Literacy and Numeracy in Select Countries in the Caribbean

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ACRONYMS

BSSEE	The Barbados Secondary Schools Entrance Examination
CDB	Caribbean Development Bank
CEE	Common Entrance Examination
CETT	Caribbean Centre for Excellence in Teacher Training
CIV	Creole-Influenced Vernacular
CSEC	Caribbean Secondary Education Certificate
CXC	Caribbean Examination Counsel
DFID	Department For International Development - UK
DI	Differentiated Instruction
EFA	Education For All
ESL	English as a Second Language
GDP	Gross Domestic Product
GER	Gross Enrollment Rate
ICT	Information and Communication Technology
IDB	Inter-American Development Bank
LLECE	Latin American Laboratory for Assessment of the Quality of Education
L&N	Literacy and Numeracy
MDG	Millennium Development Goals
MOE	Ministry of Education
OECD	Organization for Economic Co-operation and Development
OECS	Organization of Eastern Caribbean States
OERU	OECS Education Reform Unit

PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
TIMSS	Trends in International Mathematics and Science Study
UNESCO	United Nations Educational, Scientific and Cultural Organization
UIS	UNESCO Institute for Statistics
USAID	United States Agency for International Development
WB	The World Bank

PREFACE

The present study was conceived as a result of great concern from the Caribbean countries over the low performance of the students on primary and secondary schools. The objective of this report is to analyze the current status of Literacy and Numeracy (L&N) competencies (i.e. Mathematics and English) among primary and secondary students in the Caribbean Region, and identify main challenges hindering countries in achieving the education MDGs.

We have chosen not to concentrate on pre-primary education or adult literacy, however important these subjects might be in themselves. These subjects would require more time and data, which are not sufficiently available.

This study is an outcome of the analysis of nine Caribbean educational systems (Barbados, Dominica, Grenada, Guyana, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Trinidad & Tobago), a survey of the current literature in literacy and numeracy, questionnaires[1] (see annex IV), and interviews with education officers from regional Ministries of Education, experts, policy makers and practitioners. In the course of this report we have visited Jamaica and St. Lucia in order to prepare case studies of both countries. The criteria for the selection of the nine countries participating in the study were solely based on their governments' interest in understanding the reasons behind their countries' low performance in L&N.

In order to benchmark successful interventions in L&N, several countries were selected according to the following criteria: (a) countries that implemented successful strategies to increase literacy and numeracy outcomes; (b) countries who share similar problems with the Caribbean, particularly the gender disparity on achievement; (c) countries with student population speaking languages other than English (school literacy language) at home; and (d) countries where teacher development was the core policy to increase L&N performance. The countries considered for the analysis are: Australia, England, New Zealand, Singapore, Japan, Republic of Korea, and Finland.

1 The questionnaires were responded by Jamaica, Trinidad & Tobago, Guyana, Grenada, and St. Lucia

The quantity and quality of the data available differs markedly across the nine countries participating in the current study, and accessibility of data on quality indicators was more abundant at the primary level than at the secondary level. Grade-specific indicators such as, the completion and survival rates are generally not provided by the countries. Therefore, data on these two indicators were based on the World Bank and the UNESCO estimations. Other sources of data include statistical digest of participating countries, UNESCO Institute for Statistics (UIS), UIS special survey on teachers, Department for International Development (DFID), The World Bank-EdStats, Education For All (EFA) Reports, and the Caribbean Examination Council (CXC).

Our hope is that this report will help inform the international debate about how to improve the quality of schools and help chart the path to make future reforms more effective in improving the quality of literacy and numeracy for all children in the region.

The following limitations should be noted:

- The data presented in the individual countries should be regarded as illustrative rather than exhaustive. This review was not an exercise in primary data collection.
- Despite request of up-dated test results at primary and secondary level to select countries involved in the study, limited information were received.

EXECUTIVE SUMMARY

1. **This review delivers one clear message**: Despite the current obstacles hindering delivery of quality of education and equal opportunity of learning in the region, provision of high standards of literacy and numeracy (L&N) is feasible. Efforts to raise L&N in the early years of schooling are already a priority in some of the select Caribbean countries. However, several challenges still remain, and robust reforms are needed to improve L&N performance and put the analyzed countries on track for the achievement of the education MDGs.

2. **In general, education policy reform efforts in the region have been undertaken in recent years with encouraging results**. Since 2001 OECS Ministers of Education have been adopting the "OECS Education Reform Strategy: Pillars for Partnership and Progress", a framework for reform with a horizon of 2010. Within the reform framework the OECS Secretariat (through the OECS Education Reform Unit – OERU) has been in charge of harmonizing the regional curriculum; the Caribbean Examination Council's (CXC) has continued working on evaluation and standards; and the UNESCO regional office has been in charge of the education statistics (Caribbean Regional Educational Management Information System – CREMIS).

3. In addition to these regional initiatives, several Donors have joined the Caribbean Ministries of Education's efforts on improving literacy and numeracy performance through education projects, such as:

Barbados	- National Policy on Reading (MOEYC) - Affirmative Action program for the 15 bottom placed schools (MOEYC) - Edu Tech 2000 (MOEYC, CDB & IDB), 1997
Dominica	- Caribbean CETT (CETT- USAID) , 2002 - Secondary education Support Project in Dominica (SESP-DFID) - OECS Education Development Projects (OEDP – DFID & WB), 2002
Grenada	- OECS Education Development Projects (OEDP – DFID & WB), 2003
Guyana	- Basic Education, Access, and Management Support in Guyana (BEAMS-IDB), 2002

Jamaica	- Basic Education Project (PESP-IDB), 2004 - L&N Project (New Horizons Project – USAID) - Caribbean Centre for Excellence in Teacher Training (CETT- USAID), 2002 - The 2004 Task Force (TF) on education reform (MOEY) - National Literacy Strategy (MOEY), 2006 - Ed Tech 20/20 (Jamaica Computer Society Education Foundation (JCSEF), IDB, and WB) - Reform of Secondary Education II (ROSE – WB), 2002 - Jamaica 2000 (JCSEF) - eLearning Jamaica, Ltda
St. Kitts & Nevis	- Caribbean CETT (CETT- USAID) , 2002 - Education project (CDB)
St. Lucia	- Caribbean CETT (CETT- USAID) , 2002 - Basic Education Reform Projects in St. Lucia (WB) - OECS Education Development Projects (OEDP – DFID & WB) , 2002
St. Vincent & the Grenadines	- OECS Education Development Projects (OEDP – DFID & WB), 2002
Trinidad & Tobago	- Fast Forward National ICT Plan, 2003 - Secondary Education Programme (IDB), 1999.

4. While universal primary education is widely considered to have been achieved in the Caribbean, major challenges remain to be overcome in fulfilling the universal right to a quality primary education.

Overview and Challenges of the Education Sector

5. **In general, not all students at primary and secondary levels are given an equal opportunity to receive quality education**. The major factors, which are usually seen as placing educational outcomes at risk include socioeconomic disadvantage, poverty, low parental expectation, disability, language background other than English, geographic isolation, and gender.

6. **Even though the region has almost universal coverage, the quality of primary and secondary education is deficient.** At the primary level, while exams outcomes are not comparable across countries, results of students' performance on national examinations are below expectations, showing undesirable levels of achievement in the areas of L&N.

7. **Weak literacy and numeracy skills lead to weak performance at the secondary level**. CXC exams show an average pass rate of only 46 percent for those Caribbean students who sat the CXCs in 2003 in General Proficiency in English and Math. Performance on the CXC varies significantly across countries, with passing rates consistently lower in math than in English.

8. **There is inequitable access to the secondary level, and this fact is directly linked to inequitable quality of education.** A significant number of students get a second-tier education increasing their chances of educational failure. Isolated in these lower tiers of the education systems – in Junior Primary, Senior Secondary or lower streams – a minority of students find the way to reinsert themselves into the system through repetition of classes[2].

9. **The internal efficiency of most educational systems analyzed is low**. This can be explained by the low survival rates to the last grade of the secondary level and relatively high repetition rates to the last grade of secondary. On average, less than one child out of two entering first grade of primary education today is expected to make it through to the last grade of secondary[3].

10. **In spite of high expenditure in education**, **the regional education outcomes are below expectations**. The inefficiency in the education systems is evident when we consider: (a) low pupil-teacher ratios (low pupil-teacher ratios are closely associated with higher unit cost); (b) scant in-service teacher training; and (c) inefficient teacher deployment.

11. **In general, academic qualifications required for teachers' recruitment into service are pitched at minimal levels in order to maintain the supply of teachers for the schools**. According to Lochan (2005), teachers' recruitment and selection in the Caribbean suggest that perceptions of teaching as a worthwhile and "real" profession have always been challenged by the use of teaching as a stepping-stone to other professions.

12. **Many beginning teachers with weak personal literacy and numeracy skills, and practical skills are assigned to teach students struggling with literacy and numeracy in**

2 Hobbs Cynthia, *Project Appraisal Document for the First Phase of the Multi-Country Organization of Eastern Caribbean States (OECS) Education Development Program for the Governments of the OECS,* the World Bank, Washington, D.C., May 2002.
3 Blom, Andreas and Hobbs, Cynthia, *School and Work in the Eastern Caribbean*, the World Bank, Washington, D.C., February 2008.

early schooling. Experienced and skilled teachers are usually assigned to secondary school level.

13. **There is a clear dissociation between formal teacher training programs, which is heavily theoretical, and teaching practice in the classrooms**. Teacher training programs have not been effective in building conceptual links between classrooms, clinical, and field-based experiences in ways that will prepare future teachers to apply their course work and other pre-service experience to their teaching practice.

14. **Over the years curriculum and teaching methods have remained largely irrelevant for literacy and numeracy**, and primary education alone is not equipping individuals with skills that are highly rewarded in the labor market such as critical thinking, problem solving, behavioral skills, and skills in information technology

15. **Gender differences in academic achievement are a common challenge in the region**. There is gender disparity in most Caribbean countries, whereby males demonstrate lower academic achievement levels and have lower participation in secondary education. Females out-perform males at various levels of schooling, in a broad range of curriculum subjects and this is substantiated by within-class and national examinations.

16. **Most Caribbean countries do not use Creole to support literacy in the first years of schooling**. Research highlights that differences between the language and literacy of school and that of home and community is a significant factor in students' achievement at school. Among the countries participating in this study, Jamaica is the only one to include Creole as literacy support. As such, Creole has been used as a tool to build phonetic awareness, assisting children to make the transition from Creole to Standard Jamaican English.

17. **Primary and secondary schools are under-supplied with basic educational materials and equipments to support student-centered classroom teaching and learning**. Science laboratories are under-equipped, and computer labs (when existing), are under-used due to insufficient access to educational software, and inadequate maintenance of the hardware. School libraries are normally under-resourced and under-used, and computers are not systematically connected to the Internet.

18. **Information systems to support informed and effective decision-making in the region need to be strengthened.** Although the countries analyzed have Education Management Information Systems (EMIS), they do not all include systematized data collection, effective supervision and reporting mechanisms and established quality standards. The supervision system in place that uses the EMIS data to monitor school and staff performance is deficient.

