in an extremely competitive technological world; therefore emphasis on creative thinking, teamwork, a realistic understanding of the effects of a global economy, and the development of skills for the world of work must find prominent places in the school curriculum. Further, the place of desirable societal values must be incorporated across the curriculum, including pride in regional and national values and culture, interpersonal attitudes, respect for property, gender equality, and lifelong learning.

COORDINATION: Greater efforts should be made to coordinate curriculum efforts with other parts of the education system. This includes the need for regular communication between curriculum units, education officers, testing and assessment units, teacher training colleges, etc. Cross-appointments or short term secondments between such units may be a useful tool for building effective working partnerships.

SPECIAL EDUCATION: Recognition of the place of special education in the regular curriculum should be strengthened and incorporated into the normal training of all teachers. While the special needs of some children (mainly those with physical disabilities) are met in special schools or classes, there is an urgent need to meet the needs of the learning disabled in regular classrooms. This involves providing principals and teachers with the support and guidance they need to make appropriate curriculum adjustments for these children. It also means taking special steps for the early identification of children who are at risk and providing appropriate remedial interventions as early as possible, before small problems grow into large ones.

LANGUAGE OF INSTRUCTION: More attention should be paid to the issues of Creole or other local vernaculars as the mother tongue of most children on entry to school. This is an area in which more practical research, including the development of strategies and pilot materials, is necessary, and which could be shared among MOEs in the region for local adaptation and

testing.

HARMONIZING CURRICULUM: In general, efforts to harmonize curricula across the region should be intensified. This need not mean the production of a single Caribbean curriculum. Rather it could start with efforts to work together where common problems or areas of interest emerge, to share materials and information about effective strategies. Through such partnerships, common approaches will likely emerge and in time will strengthen the common core of objectives and content that the curricula of individual territories now share.⁷ Moreover, the pooling of such efforts should realise economies of scale and elimination of duplication of effort that will make the allocation of existing Ministry resources more efficient. To this end, recent efforts of regional bodies such as CARICOM and the OECS should provide useful models and examples.

COMPUTERS & INFORMATION TECHNOLOGY: Governments need to begin immediately to develop long term plans for the strategic management of computers in education. While the speed with which computers are introduced into individual classrooms will vary between states, it will eventually occur everywhere. Such plans should include provision for:

- The recurrent costs of technical support, maintenance, communication charges, etc., as well as the amortized costs of equipment replacement and upgrading on a planned schedule;
- Training and professional development of administrators, principals and teachers to stay up to date in the face of rapid technological change;
- Development of professional expertise for the selection and adaptation of instructional software that is appropriate to the local context and the intended users;
- Development of suitable curricula and modification of existing subject curricula to incorporate computer assisted instruction in a planned way;
- Maximising the access to equipment and facilities in the local community, both as an adult and continuing education activity and as a potential generator of revenue;
- Plans for providing schools with access to the Internet including direction to teachers for its use as an instructional resource in various subjects;
- Plans for using computers and, more generally, information and communications technology, for the professional development of administrators, principals, and teachers.

⁷ See the CARICOM curriculum reports, Craig (1998) and Ribeiro (1998) reveal a strong degree of common objectives and content in the primary curricula of the states that it studied. OECS studies, Berry et. al (1999) came to a similar conclusion for the curricula of the OECS states.

ANNEX A: NOTES

ANNEX B: LIST OF ACRONYMS, WITH ANNOTATIONS

BERP	Basic Education Reform Project. <i>(The World Bank supports BERPs in Belize, the Dominican Republic, Dominica, Grenada, Haiti, St. Lucia, Trinidad & Tobago)</i>
CARICOM	Caribbean Community <i>(Members: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago. Associate members: British Virgin Islands, Turks & Caicos Islands. Observers: Anguilla, Aruba, Bermuda, The Cayman Islands, Colombia, Dominican Republic, Mexico, Netherlands Antilles, Puerto Rico, Venezuela)</i> <i>(CARICOM web site is http://www.caricom.org)</i>
CARNEID	Caribbean Network of Educational Innovation for Development
CDB	Caribbean Development Bank
CEE	Common Entrance Examination
CIDA	Canadian International Development Agency
CTTP	Caribbean Teacher Training Programme
CXC	Caribbean Examinations Council
DFID	Department for International Development (U.K.)
ECERP	Eastern Caribbean Education Reform Project
EDI	Economic Development Institute of the World Bank
EDF	European Development Fund
FLE	Family Life Education
FONHEP	la Fondation Haïtienne de l'Enseignement Privé
GCE	General Certificate of Education (Cambridge)
GBET	Guyana Basic Education Teacher Training Project
GTZ	Gesellschaft für Technische Zusammenarbeit (Germany)
IDB	Inter-American Development Bank
IFI	International Financial Institution
JCSEF	Jamaica Computer Society Education Foundation
MOE	Ministry of Education
OECS	Organization of Eastern Caribbean States <i>(Members: Anguilla, Antigua, British Virgin Islands, Dominica, Grenada, Montserrat, St Kitts & Nevis, St. Lucia, St Vincent & the Grenadines)</i>
OERU	OECS Education Reform Unit <i>Web site is http://www.oeru.org</i>
PAHO	Pan American Health Organization
PEP	Primary Education Project
SALCC	Sir Arthur Lewis Community College
TLI	Tertiary Level Institution
TTC	Teachers' Training College
TVET	Technical and Vocational Education & Training
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development
UWI	University of the West Indies
UWIDITE	University of the West Indies Distance Education
WB	World Bank (International Bank for Reconstruction and Development)

WTO

World Trade Organization

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