19. **National literacy and numeracy strategies already established in few countries have limited scope**. From all the Caribbean countries analyzed, only Guyana, Jamaica, and Trinidad & Tobago have developed literacy and numeracy plans. Barbados has created a reading national policy after perceiving that reading standards and comprehension at the primary level have deteriorated in recent years. While these countries are still in the embryonic stage of their literacy and numeracy plans, strengthening of key components, such as benchmarks, EMIS, leadership and teacher training should be considered.

Literacy and Numeracy Outcomes

20. Based on the education sector overview and recent reforms implemented in the region, we can identify the following as the main factors hampering quality of L&N outcomes: (a) inadequate teacher qualifications; (b) low teaching quality, (c) insufficient monitoring and evaluation of students' performance on L&N, (d) irrelevant literacy and numeracy curriculum, (e) unequal opportunities to quality education, and (f) insufficient instructional material.

21. While improving these factors would partially address the problems of Literacy and Numeracy (L&N) outcomes, it will not be enough to ensure a sustainable and long-term impact on the quality of L&N in the region. To make it feasible several policies, currently absent in the region, need to be considered, such as: (1) a Regional L& N Plan; (2) L&N benchmarks; (3) National/Regional monitoring and assessment program for L&N; (4) National Creole-English L&N strategy; and (5) Parental and community involvement in L&N outcomes.

Recommendations:

22. In order to ensure that all school leavers gain acceptable L&N levels for effective functioning in modern society, the region and the individual countries need to implement a

number of initiatives to improve quality of L&N performance at the regional, national and school levels.

At the Regional Level

23. ***A regional literacy and numeracy plan should be created as a regional initiative.*** While reducing administration costs trough deeper cooperation at the regional level, this would reduce duplication and lead to more innovative education policies in literacy and numeracy. Possibilities for cooperation abound with the most obvious being: (1) sharing best practice in literacy and numeracy; (2) creating regional L&N curriculum; (3) setting of high standards to be compared against regional literacy and numeracy benchmarks; (4) regional assessment system for early grades; (5) emphasizing the role of research at national and regional levels in order to support L&N strategies.

24. The regional L&N plan should be developed with a set of ***regional performance standards*** (regional benchmarks) for student achievements in L&N in early years (specific grades should be agreed by the Caribbean countries) of the primary level. All countries should agree to report students' achievement against these standards.

25. ***Harmonization of specific processes for recording information and managing data across the region*** would be critical for monitoring progress. These processes should utilize sets of indicators or markers that provide consistency across individual countries and a common terminology to describe student achievements. They would also inform individual countries about development of students' skills over time, provide direction in planning teaching programs and provide schools and systems with an insight into emerging trends in students' learning.

26. ***Regional assessment system for early grades*** should be created to measure student achievement in different aspects of regional curriculum for L&N at agreed early grades. Regional assessment should report student achievement against learning outcomes described in regional curriculum frameworks, and monitor changes in performance levels over time. Inexistence of directly comparable exams at the primary levels makes it difficult to make any meaningful comparison of L&N outcomes at that level across countries and to provide some objective benchmarking on the quality of primary education of each country.

27. ***A regional policy should be drafted to give guidance on how the vernacular could be managed and exploited for its potential while easing learners into competence in the official language.*** Attention to the vernacular is necessary because it plays a major role in structuring learners' thinking processes and aids their cognitive development. This process comes to a stop or is reversed when students are immersed into Standard English to the neglect of their home language. Due to learners' lack of facility in Standard English, there is no compensatory cognitive development for that which was lost from being deprived of the opportunity to use Creole-influenced vernacular.

28. ***Research at national and regional level should play a central role in supporting L&N policy by:*** (a) identifying effective teaching practices, including those targeted to disadvantaged students (ESL, special needs, low income, boys); (b) creating training packages for parents and community volunteers to work with schools to enhance literacy skills; (c) evaluating different literacy approaches, and the development of assessment processes for the early identification of students at risk; (d) placing L&N in the primary school curriculum literacy development for students with special needs; (e) creating a community awareness program to promote the importance of parents' involvement in their children's L&N development; and (f) developing agreed upon L&N benchmarks.

29. ***Caribbean students' learning should be assessed against international standards***. As part of the regional efforts, the Caribbean countries should participate in international exams such as the PIRLS, the PISA, the LLECE, and the TIMSS. At the primary level, benefits on participating in international test like PIRLS, conducted at the fourth grade, can be twofold: (a) to assess students' performance in literacy in the region, and (b) to access relevant information about the policy and practices related to learning to read and reading instruction - information of the home environment, how parents can foster reading literacy, and curriculum and classroom approaches to reading instruction. At the secondary level, even if the existence of the CXC provides regional comparison of learning outcomes, participating in other international exams would still provide some international benchmarking of the Regional performance. Also, this will help increasing accountability of education providers for educational outcomes, and deepen involvement of the public in achieving education goals. As the Caribbean countries strive to

compete in the global economy, they need to understand how well their students and education systems perform comparatively on a global scale.

At the National Level

30. ***National continuous assessment system for early grades***[4] should be created to measure student L&N achievement as early as possible in the first years of schooling[5]. The assessment should include full cohort assessment of literacy and numeracy. In response to assessment results, early intervention strategies should be developed for those students identified as having difficulties.

31. ***Teacher development programs should incorporate knowledge base that includes procedures for continuous, in class assessment of students' reading abilities as well as information on how to interpret results*** from district - and state - mandated assessments and modify instruction according to assessment outcomes. It is important that the teacher can identify which component skills should be assessed systematically at earlier stages of reading development, and how to assess them independently for diagnostic and instructional purposes if a student is not reading at the expected level.

32. ***Highly committed, well-qualified and skillful teachers should be helping children with L&N difficulties***. This emphasizes the need to ensure that all teachers, not only specialist teachers, participate in professional development that focuses on the needs of children with learning difficulties. Schools should be well advised to encourage and support staff to participate in the on-going development of their expertise in teaching children with learning difficulties. These opportunities should be made available through school based professional development and exposing teachers to best practice on L&N strategies.

33**.** ***Reforming TPD and deployment schemes at the national level*.** Both the content and the practice need to be reviewed in the teacher training programs, especially in the areas student-

4 Some countries like Guyana, Jamaica, and Trinidad & Tobago have been implementing continuous assessment for several years.
5 Early diagnostic information that includes hard data on actual reading and math levels and the types of miscues that children makes is vital to the implementation of appropriate strategies for effective teaching and the facilitation of learning. It is only through early diagnosis and the immediate introduction of appropriate measures of remediation that the problem can be addressed efficiently and the cycle of constant remediation in the higher grades and secondary school stopped.

centered learning and the use of technologies in the L&N teaching and learning process. However, some reforms at the regional level like certification system and economies of scale (textbooks, L&N software) should be encouraged to help conserve limited resources, and facilitate teacher mobility/deployment across the region.

34. ***Regional/National policy that regulates frequency of in-service training should be developed***. Such policy should make it mandatory for teachers to upgrade their training at regular intervals in order to stay abreast of new developments in L&N pedagogy.

35. ***Teachers should be exposed to techniques of differentiated instruction***[6]. Such exposure can help teachers to explore the philosophy of and acquire skills in managing classrooms that cater to students with diverse cognitive abilities. It is worth noting that training teachers in Differentiate Instruction (DI) would be of benefit not only to the weaker students, but also to the more able ones. The goal of DI is to help students of all abilities to achieve at their highest potential.

At the School Level

36. ***Monitoring schools to ensure they are developing effective L&N interventions***. Many schools need support on setting high expectations for what each and every child is able to achieve, as well as on monitoring performance against the expectations, and intervening whenever they are not met.

37. ***Helping schools to monitor and create interventions at the level of individual student.*** The processes for monitoring and intervention need to be located in the schools themselves, where they are able to identify the students in need of support and provide support when needed on a continuous basis.

38. ***Supporting Schools at the district level in the use of assessment data.*** It is important to set up district teams to monitor, support and guide schools in the use of both external (National tests) and internal assessment (continuous assessment) data for identifying students at risk and planning intervention programs.

6 Trinidad & Tobago is already using this approach

INTRODUCTION

1. Most of the Caribbean countries have put education at the center of their strategy to diversify their economy, to ensure sustainable growth and to improve the cohesion of their societies. At the same time they have made significant public investment in education over the last decades, averaging around 6 percent of GDP. The region is now providing universal access to primary education and access to secondary education for over 70 percent of their student population. However, this net enrollment, which compared favorably to Latin American countries, conceals a profound deficit in quality and equity. According to Student achievement is very low, and a majority of youth leaves the education system without the basic skills necessary to play a productive role in society. Less than 70 percent of the students complete secondary education, and less than 60 percent succeed at the regional CXC exams[7].

2. Recognizing the central importance of L&N as key skills, which enable students to successfully participate in schooling until the completion of the whole education cycle, training and work, the present study analyzes the current status of the primary and secondary education in the region and contrasts it to other countries with similar challenges in the past, and that today enjoy equitable and high-performing educational systems. With that in mind, our goal is to shed light on diverse national L&N policies that can inspire new ways to improve quality of L&N in the region.

3. Some cautions are required when interpreting the results of current diagnostic of the nine countries analyzed due to the intrinsic difference among the countries. The findings in this report are presented under four sections. **Section 1** provides a literature review on L&N; **Section 2** provides an overview and challenges of the L&N in the region. **Section 3** features best practices in L&N programs; **Section 4** provides the case studies of St. Lucia and Jamaica; and **Section 5** contains a summary of findings and recommendations.

7 Di Gropello, Emanuela, *Monitoring Educational Performance in the Caribbean*, the World Bank, Washington, D.C., June 2003.

1. Current Trends in Literacy and Numeracy

4. L&N skills are not static notions and have evolved over time. There are multiple perspectives about its development and use.

5. Some educational research and practice in the global context have, in the last decades, taken on a socio-cultural perspective. As Ward & Fulton (2002) highlighted in their report on L&N in St. Lucia, learning is no longer understood simply as an individual cognitive or psychological process. A Vygotskian or constructivist perspective, which currently informs much educational thought, takes account of learners' social worlds and cultural backgrounds, as well as their intellectual and psychological predispositions. L&N are not considered as sets of skills separated from the social contexts in which they occur, but are affected by the values and norms of the society where they are used. From this perspective, students learn both L&N formally and informally, at home and at school. The role of the teacher is to support informal learning through multiple exposures to many kinds of L&N experiences, as well as to provide explicit instruction when required. The constructivist approach to teaching and learning requires that teachers no longer simply transmit information, but design activities to meet the intellectual, social and psychological needs of their students. In this interactive role, teachers know their students well, and are able to design programs and activities based on students' prior knowledge, skills and socio-cultural background. Teachers need to be aware that local materials and texts enhance students' understanding of the concepts they are trying to teach. A greater emphasis on the use of varied books and math manipulative would enable teachers to observe their students as they interact with each other and the materials. Understanding of continuous, informal assessment would encourage teachers to become habitually more diagnostic, and to be better able to match instruction with their students' intellectual needs and background knowledge

6. In contrast, a more economic and practical approach suggest a move away from approaches to literacy development with emphasis on the so-called "socio-cultural contextualization" of student needs to a model that concentrates on the development of essential skills that are applicable to the rigours of working life and ensure that young people develop the required essential skills. This approach highlights the renewed importance that is being placed by

governments and employers on L&N skills for all people to enhance their employability, and countries to advance with their economies. Employers expect that prospective employees will posses not only basic literacy and numeracy skills, but also multiple literacies, from basic computer and information technologies, language and communication skill, critical and cognitive thinking skills. To that end, sound L&N skills must be taught in primary school and reinforced in secondary school and further education.

7. A recent report produced by the Confederation of British Industry (CBI), *Working on the Three Rs[8]; Employers' Priorities for Functional Skills in Math and English* (see Annex VI), identifies key areas of L&N that are considered essential to employers. These skills' areas identify the major business impact of the perceived gaps in functional L&N as a clear waste of resources. The issues and solutions identified in the report seem to translate broadly to the Caribbean context. L&N is the gateway to future learning and is linked to better labor market outcomes. In the Caribbean, it is of concern that many students moving from primary to secondary schools have not sufficiently mastered the three Rs. Weak L&N skills lead to low performance at the secondary level, and statistics for the Caribbean Examination Council (CXC) exams show an average pass rate of only 48 percent for those OECS students who took the CXCs in 2003 in General Proficiency in English and Math (see table 5).

8. With the event of technology and the impact of other historical variables, new L&N skills have come into being and are essential in a post-modern environment. For example, a generation ago the composition of text for email was an undreamt skill requirement. Even though L&N skills are constantly evolving, employers require that standards apply.

9. The best-performing and rapidly improving education systems in the world have focused tremendously on L&N in the early years based, in part, on substantial research evidence which shows that early ability in core skills is strongly correlated with a range of future outcomes. A major longitudinal study in the United Kingdom, for instance, found that test scores in L&N at age seven were significant determinants of earnings at age 37, even after controlling for socioeconomic backgrounds.[9]

8 Three Rs: Reading, wRiting and aRithmetic
9 Currie, Thomas, Early Test Scores, Socioeconomic Status and Future Outcomes (1998)

10. Some education systems go even beyond the current needs of the economy to try to match current teaching to the country's future requirements. For instance, Singapore has invested heavily in trying to anticipate the required range and mix of skills that its students will need when they graduate to further grow Singapore's economy, and matches its curriculum to those needs.

Literacy and Numeracy:

11. A report from the Australian Council for Education Research (2001) presents an important interpretation of L&N in modern society. It highlights that in today's world it is necessary, but not enough, for students to achieve minimal competence in areas of reading, writing, and numeracy. Beyond the achievement of basic competence, students also need to develop critical L&N skills of the kind required for effective functioning in every day life. Skills of this kind are now widely advocated by school systems and are adopted as starting point in most international assessment programs.

12. Basic reading proficiency involves an ability to decode text, to interpret word meanings and grammatical structures, and to understand meanings at least at a superficial level. But reading literacy for effective functioning in modern society requires much more than this: it also depends on the ability to read between lines and to reflect on the purposes and intended audiences of texts, to recognize devices used by writers to convey messages and to influence readers, and the ability to interpret a wide variety of text types, and to make sense of texts by relating them to the situations in which they appear.

13. Numeracy, similarly depends on a familiarity with a body of mathematical knowledge and skills. Basic number facts and operations, working with money, and fundamental ideas about space and shape, including working with measurement, form part of this essential body of knowledge and skills. But numeracy for effective functioning in modern society requires much more than this: it also depends on an ability to think and work mathematically, including modeling and problem solving. These competencies include knowing the extend and limits of mathematical concepts, following and evaluating mathematical arguments, posing mathematical problems, choosing ways of representing mathematical situations, and expressing oneself on

matters with a mathematical content. Numeracy depends on an ability to apply these skills, knowledge and understanding in a variety of personal and social contexts.

14. The Caribbean Ministries of Education face multiple challenges in ensuring that all school leavers gain acceptable L&N levels for effective functioning in modern society. Most of the countries have launched national L&N campaigns to tackle this challenge, and regrettably little impact has been seen in learning outcomes. There is a need in the shift of emphasis in the methodologies employed within the Caribbean education sector to ensure that young people are adequately equipped with the essential skills to participate effectively within the workforce and to increase the population's standards of leaving and well being.

2. OUTCOMES IN LITERACY AND NUMERACY: OVERVIEW AND CHALLENGES

2.1. Assessment of Recent Education Reforms in the region

15. **In general, education policy reform efforts have been undertaken in recent years with encouraging results**. Since 2001 OECS Ministers of Education have been adopting the "OECS Education Reform Strategy: Pillars for Partnership and Progress", a framework for reform with a horizon of 2010. Within the reform framework the OECS Secretariat (through the OECS Education Reform Unit – OERU) has been in charge of harmonizing the regional curriculum; the Caribbean Examination Council's (CXC) has continued working on evaluation and standards; and the UNESCO regional office has been in charge of the education statistics (Caribbean Regional Educational Management Information System – CREMIS).

16. *Affirmative Action program for the 15 bottom placed schools.* The Ministry of Education of Barbados has already put in place the program and they are now considering expanding it from four to nine additional schools. Action in this direction might involve internal audits of the schools to establish socio-economic status profiles, as well as to investigate management and classroom practices, access to learning resources, and the use of financial grants. Action would also involve the designing of on-site staff development programs, including coaching of teachers.

17. *National Policy on Reading.* Barbados has developed a national policy on reading to address the general perception that reading standards at the primary level have deteriorated. It is expected to address areas of weakness observed in the students' performance on the BSSEE English papers. This policy advocates action in areas such as re-training of teachers, placement of reading resource teacher and diagnosis and remediation of student reading difficulties.

18. *The 2004 Task Force (TF) on education reform in Jamaica***.** Recognizing the challenges of the education sector, in February 2004, the Prime Minister of Jamaica appointed a multi-sector 14-member TF on educational reform. The objective of the TF was to prepare a comprehensive proposal consistent with a world-class education system that generates the human capital and skills required for Jamaica to compete in the global economy. The TF presented its report, including a review of the state of education, recommendations for change, and performance targets for the year 2015. The TF reviewed various diagnostic reports and conducted nation-wide consultations with over 500 stakeholders during 2004. In sum, the TF identified *underachievement in student learning at all levels of the system as the most critical issue* and recommended far-reaching changes intended to translate into improved performance indicators by 2015: (i) 90% of children achieving mastery in all four areas of Grade 1 readiness inventory; (ii) 85% of children achieving mastery on the Grade 4 literacy test; (iii) 85% for each subject as national mean score at Grade 6 achievement test; (iv) 100% of primary schools providing at least four co-curricula activities; and (v) 100% of secondary school provide eight co-curricula activities.

19. In addition to these national and regional initiatives, several Donors have joined the Caribbean Ministries of Education's efforts on improving L&N performance through education projects, such as: Basic Education Project in Jamaica (PESP-IDB); Basic Education, Access, and Management Support in Guyana (BEAMS-IDB); Basic Education Reform Projects in St. Lucia (The World Bank); Secondary education Support Project in Dominica (SESP-DFID); Education project in St. Kitts and Nevis (CDB); Centre for Excellence in Teacher Training (CETT-USAID) in Jamaica, Dominica, St. Lucia, St. Kitts and Nevis, and OECS Education

Development Projects[10] in Grenada, Dominica, St. Lucia, and St. Vincent and the Grenadines (OEDP – DFID &The World Bank).

20. *Support for development of L&N Strategy*. In 2003, DFID and the World Bank came up with a project, Educational Development Projects (OEDP), to support four OECS (Dominica, Grenada, St. Vincent and the Grenadines, St. Lucia) Ministry of Education in developing a more comprehensive strategy to improve the levels of literacy within specified and agreed areas in primary and lower secondary school, taking into account the needs of the OECS curriculum especially Language Arts and the Literacy Block/Hour being used as part of Caribbean Centre for Excellence in Teacher Training (CETT) and other programmes. There is also a focus on providing improving levels of teacher training and the development of new teaching and assessment materials, where necessary, to supplement existing curricula provision.

21. *Edu Tech 2000: Primary and Secondary Education Reform with ICT support.* Edu Tech 2000 represents substantial commitment on the part of the Government of Barbados and the Ministry of Education, Youth Affairs, and Culture (MOEYC) to broad reform of teaching and learning in support of the White Paper. Fifty-five percent of the program's budget is comprised of CDB (40 percent) and IDB (15 percent) loans, with the remainder provided by the Government of Barbados. The program is mainly focused on enhanced teaching and learning through re-design of the national curriculum at all primary and secondary levels. The use of ICT has been designed primarily to support teaching and learning activities in relation to new curricula.

22. Ed Tec 20/20 (IDB-WB): A cluster-based approach to ICT in primary schools in Jamaica. The project pilot-tested computer and Internet installation in roughly 20 primary schools. Clusters of four to five primary schools were linked to a single secondary school or teacher college, which would provide professional development and technical support,

23. New Horizons Project (NHP-USAID): The primary intent of the project was to improve L&N learning among students in 72 primary schools[11], the NHP originally included plans for installation of computer labs in 15 primary schools, with audio-visual equipment provided to the

10 The purpose of the project is to assist the Windward Island education systems to better meet the education needs of all young persons, improving literacy and Numeracy was one of the expected outcomes.
11 The total number of primary public schools in Jamaica is 355

remaining to the remaining 57 schools. Over the course of seven-year project, ICT-related objectives were revised to target establishment of 6 "hub" multimedia centers that were to provided shared resources to schools in their regions. In 2001 this target was further revised as a result of financial issues surrounding NHP and questions arising around management and sustainability of the centers, leading to the development of a pilot Education Technology Resource Centre (ETRC).

24. *A network of Professional Development clusters (Caribbean CETT).* Caribbean CETT is a program that is used in 86 schools in six Caribbean countries including 43 in Jamaica. Since its inception in 2002, the Program has developed intervention strategies that have proved to be highly effective in improving reading achievement in poor-performing schools serving disadvantaged urban and rural populations. Caribbean CETT focuses on literacy in grades 1-3, operates through the network of Teacher Colleges, uses information technology to teach and assess and sets targets for improvements for schools and individual students. The Caribbean CETT currently operates in five fully USAID funded countries in the region: Jamaica; Guyana; St. Lucia; St. Vincent and the Grenadines; and Belize. It also operates in Grenada and Trinidad & Tobago, which are financed by their respective governments.

25. *Basic Education, Access, and Management Support in Guyana (BEAMS-IDB).* In 2002 Guyana's government, with funding from the IDB, created a basic L&N strategy to improve the L&N attainment of students through the basic education cycle, particularly those in under-deserved and poverty areas while strengthening the Ministry of Education's ability to sustain such improvements; and to support Guyana's movement towards universal secondary education. The strategy includes inputs that introduce relevant and feasible reforms to curriculum and pedagogy aimed at achieving early L&N among Guyana's school-aged population, including: (i) a results-oriented literacy program and print-rich environment in all schools; (ii) core numeracy instruction for all students in primary grades 1-3 via interactive radio instruction; (iii) community-based programs to raise attendance, enhance equity, and restore literacy and numeracy to acceptable levels in low-performing schools; (iv) introduction of modern technologies into teaching, learning, and school administration; (v) teacher upgrading and in-service training emphasizing new methodologies; alignment of in-service and pre-service training programs with MOE's new literacy and numeracy program; (vi) a comprehensive

system for student assessment, including replacement of the Secondary School Entrance Examination.. It also counts on a research-based standards created by the Centre for Excellence in Teacher Training (CETT), and the University of Guyana, Cyril Potter College of Education.

26. *Basic Education Project in Jamaica (PESP-IDB).* In 2004 Jamaica created a literacy program, Literacy 1-2-3, that encompass teacher training, and literacy model integrated into the National assessment program. The program is curriculum-based, and is intended to provide a holistic approach to the teaching of literacy using the Language Arts window in Grades 1-3 of the Revised Primary Curriculum (RPC). The development of Literacy 1-2-3 was informed by the strategies used by CETT, the New Horizons Program (NHP); the Jamaican All- Age School Project (JAASP), among others; is based on the Language Experience and Awareness (LE&A) approach; and was also informed by a study of the language situation in Jamaica. The program is also structured to build phonetic awareness, (assist children to make the transition from Creole to Standard Jamaican English [SJE]); listening skills; reading skills; comprehension and writing skills.

27. *Caribbean Education Statistics Capacity-Building Project (UNESCO).* In 2007 UNESCO Kingston launched a two-year project to build capacity at Caribbean Ministries of Education to use statistics for evidence-based policy-making for increased quality education. The project is supported by Japanese Funds and targets UNESCO's Caribbean member states and associate member states, including Haiti. It aims at providing technical support to beneficiary countries to improve capacities for data collection, processing and analysis to countries to promote evidence-informed policy-making at both national and regional level to achieve the international and regional goals of Education for All (EFA) and the Millennium Declaration. Main results of the project include the training of 250 educational officers across the region and the production of an EFA Monitoring Report for the Caribbean by 2008.

28. *Secondary Education Modernization Program (SEMP - IDB),* 1999. The objective SEMP is to support Ministry of Education (MOE) efforts to reform and expand the secondary subsector. The four program components are: (a) improved educational equity and quality; (b) deshifting (moving from a double-shift, shorter school day to a single-shift, longer school day),

rehabilitation, and upgrading of school infrastructure to expand secondary coverage and universalize five years of secondary education; (c) institutional strengthening of the MOE's capacity to plan, monitor, and manage secondary education and, in particular, the SEMP; and (d) studies and measures for improved education sector performance to lay the groundwork for further policy reform.

But significant challenges still remains

30. This section presents the current outcomes in L&N of nine Caribbean countries. It begins by providing an overview of where the region stands with regard to critical quality education indicators, identifying problems hampering achievement of the MDGs and Education for All (EFA) goals, and it evolves to identify what are the pervasive issues responsible for low performance of literacy and numeracy. Lastly, the section analyzes recent educational reforms in the region and its impact on L&N.

2.2. Access and Equity

Access

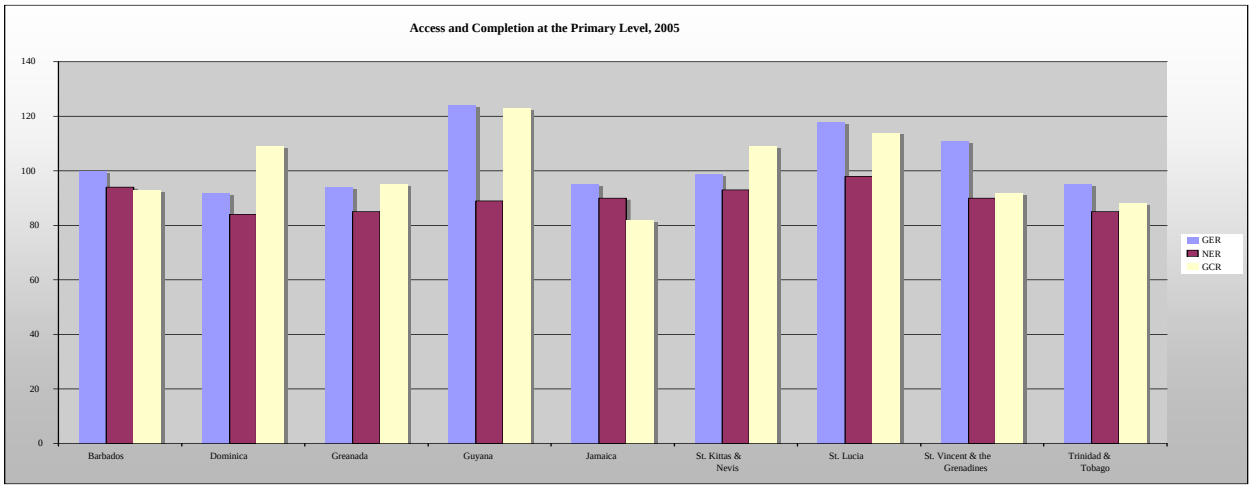
Primary Level

31. **The Caribbean countries selected for this study have made remarkable progress on expanding access to primary education.** As shown in the table below, coverage is no longer a concern, and completion is not generally a problem either with the exception of a few countries.

Table 1: Access and Completion at the Primary level, (%), 2005

	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Gross Enrollment Rate	99.8	92.1	93.7	124.3	94.9	99.1	117.7 (2006)	111.2	94.7
Net Enrollment Rate	93.6	84.0	84.6	89.0 (1991)	90.3	93.4	97.9 (2006)	90.4	84.6
Completion rate	92.8	109.4	94.7	122.9	82.3	109.2	114.4 (2006)	92.0	88*

Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx,
*Nation estimation



Secondary Level

32. **Coverage and completion are areas of concern** in the secondary level for most of the analyzed Caribbean countries. On average, secondary school net enrollment rates are around 77 percent now. As shown in the table below, while some countries have similar GERs (this is notably the case of Dominica, and Grenada), they have very different completion rates due to the relative importance of these two issues among these countries.

Table 2: Access and Completion in the Secondary level (%), 2005

	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
GER	103.1	106	100.1	104.1	94.3* (2007)	93.7	87.2	74.9	76.3
NER	87.6	81	78.8	..	78.3	86.1	69.4 (2006)	63.9	65.1
Completion rate	100**	72.8**	94.3**	..	..	100**	81.8**	75.7**	81.1**

Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, January 2008.
* Planning Institute of Jamaica (PIOJ). Economic and Social Survey Jamaica 2007.
** UIS Estimation

Equity

33. **In general, not all students at primary and secondary levels are given an equal opportunity to learn**. The major factors, which are usually seen as placing educational outcomes at risk include socioeconomic disadvantage, poverty, low parental expectation, disability, language background other than English, geographic isolation, and gender.

34. **Particularly in the OECS countries, students from low-income families have a lower participation rate in quality secondary education**. For instance, in **St. Lucia**, low-income students are more likely to be enrolled at the all-age schools[12] or not enrolled in the formal school system. While only 46 percent of students from the first quintile are enrolled in secondary schools, 79 percent of students of the fifth quintile are enrolled. There is also limited number of secondary schools places in the country due to the high selectivity of the CEE, which rations the limited spaces available in secondary education. This has a direct negative impact on the poor because they often attend the schools with fewer resources and from which fewer students pass the exam. In **St. Kitts**, though secondary enrollment is universal, secondary schools that serve students from low-income areas are overcrowded and facilities are poor. Not to mention that many of these students have to travel long distances to get to school[12].

35. **A traditional concentration of secondary schools in the urban areas limits access to many poor rural families**, and that are no explicit compensatory and targeting mechanisms (transport subsidies, education grants, feeding programs, etc), which facilitate the access of disadvantaged students to secondary schools[13]. In **Jamaica**, all children have access to public primary schools, but the better-quality publicly funded secondary schools--the "traditional schools"--accept only students who have passed the Caribbean Common Entrance Examination (CEE). Many middle- and upper-income families send their children to private primary schools to improve their chances of getting into the traditional high schools. The poor, however, cannot afford private primary schools, so their children are less prepared for the CEE. Children who fail the CEE attend inferior "all-age" or new secondary schools. A similar system exists in **Trinidad and Tobago**, where few students graduating from public primary schools get high enough grades

12 The students who fail the Common Entrance Examination, given at grade 6 of primary school, remain in the all-age primary schools. A minority of them has a further chance to gain a place in secondary school (integrating form 3) via the Common Middle School

13 Hobbs Cynthia, *Project Appraisal Document for the First Phase of the Multi-Country Organization of Eastern Caribbean States (OECS) Education Development Program for the Governments of the OECS,* the World Bank, Washington, D.C., May 2002.

on the SEA to be accepted into secondary schools with a strong academic curriculum[14].

2.3. Internal Efficiency

36. **The internal efficiency of most educational systems analyzed is low**. This can be explained by the low survival rates to the last grade of the secondary level and relatively high repetition rates to the last grade of secondary. The level of internal efficiency varies across countries with a few countries having a very low survival rates to the last grade of secondary, such as Guyana, and St. Vincent and the Grenadines (see tables below). On average, less than one child out of two entering first grade of primary education today is expected to make it through to the last grade of secondary[15].

Table 3: Internal Efficiency, 2005

	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Repetition Rate	..	9.1	4.5	7.2 (2001)	1.5	3.1	..	8..2	0.8
Dropout Rate	..	..	2.0 (2002/03)	12 (2003/04)*	12.8 (2005)	..	..	..	..

Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, January 2008
* Source: Digest of Education Statistics of Guyana 2003-2004

	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Survival rate to Form 1 (F1)	..	68	73	82	91	90	68	52	82
Survival rate to Form 5 (F5)	..	57	66	34	62	61	62	42	56

Source: The World Bank, 2003.

2.4. Relevance and Quality

Primary Level

37. **Even though the region has almost universal coverage, the quality of primary**

14 The World Bank, 1999. "*The Public Sector in the Caribbean: Issues and Reform Options," Policy Research Working Paper 1609.*
15 Blom, Andreas and Hobbs, Cynthia, *School and Work in the Eastern Caribbean*, the World Bank, Washington, D.C., February 2008.

education remains a concern. While exams' outcomes at the primary level are not comparable across countries, results of student performances on national examinations are below expectations, and with undesirable achievement in the areas of literacy and numeracy.

Table 4: Pass rate of Primary Exams[16]

	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Math	..	25	21	43	49	29	46.1 (2008*)	75	68
English	..	40	25.5	36.4	58	62.3	52.6 (2008*)	75.9	63

Source: The World Bank, 2003

* Source: Digest of Education Statistics of St. Lucia, 2008

38. Assessment[17] of academic achievement of Barbados' public primary and secondary schools revealed that results in The Barbados Secondary School Entrance Examination (BSSEE) over the period 1999 to 2005 indicated that of the 71 schools observed, only four had the highest percentage of their students scoring 71-100 range in both math and English. The highest percent of students in 32 (45%) schools scored in the 51-70 range in English. The situation in math is even more worrisome since the majority of schools (58%) had the highest percentage of their students scoring 30 marks or less.

39. **Disparity in achievement among students of different demographic and socioeconomic status is recognized as a problem**. Many students, especially those from poorer families complete the primary cycle unable to read and write while some of those who move to secondary are unable to participate adequately at that level. Everywhere in the region, rural students performed more poorly than their urban counterparts[18].

40. An example of this observation is Grenada, where the results of performance in the Common Entrance Examination (CEE) indicate that underachievement in literacy is a major cause for concern. The country's *Education Sector Analysis* identified that, in 1999, there was no

16 Test of Standards at Grade 6. Common Entrance Examination (CEE) for most Caribbean countries, and Secondary Entrance Assessment (SEA) for Trinidad & Tobago.
17 Ministry of Education of the Republic of Trinidad and Tobago, *National Test Report 2005*.
18 Blom, Andreas and Hobbs, Cynthia, *School and Work in the Eastern Caribbean*, the World Bank, Washington, D.C., February 2008.

improvement over the previous year in pupils' weakness in the written part of the examination. Candidates for the school-leaving certificate examination, written at age 14 at the point of exit from the final year of the primary school, scored no better than Common Entrance students. Over a five-year period to 2000, the pass rate exceeded 25 percent and deficiency in language and literacy skills was given as the main justification for unsatisfactory performance. Craig (1999) observed that the improved levels of literacy that are customarily associated with high-income countries continue to allude to those Caribbean societies that are in the high-income category. He attributed this state of affairs in the Caribbean largely to the Creole-influenced vernacular (CIV) language situation.

41. **Most Caribbean countries do not use Creole to support literacy in the first years of schooling**. Research[19] identified that differences between the language and literacy of school and that of home and community is a significant factor in students' achievement at school. Among the countries participating in this study, Jamaica is the only one to include Creole as literacy support. As such, Creole has been used as a tool to build phonetic awareness, assisting children to make the transition from Creole to Standard Jamaican English.

Secondary Level

42. **The inequitable access to the secondary level is directly linked to inequitable quality of education** since a significant number of students will get a second-tier education (in less popular schools, unable to chose their curriculum due to limited subject choices at schools, attending lower streams, limited to non-secondary education, and unable to obtain General CXC passes) increasing their chances of educational failure. Isolated in these lower tiers of the education systems – in Junior Primary, Senior Secondary or lower streams – a minority of students find the way to reinsert themselves into the system through repetition of classes. The correlation between low income and lower quality schooling is most troubling as it points to the risk antecedents which need to be addressed through the school to ensure equity of access[20].

43. **Weak L&N skills lead to weak performance at the secondary level**. As observed on the

19 Gift, Edrick, *A Proposal for a National Curriculum Policy for the Grenada Education System*, the World Bank, Washington, D.C. May 2003.
20 Hobbs Cynthia, *Project Appraisal Document for the First Phase of the Multi-Country Organization of Eastern Caribbean States (OECS) Education Development Program for the Governments of the OECS*, the World Bank, Washington, D.C., May 2002

table below, CXC exams show an average pass rate of only 46 percent for those Caribbean students who sat the CXCs in 2003 in General Proficiency in English and Math. Performance on the CXC varies significantly across countries, with passing rates consistently lower in math than in English. Data analysis (Di Gropello, 2003) found that the results would be even worse if the proportion of students passing at least 5 CXC subjects were considered, including Math and English, the minimum requirement for access to tertiary education. Regrettably, data is only available on this proportion for Grenada, St. Kitts and Nevis, and St. Lucia, which all points to unsatisfactory performance.

Table 5: Pass rate of Secondary Exams (%), CXC, 2003

	Barbados	Dominica	Grenada	Guyana	Jamaica	Caribbean Average	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Math	..	45	35	24	30	53	46	37 (2006)*	37	46.3 (2004)*
English	..	66	46	37	41	39	53	59 (2006)*	61	62.9 (2004)*
students passing at least 5 CXC	..	..	13	..	..	..	26 (2000)	27 (2000)	..	..

Source: The World Bank, 2003

44. **Gender differences in academic achievement is a common challenge in the region**. There is a gender disparity in most Caribbean countries, whereby males demonstrate lower academic achievement levels and have lower participation in secondary education. Females out-perform males at various levels of schooling, in a broad range of curriculum subjects and this is substantiated on within-class and national examinations. For instance, in Trinidad and Tobago, overall, females students perform significantly better than their male counterparts in Mathematics and Language Arts. The National Test Report 2005 revealed that the mean scores for girls were significantly higher than boys in both Mathematics and Language Arts, and compared to prior years there has been a decrease in the impact or size of gender in Mathematics, and an increase in the impact or size of gender in Language Arts.

Teachers

Teacher qualifications in the region is a concern

45. Studies[21] have shown positive associations between student achievement and teachers' academic skills, level of content knowledge, years of experience and participation in content-related professional development opportunities.

46. **In general, academic qualifications required for teachers' recruitment into service are pitched at minimal levels in order to maintain the supply of teachers for the schools**. According to Lochan (2005), teachers' recruitment and selection in the Caribbean suggest that perceptions of teaching as a worthwhile and "real" profession have always been challenged by the use of teaching as a stepping-stone to other professions. The utilitarian approach to teaching as a career has been influenced by the policies governing recruitment and selection into the teaching service. In St. Lucia, only about half of the secondary teachers had tertiary education in 1997/98 and only 58 percent had received some sort of teacher training. In St. Kitts and Nevis, only 30 percent of the secondary teachers had tertiary degrees in 1999/2000 and 30 percent of the teachers had received some training[22].

47. **Many beginning teachers with weak personal L&N skills, and practical skills in working with children who experience difficulties in L&N are assigned to teach students entering school.** More experienced and skilled teachers are usually assigned to secondary school level.

48. **Large numbers of secondary school teachers in the region have degrees in the subject area in which they teach, but no pedagogical training**. Indications (Darling-Hammond, 1999) suggest that subject matter is not enough for effective teaching, and that knowledge of teaching and learning (pedagogical knowledge) is also essential.

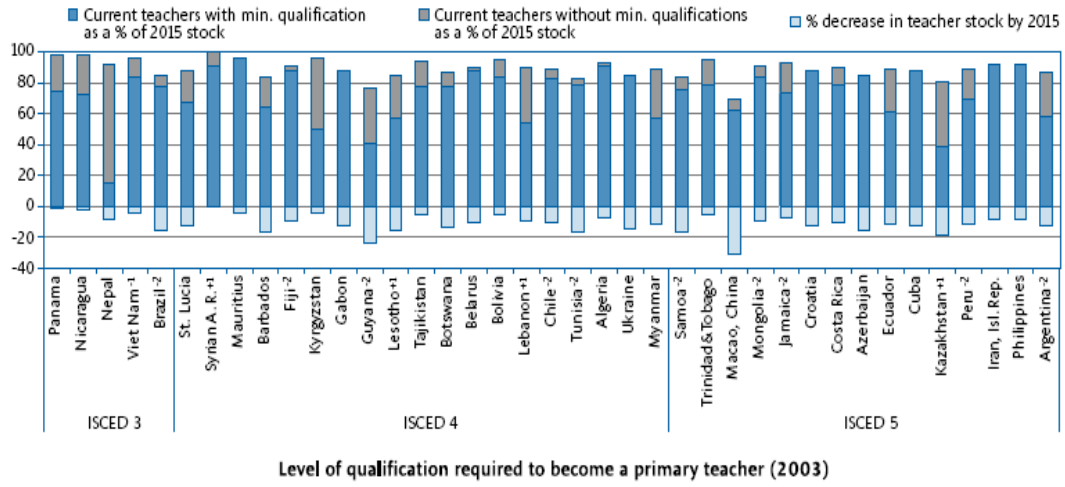
49. The UNESCO - UIS special survey on teachers suggests that Latin America and the Caribbean should focus almost exclusively on improving the qualifications of the current teaching force and raising the standard for new recruits. As shown in the table below, in Guyana, only a small proportion of existing teachers meet the relatively low standards of upper secondary education. This could be partly the result of recent upgrades in standards, which were meant to

21 Ballou, 1996; Cohen and Hill, 2000; Darling-Hammond, 2000; Ehrenberg and Brewer, 1994, 1995; Ferguson, 1991; Ferguson and Ladd, 1996; Goldhaber and Brewer, 1997; Monk and King, 1994; Murnane and Phillips, 1981; Rivkin, Hanushek and Kain, 1998; Wenglinsky, 2000, 2002; Wiley and Yoon, 1995

22 Hobbs Cynthia, *Project Appraisal Document for the First Phase of the Multi-Country Organization of Eastern Caribbean States (OECS) Education Development Program for the Governments of the OECS,* the World Bank, Washington, D.C., May 2002

improve professional status of teachers.

Table 6: Teaching stock with and without minimum qualifications and the additional teachers needed to reach Universal Primary Education by 2015 (%)



Notes: +1 Data refer to 2003; -1 Data refer to 2001; -2 Data refer to 2000.
Source: UNESCO Institute for Statistics, Annex 2, Statistical Tables A2.4 and A2.6.

UNESCO (1999). International Standard Classification of Education (ISCED)
Lower secondary (ISCED 2): Typically about nine years of schooling.
Upper secondary (ISCED 3): Typically between 12 and 13 years of schooling, requiring completion of lower secondary education for entry.
Post-secondary, non-tertiary (ISCED 4): These programs straddle the boundary between upper secondary and post-secondary
Tertiary ISCED 5): These programs are largely theoretically-based and intended to provide sufficient qualifications for entry into advanced research programs (Ph.D.)

50. **The practice of hiring pre-trained**[23] **teachers has compromised educational quality and equity**. For instance, in Jamaica, pre-trained teachers are significantly less expensive to hire than trained teachers, and do not require the same level of incentives for hardship posts. Consequently, they are generally concentrated in All-Age Schools, which are located in the most geographically and economically disadvantaged areas. As a result, the percentage of untrained teachers in remote rural areas and in the poorest urban neighborhoods is massive. The placement of untrained teachers with disadvantaged children generates a strong inequity bias in the delivery of education, and contributes significantly to reduced standards of literacy and numeracy in these populations. Although existing regulations stipulate that pre-trained teachers must exit the system if they have not achieved certification within six years of being hired, compliance is low. It is almost impossible to redeploy teachers to other schools in order to accommodate enrollment

23 Pre-trained teachers are those who do not have Teachers' College preparation or certification

fluctuations. Usually, the staffing pattern at schools is determined by the MOEs, based upon enrollment capacity. Once allocated, the positions come under the jurisdiction of the school board. When teachers are employed under a permanent contract with the school board, they are exempt from the MOEs' redeployment. Consequently, many small rural schools are overstaffed with low student/teacher ratios, and large urban schools have unacceptably high enrollments. Most understaffed schools, and most schools with a higher than average representation of uncertified teachers, are located in the poorest communities[24].

51. **There is a clear dissociation between formal teacher professional development (TPD), which is heavily theoretical, and teaching practice in the classrooms.** TPD programs have not been effective in building conceptual links between classrooms, clinical, and field-based experiences in ways that will prepare future teachers to apply their course work and other pre-service experience to their teaching practice[25].

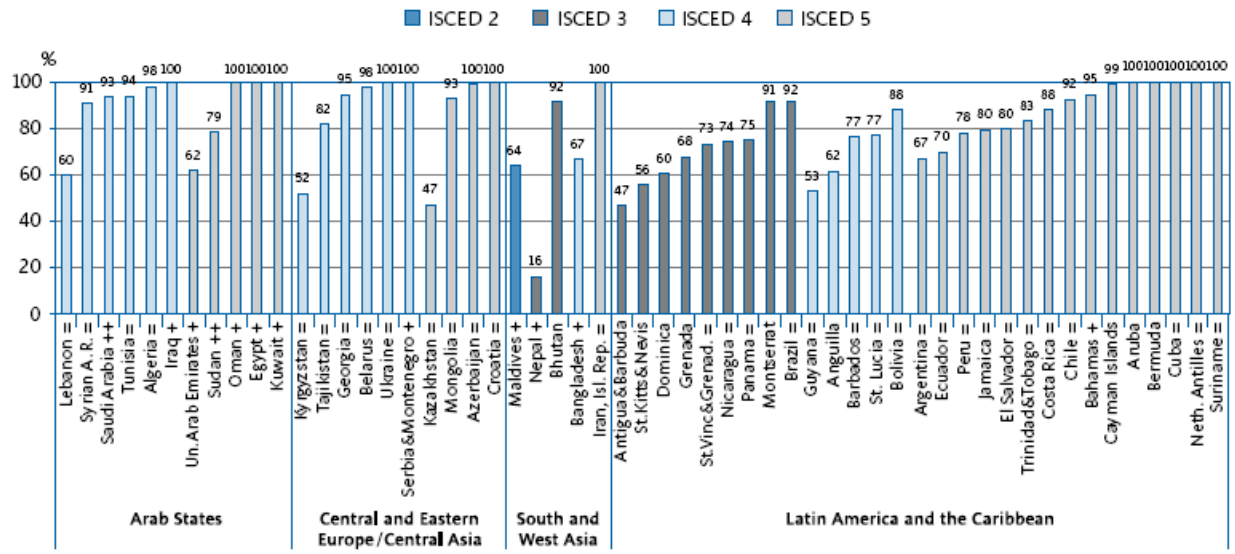
52. **The induction period in the region is insufficient**. While the induction period of OECD countries averages around 24 weeks a year, time allowed to new teachers become familiar with teaching practice in the region is much lower than that. In Barbados, for instance, a four week induction program is provided during the school's summer holidays. This course is generally taken by people who have recently entered the teaching service, and have no training or by those who expect to start teaching in the new academic year. In Guyana new teachers are given about one-week apprenticeship attached with a senior teacher of the school.[26]

53. **There is a constant mobilization of teachers within and outside the region**, so the Ministries of Education are constantly required to hire new substitute teachers to replace trained teachers who have left the system.

54. The table below shows the proportion of trained teachers or those who have received the minimum organized teacher training (pre-service or in-service) required by the countries. In Latin America and the Caribbean, there are few countries where less than one-half of teachers reach the standard training.

24 Fryer, Michelle, Loan Proposal: Jamaica Primary Education Support Project (PESP). IDB, August, 2000
25 Hobbs Cynthia, *Project Appraisal Document for the Second Phase of the Multi-Country Organization of Eastern Caribbean States (OECS) Education Development Program for the Governments of the OECS,* the World Bank, Washington, D.C., June 2003.
26 Information provided through questionnaire (see annex VI) prepared for the present study, and responded by MOE education officers.

Table 7: Minimum Standards for teaching at the primary level and proportion of teachers meeting those standards



Source: UNESCO Institute for Statistics database, 2006.

UNESCO (1999). International Standard Classification of Education (ISCED)
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Post-secondary, non-tertiary (ISCED 4): These programs straddle the boundary between upper secondary and post-secondary
Tertiary ISCED 5): These programs are largely theoretically-based and intended to provide sufficient qualifications for entry into advanced research programs (Ph.D.)

55. **In general, pre-service and in-service TPD in the region have included Information and Communication Technology (ICT) courses targeted for both primary and secondary level with limited impact on teachers' performance**.

56. Among the select countries, Barbados, Jamaica, and Trinidad & Tobago, are the ones with longer and deeper exposure to the use of ICT in school and in TPD programs. Most countries require both primary and secondary teachers to take ICT course during training, with exception of Dominica, that requires only secondary teachers to take instructional media course in order to prepare students to CXC ICT exams. In-service TPD usually offers one two-week in-service course of ICT learning per year[27].

57. According to a recent review of ICT in education in the Caribbean (Gaible, 2008), although some countries like Barbados, Jamaica, and Trinidad & Tobago have launched

27 Except for St. Kitts and Nevis, where the Ministry of Education has no in-service TPD capacity in ICT.

ambitious **teacher professional development (TPD) programs with support of ICT**[28]**, challenges still remain.** For instance, in Jamaica, "at the primary level (NHP, Ed Tech 20/20, PESP), the scale of training (and of ICT installation) is extremely small, leading to the conclusion that no ICT interventions in primary schools have achieved widespread impact. At the secondary level, both Jamaica 2000 and eLearning Jamaica, Ltd., appear focused first on hardware procurement and installation, underemphasizing TPD". The report adds that the level of ICT capacity among school faculty in Jamaica is worrisome. In a survey, "ninety percent of teachers responding stated that they can use computers, with 61 percent reporting that they use computers in their teaching (i.e. grades, lessons preparation, etc.), and a further **21 percent reporting that they use computers for instructional delivery**. However, only 40 percent of teachers overall are certified. However because these data are generated by self-reporting, and in light of the limited access to ICT in schools, the authors of the report remain skeptical as to teachers' ICT capacity and usage".

58. The same review reported that in Barbados, MOEYC personnel informed that teachers (particularly secondary teachers) are embracing ICT as a teaching instrument. In primary schools, where fewer resources are available, school leadership is able to take manage access and distribution of ICT resources to take advantage of the skills, creativity or enthusiasm of individual teachers. Although coverage in the in-service training is approaching 100% of Barbadian teachers, challenges remain. The two-week summer format is both brief and abstracted from the classroom, and teachers currently do not receive credit for participating. There is also need to develop training to help teachers increase their mastery of teaching with technology, supporting innovation among both teachers and students.

Curriculum

Irrelevant curriculum is widespread in the region

59. Over the years **curriculum and teaching methods have remained largely irrelevant for literacy and numeracy**, and primary education alone is not equipping individuals with skills that are highly rewarded in the labor market such as critical thinking, problem solving, and

28 See Annex II for details and challenges of ICT Programs with TPD component.

behavioral skills, as well as skills in information technology[29]. In order to address this situation, in 2000 the OECS Education Reform Unit - OERU has led regional efforts to agree on a core secondary school curriculum, denominated "Pillars for Progress". The regional curriculum outlines a list of subjects that has been endorsed by the Ministers of Education. However, the policy mandates have not yet been adopted by most governments nor have been put into practice[30].

60. **The harmonization of the regional secondary curriculum was not accompanied by instructional materials, teacher training, and monitoring**. In spite of regional efforts, the harmonization of the curriculum was accompanied neither by an organized promotion of economies of scale in production and purchase of textbooks nor with a common assessment of learning achievement. In St. Lucia, for instance, the curriculum has been implemented parallel to the national curriculum, without the required instructional materials, teacher training or monitoring to support it[31].

Instructional Material

Insufficient and low quality instructional material

61. **Primary and secondary schools are under-supplied with basic educational materials and equipments to support student-centered classroom teaching and learning**. Science laboratories are poorly equipped, and computer labs (when existing), are under-used due to insufficient access to educational software, and poor maintenance of the hardware. School libraries are normally under-stocked and under-used, and computers are not systematically connected to the Internet. The lack of resources and the conditions make it extremely difficult to implement student-centered approaches, such as group or teamwork, independent research projects, science experiments and other hands-on learning methods. Finally, teachers and educational support staff require more appropriate training to use existing and proposed new equipment[32].

29 The World Development Report, 2007.
30 According to discussions in regional curriculum seminar organize by the World Bank in 2002
31 Interview: St. Lucia, July, 2008.
32 Hobbs Cynthia, *Project Appraisal Document for the Second Phase of the Multi-Country Organization of Eastern Caribbean States (OECS) Education Development Program for the Governments of the OECS,* the World Bank, Washington, D.C., June 2003.

English as a Second Language

62. **The regional curriculum, and most Caribbean National curricula** (with exception of Jamaica), **does not address the status and needs of Creole-influenced vernacular**[33] **speakers**. Even though the Creole is the language spoken by a large proportion of Caribbean students on entry to primary schools, especially in rural settings, the vernacular does not have a major role in structuring learner's thinking processes and aiding their cognitive development. This process comes to a stop or is reversed when students are immersed into Standard English to the neglect of their home language. Consequently, the deficiencies from which students suffer during the primary phase of schooling are carried over into the secondary phase where failure in English language and literacy continues to mount (Craig, 1999).

2.5. Management of Education

Weak Management of the sector and governance of Schools

63. **Information system to support informed and effective decision-making in the region is weak.** Although the countries analyzed have Education Management Information Systems (EMIS), they do not all include systematized data collection, effective supervision and reporting mechanisms and established quality standards. There are not many supervision systems in place that uses the EMIS data to monitor school and staff performance[34].

64. **Early evaluation to identify students lagging behind is insufficiently available in the region**. In most countries, the education system is largely based on a policy of automatic promotion from one grade to the next with a selection being made at the end of the two main cycles, primary (CEE) and secondary (CXC) (in St. Kitts, only at the end of the secondary cycle). On the other hand, some countries like Jamaica, Guyana, and St. Lucia have introduced a Minimum Standards Examination (MST) after the 3rd and 5th Grades that test the knowledge and skills of all students at those grade levels in the basic education cycle and introduce standards and benchmarks as a means of quality control. St. Kitts and Nevis has designed National

33 Craig (1999) defined a vernacular as a language that differs significantly in grammar and idiom from the official language, e.g., Standard English, with which it co-exists, though both languages share a considerable amount of the same vocabulary.
34 Hobbs Cynthia, *Project Appraisal Document for the First Phase of the Multi-Country Organization of Eastern Caribbean States (OECS) Education Development Program for the Governments of the OECS,* the World Bank, Washington, D.C., May 2002

Certificates of Education for the same purpose. However, little is known about the impact of the MST as a diagnostic tool to determine types of interventions necessary to improve literacy and numeracy performance.

65. **Governance is weak at the school level** with insufficient training for principals, low level of parent participation and limited autonomy and capacity of the schools to manage small maintenance budgets and apply site-based activities and innovations[35].

66. **National literacy and numeracy strategies already established in few countries have limited scope**. From all the Caribbean countries analyzed, only Guyana, Jamaica, and Trinidad & Tobago have developed literacy and numeracy plans. Barbados has created a national reading policy after perceiving that reading standards and comprehension at the primary level have deteriorated. While these countries are still in the embryonic stage of its L&N plans, basic components, such as clear goals, benchmarks, assessment, and leadership and teacher training tailored to L&N, need to be strengthened. For instance, the Trinidad & Tobago National Test Report 2005, found that the development of the national literacy and numeracy strategy lacks defined goals, standards for each level of primary schools, and open communication with parents and community about L&N goals and standards. In addition, it argues that guidance in the appropriate use of instructional strategies needs to be included as part of the national strategy. At present, decisions about teaching methods are made at the school level. While this may be the most appropriate approach, of particular concern is the level of underachievement in some schools since "more of the same" will not be good enough.

67. Also, the national L&N plans in these countries are not always accompanied by specific budget to support it. Most initiatives targeted to improving performance of L&N are contemplated within the framework of the National Education Plan.

2.6. Cost and Financing of Education

68. Caribbean countries have traditionally valued education as evidenced by very high public spending on education, such as a public expenditure GDP ratio of 6.4 % or more compared to the

35 Interviews: Jamaica and St. Lucia, July, 2008.

Latin America and OECD averages of 4.1% and 4.8%, respectively[36]. A high level of investment into education will help the region getting closer to the world leading economies in education. However, the investment needs to be efficiently managed.

69. In spite of high expenditure in education, **the regional education outcomes are deficient**. The inefficiency in the education systems is evident when we consider: (a) inefficient low pupil-teacher ratios (low pupil-teacher ratios are closely associated with higher unit cost); (b) scant in-service training; and (c) inefficient teacher deployment.

70. While the average of the pupil- teacher ratio[37] of the countries analyzed can be compared to the pupil-teacher ratio of the best education system in the world (see Annex III), teachers are under-utilized, and deployment to address unbalanced distribution of pupil-teacher (rural and urban areas) is a mayor challenge.

Table 8: Pupil-teacher ratios, analyzed Caribbean Countries, 2005

Pupil/Teacher ratios	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Primary Level	15.1	18.2	17.7	28.0	27.7	17.6	23.5 (2006)	17.5	16.5
Secondary level	15.9	15.1	15.4	18.0	18.5	9.9	17.0 (2006)	17.9	16.5

Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx

71. **Expenditure on inputs other than salaries is very limited.** Inefficient low pupil-teacher ratios, generous study leave provisions and cumbersome teacher training-hiring programs have combined to raise the personnel costs. With countries' education spending on salaries as high as 94 percent (St. Lucia, Dominica, St. Vincent and the Grenadine)[38], far too little is left for other critical inputs into learning outcomes, such as instructional materials and school maintenance.

72. **Caribbean countries tend to spend relatively more on top-performing school rather**

36 The World Bank, 2007. OECS Skills for Inclusive Growth Program
37 Pupil-teacher ratios, while a highly aggregated measure, help to indicate the capacity of an education system and to assess whether teachers are potentially overburdened or under-utilized
38 Di Gropello, Emanuela, *Monitoring Educational Performance in the Caribbean*, the World Bank, Washington, D.C., June 2003.

than concentrating spending where needs are highest, i.e. on lower income schools, with students with unequal opportunities to attain the CXC goal. An example of this phenomenon is the periodic national celebrations of top students who have achieved regional successes in the CXC examinations, while little attention is given to average performance of the country as a whole. This public financing policy not only reinforces unequal opportunities, but also reduces global competitiveness that depends on the average level and quality of education of the workforce[39].

Table 9: Expenditure and Financing of Education, 2005

Expenditure and Financing	**Barbados**	**Dominica**	**Grenada**	**Guyana**	**Jamaica**	**St. Kitts & Nevis**	**St. Lucia**	**St. Vincent & the Grenadines**	**Trinidad & Tobago**
Total public expenditure on education, % of GDP	6.9	5.0 (1999)	5.3 (2003)	8.5	5.3	9.3	6.6 (2006)	8.1	4.2 (2002)
Total public expenditure on education, % of total gvt. expenditure	16.4	..	12.9 (2003)	14.5	8.8	12.7 (2003)	19.1 (2006)	16.1	13.4 (2001)
Public expenditure per student as % of GDP per capita									
Primary Level	23.4	..	11.8 (2003)	17.0	14.6	7.8	13.1 (2006)	22.6	15.8 (2002)
Secondary Level	27.6	..	13.0 (2003)	16.2	21.5	13.2	23.4 (2006)	29.5	17.2 (2001)

Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, January 2008

73. The World Bank (2003) analyzed the relationship between public expenditure and educational outcomes in the Caribbean and found that public expenditure, as a proportion of GDP, while generally positive, is by no means tight. Wide variations exist in spending efficiency across countries, as shown by the fact that similar levels of spending are associated with a wide range of educational outcomes. The relationship is somewhat closer between spending per student in secondary education in proportion of their GNP per capita and academic achievement as exemplified by CXC results. However, the relationship to outcomes disappears completely with the completion rate. In St. Lucia only 27% passed 5 subject exams, including Math and English in 2000, while in St. Kitts and Nevis, the pass rate was 26%.

39 The World Bank, 2005, *Towards a New Agenda for Growth - OECS*

2.7. The Impact of Information and Communication Technology (ICT) in L&N

Impact of ICT in L&N has yet to bear substantial fruit

74. Over the last decade Caribbean countries have launched ICT programs with different scales and impact on L&N. While countries like Barbados, Jamaica, and Trinidad & Tobago have introduced large scale and ambitious ICT programs (CCETT, Edu Tech 2000, New Horizons Project (NHP), Ed Tech 20/20, Fat/Forward), other countries like Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines have introduced ICT programs with limited scope.

75. Among these programs only two of them have been evaluated as successful, the NHP, and the CCETT. Both of them have provided adequate support for curriculum implementation, teacher training, student assessment, and learner-centered pedagogies.

2.8. Literacy and Numeracy Outcomes

76. Based on the education sector overview and recent reforms implemented in the region, we can identify the following as the main factors hampering quality of L&N outcomes: (a) inadequate teacher qualifications; (b) low teaching quality, (c) insufficient monitoring and evaluation of students' performance on L&N, (d) irrelevant literacy and numeracy curriculum, (e) unequal opportunities to quality education, and (f) insufficient instructional material.

77. While improving these factors will partially solve the problems of L&N outcomes, it will not be enough to ensure a sustainable and long-term impact on the quality of L&N in the region. To make it feasible several policies, currently absent in the region, need to be considered, such as: (1) a Regional L&N Plan; (2) L&N benchmarks; (3) a National/Regional monitoring and assessment program for L&N; (4) a National Creole-English L&N strategy; and (5) Parental and community involvement in learning outcomes.

A. Improving Teaching Quality

78. ***Reforming teacher training and deployment schemes are key actions to be considered.***

Both the content and the practice of teacher training programs need to be reviewed, especially in the areas of curriculum implementation, student-centered learning and the use of new technologies in the teaching and learning process. Much would be achieved if the reform would be done at the Regional level, and certification system could be encouraged to help conserve limited resources, achieve economies of scale (textbooks, L&N software), and facilitate teacher mobility/deployment across the region.

79. ***Teacher education should incorporate knowledge base that includes procedures for continuous, in class assessment of students' reading abilities as well as information on how to interpret results*** from district - and state - mandated assessments and modify instruction according to assessment outcomes. It is important that the teacher can identify which component skills should be assessed systematically at earlier stages of reading development, and how to assess them independently for diagnostic and instructional purposes if a student is not reading at the expected level[40].

80. ***Highly committed, well-qualified and skillful teachers are the key to helping children with L&N difficulties***. This emphasizes the need to ensure that all teachers, not only specialist teachers, participate in professional development that focuses on the needs of children with learning difficulties. Schools should be well advised to encourage and support staff to participate in the on-going development of their expertise in teaching children with learning difficulties. These opportunities can be made available through school based professional development and exposing teachers to best practice on L&N strategies.

81. ***Teacher Professional Development programs need to do a better job*** of building conceptual links between classroom, clinical, and field-based experiences in ways that will prepare future teachers to apply their course work and other pre-service experience to their teaching practice (Snow, Burns and Griffin, 1998). Britzman (2003) argue that the primary reasons teachers set aside their learning is that they have difficulty seeing its relevance. Effective induction programs could, if properly structured, help new teachers see the potential connections between the problems they face and the knowledge they have acquired thus far in their development.

40 Recommendation on the prevention of reading difficulties in young children (Snow, Burns, and Griffin, 1998)

82. ***The induction period in the region should be increased and improved***. A structured induction period of a year should be established in order to build practical skills during the initial training of teachers. In addition, support at the school level through coaching one-on-one for beginning teachers should be provided. Both initiatives would give teachers the opportunity to assess their own weaknesses and find a learning environment that support and motivate them to improve their teaching performance.

83. ***Identification of best practice is key to implement innovations and stimulate practice.*** To that end, research and L&N assessment play a key role on identification and dissemination of successful interventions on teaching practices. Sharing and disseminating best practice should also stimulate a learning culture within schools, and encourage a cooperative practice of instruction planning, implementation and evaluation among experienced teachers and beginners.

84. ***Teachers should be exposed to techniques of Differentiated Instruction***. Differentiated Instruction (DI) is a concept that is in keeping with current thought in pedagogy (e.g. see Hall, 2002; McKinley, 2003; Tomlinson, 2001). Such exposure can help teachers to explore the philosophy of and acquire skills in managing classrooms that cater to students with diverse cognitive abilities. It is worth noting that training teachers in DI would be of benefit not only to the weaker students, but also to the more able ones. The goal of DI is to help students of all abilities to achieve at their highest potential. A 2007 report on assessment of academic achievement of primary and secondary public schools in Barbados recognized the need of DI in Barbadian schools, even more among the students so-called “high flyers.” This is evident by the fact that large proportions of the CSEC passes are at Grade 3, even among those schools that take in students that excel in the BSSE. Perhaps DI strategies in the classroom could help these students to maximize this potential. What is important though is that if teachers are trained to meet the educational needs of children of diverse abilities, then all schools would be equipped to provide instruction for the weaker students who can then be distributed across these schools.

85. ***Policy that regulates in-service training frequency should be developed***. Such a policy should make it mandatory for teachers to upgrade their training at regular intervals in order to stay abreast of new developments in pedagogy. This could be facilitated through ongoing site-based staff development programs. While, the onus would be on schools to identify the needs of

their teachers and arrange training sessions to meet those needs, such measures would go a long way to ensuring that teachers are effective in the classrooms, thus increasing the chances of students achieving at higher levels.

86. ***Development of L&N leadership in schools is vital for teaching support.*** It is important to develop the capacity of principals to implement whole-school approaches to plan, monitor and evaluate progress toward L&N targets by perhaps creating scholarship support for teachers undertaking post-graduate education in: (a) improving the performance of children at risk of low L&N achievement; (b) improving the effect of school-based assessment, and (c) evaluation and resource allocation on L&N standards. At the same time, it is important to provide incentives through acknowledging completion of post-graduate studies through increased pay and promotional opportunities.

87. ***Primary school syllabus should facilitate teachers' work*** by providing: (a) explicit statements of essential knowledge, skills and understanding to be developed in each school grade, including what should be learnt in oral language, awareness of sounds in words (phonological awareness), phonics, reading, writing, viewing, spelling and grammar; and what should be learnt in mental and written mathematics, the use of calculators, number, measurement, chance and data, patterns, space and problem solving; (b) practical classroom activities designed to assist all children to reach L&N targets; and (c) a stipulated minimum time allocation for L&N.

B. Insufficient Instructional Material

88. ***Ministries of Education should provide schools with both teacher materials and materials for children to support literary learning.*** Even though some of the countries analyzed may source materials from donors and other providers, it is essential that Ministries of Education supply instructional material to ensure that schools are provided with the best practice guidelines and models.

Ensuring sustainable and long-term impact on the quality of L&N in the region

At regional Level:

89. ***To ensure a sustainable and long-term impact on the quality of L&N in the region a regional L&N plan should be created as a regional initiative***. While reducing administration costs trough deeper cooperation at the regional level, this would reduce duplication and lead to more innovative education policies in L&N. Possibilities for cooperation abound with the most obvious being: (1) sharing best practice in L&N; (2) creating regional L&N assessment systems; and (3) setting of high standards to be compared against regional L&N benchmarks; (4) continuous and increased collaboration in examinations, building upon the CXC experiences; (5) emphasizing the role of research at the national and regional levels in order to support L&N strategies..

90. ***The regional L&N strategy should be developed with a set of regional performance standards*** (regional benchmarks) for student achievements in L&N in early years (specific grades should be agreed by the Caribbean countries) of the primary level. All countries should agree to report students' achievement against these standards.

91. ***Regional assessment system for early grades*** should be created to measure student achievement in different aspects of regional curriculum for literacy and numeracy at agreed early grades. Regional assessment should report student achievement against learning outcomes described in regional curriculum frameworks, and monitor changes in performance levels over time

92. ***Harmonization of specific processes for recording information and managing data across the region would be critical for monitoring progress***. These processes would utilize sets of indicators or markers that provided consistency across individual countries and a common terminology to describe student achievements. They would also inform individual countries about development of students' skills over time, provide direction in planning teaching programs and provide schools and systems with an insight into emerging trends in students' learning.

93. ***Early diagnostic information that includes hard data on actual reading and math levels and the types of miscues that children makes is vital to the implementation of appropriate***

strategies for effective teaching and the facilitation of learning. It is only through early diagnosis and the immediate introduction of appropriate measures of remediation that the problem can be addressed efficiently and the cycle of constant remediation in the higher grades and secondary school stopped.

At School level:

National monitoring and assessment program for L&N would be improved by:

94. ***Developing effective Interventions at the school level***. Schools need to set high expectations (benchmarks) for what each and every child is able to achieve, and then monitor performance against the expectations, intervening whenever they are not met.

95. ***Providing clear directions to emphasize L&N in the early years***. This emphasis does not necessarily mean allocating more time but rather using time more effectively in schools and effectively and actively developing L&N through the rest of the curriculum.

96. ***Monitoring and creating effective interventions at the level of individual student.*** The processes for monitoring and intervention needs to be located in the schools themselves, where they are able to identify the students in need of support and provide support when needed on a continuous basis.

97. ***Supporting Schools at the district level in the use of assessment data.*** It is important to set up district teams to monitor, support and guide schools in the use of both external (National/Regional tests) and internal assessment (continuous assessment) data for identifying students at risk and planning intervention programs.

The role of research at national and regional on supporting L&N policy

98. ***Establishing an independent body with the capacity for investigating, monitoring and reporting on system performance in L&N***. Research at national and regional level should play a central role on supporting L&N policy by: (a) identifying effective teaching practices, including those targeted to disadvantaged students (ESL, special needs, low income, boys); (b) creating

training packages for parents and community volunteers to work with schools to enhance literacy skills; (c) evaluating different literacy approaches, and the development of assessment processes for the early identification of students at risk; (d) placing L&N in the primary school curriculum literacy development for students with special needs; (e) creating a community awareness program to promote the importance of parents' involvement in their children's L&N development; and (f) developing agreed upon L&N benchmarks.

Creole-English L&N Strategy

99. ***A regional policy should be drafted to give guidance on how the vernacular could be managed and exploited for its potential while easing learners into competence in the official language.*** Attention to the vernacular is necessary because it plays a major role in structuring learners' thinking processes and aids their cognitive development. This process comes to a stop or is reversed when students are immersed into Standard English to the neglect of their home language. Due to learners' lack of facility in Standard English, there is no compensatory cognitive development for that which was lost from being deprived of the opportunity to use Creole-influenced vernacular.

Parents involvement in L&N skills development

100. Learning is enhanced when teachers know something of children's home language experiences. Partnership between the school and the home should not only seek information from the home but also provide information to parents. To encourage support for literacy programs from the home, especially from parents who are illiterate, there may be the need to develop literacy programs for parents.

Impact of recent education reforms in L&N outcomes:

101. Overall, most programs targeted to L&N show general positive effect on learning outcomes, but with modest impact on improving L&N outcomes. For example, evaluation of the numeracy strategies implemented in the four OECS countries by DIFD-World Bank, found no impact on National test scores in math.

102. Despite regional efforts, the lower secondary curriculum has not been properly articulated across the region. It is not providing teacher training, monitoring and instructional material to support its implementation. Better organization would have allowed economies of scale in production and purchase of textbooks to go along with the curriculum. In St. Lucia, for instance, the curriculum has been implemented in parallel with the old one since teachers did not count with back up material and training to implement the regional curriculum properly.

103. While the Caribbean CETT program has been successfully implemented in underprivileged rural areas, and effectively piloted in several countries, its impact would have been greater if the program was integrated into the countries' teacher training programs as had been originally planned. Nevertheless the CETT's successful methods and implementation have been largely recognized among the Caribbean countries.

104. L&N strategies implemented in Trinidad & Tobago, Jamaica, Guyana and Barbados are too recent to be evaluated.

105. It is interesting to note that even though tests results in the region indicate that student's achievement in mathematics are consistently lower than English at the primary and secondary levels, national strategies and donor programs have given priority to literacy instead of mathematics. Over the past years far more funding for program provision, student support and teacher development has gone into literacy than into numeracy. Whilst poor reading skills may be associated with difficulty in solving word problems, it is not usually the main factor causing difficulties in math and needs to be addressed separately. Identification of, and provision for, children with numeracy difficulties is an area that has yet to be addressed by many schools, and more funding needs to be earmarked for this area.

3. "The Good Policies and the Good Practices"

106. This section presents successful interventions in L&N. The countries selected to display their best practices are Australia, England, New Zealand, Singapore, Japan, Republic of Korea, and Finland. While Australia was chosen for its successful education reform on L&N, particularly in the issues relevant to the Caribbean educational context, such as: (a) national L&N plan; (b) gender disparity on academic achievement; and (c) use of information for decision-making, the other countries were selected as show cases of successful interventions on teacher development. The selection criteria were established after identifying the main issues hampering improvement of L&N performance. By analyzing these countries' successful reforms, our goal is to shed light on diverse national L&N policies that can help Caribbean countries identifying new ways to improve quality of L&N in the region.

Australia

(a) Australian National L&N Plan

107. In 1997 the Australian government created the National L&N plan after identifying challenges placing educational outcomes at risk such as socioeconomic disadvantage, poverty, low parental expectation, disability, language background other than English, geographic isolation, Indigenous background and gender. The National Plan encompassed a comprehensive reform that fully addresses these issues and implemented an equitable policy of literacy for all. The main policies inscribed in the national plan are listed below.

Main Policies designed for the National Plan:

1. Assessment of all students by their teachers as early as possible in the first years of schooling.
2. Early intervention strategies for those students identified as having difficulties;
3. The development of agreed national benchmarks41 for years 3, 5, and 7 against

41 For full detail of the benchmarks: Literacy is at http://cms.curriculum.edu.au/litbench/intro.asp and numeracy is at http://cms.curriculum.edu.au/numbench .

which all children's achievement in these years can be measured;

a. The measurement of the students' progress against these benchmarks using rigorous state-based assessment procedures;
b. National reporting of student achievement against the benchmarks, within the framework of the annual National Report on Schooling in Australia (ANR);

4. Professional Development for teachers to support the key elements of the Plan.

Assessment of all students by their teachers as early as possible in the first years of schooling

108. Assessment in the early years of schooling encompasses both the assessment of students on entry to school and the ongoing assessment that continues through the early years until Year 3 when students' achievements are measured against national benchmarks. The results of early assessment provide information to parents, teachers, schools, systems and sectors to support the development of teaching programs in line with the National L&N Plan. The provision of sufficient assessment materials to both assess students and train teachers was an important support mechanism in the implementation of effective assessment. The training was often provided through training packages that included written modules and videos.

109. Many education authorities paid particular attention to the diversity of students' backgrounds including cultural, socio-economic and language experiences. In some cases this resulted in alternative or additional forms of assessment. In other cases the data collected through assessment resulted in the development and implementation of specific teaching and learning programs to meet the needs of these students.

Professional Development for teachers to support the key elements of the Plan

110. Professional development played a key role in supporting teachers in implementing L&N assessment in the early years of schooling in Australia. Education authorities used a variety of opportunities to improve their teaching skills. The emphasis of professional development has moved from training in administration of assessment tools towards providing teachers with opportunities to analyze data, moderate results and plan programs to meet the identified needs of students.

111. Some strategies utilized to support teachers include the use of action/inquiry models, the establishment of collegiate networks and the availability of mentors, including those accessible electronically. An increase in the use of information and communication technology (ICT) to support professional development has become evident, although the provision of initial support in its use is a vital pre-requisite to its general acceptance.

112. A variety of intervention programs have been implemented to support students identified as requiring additional support. Program designs reflect the needs of jurisdictions, schools and local communities and include one-to-one and small group tutoring, structured teaching programs and the provision of professional development to increase the repertoire of strategies that teachers utilize. In some instances government and non-government sectors have jointly developed these initiatives.

(b) Gender Disparity on Academic Achievement

113. An Australian research analysis shows that during the period 1975-1995 there has been a decline in the percentage of 14 years old boys attaining mastery of basic reading comprehension. There has also been a widening of the gap between boys and girls, from a 3% gap in 1975 to an 8% gap in 1995 (ACER, 1997a). This same study showed that for students whose home language is not English, mastery was considerably lower than for other students, and that higher achievement in reading was associated with higher socioeconomic status.

Innovative Literacy Project for Boys, 2003:

The project had three aims:

(a) Develop, trial and analyze a capacity inventory for strengths of community members (especially fathers and males) and community resources to support literacy.

(b) Develop, implement and evaluate contextually specific programs using community strengths to enhance boys' literacy.

(c) Produce a resource kit for dissemination of the capacity inventory method.

English as a Second Language (ESL)

114. Recent Australian work on the development of assessment frameworks has provided support for teachers in understanding the skills and knowledge which students from language backgrounds other than English develop as they become more proficient in English in the context of school learning.

115. Newly arrived ESL learners are able to access intensive English programs, or receive targeted support through the New Arrivals Program. Professional development is provided for teachers on how to use the ESL companion to the English Curriculum and Standards Framework that provides an overview of the broad stages of English language development through which an ESL learner passes. Teacher support material to sustain all stages of the ESL companion have also been developed and provided to all teachers.

The role of Parents in improving L&N outcomes

116. Research has shown overwhelmingly that when parents are involved in the education of their children, student motivation and achievement improves (ACER, 1999). The Australian MOE created a webpage[42] addressed to parents in order to raise awareness of their role, and recognize that the best start a child can have with L&N comes from home. Among other resources, it suggests a list of simple, everyday things parents can do to encourage L&N learning from home such as: (a) encourage children to talk about their experiences with parents; (b) read together; (c) draw attention to the L&N that happens around children every day; (d) get children used to counting and to differentiate sizes and shapes with simple things like toys; (e) read timetables or maps together; (f) be positive about learning mathematics and value the fact that everybody can use math to help us in our daily lives; (g) value books and learning and encourage a child to use the library for pleasure as well as to find information; (h) make time to talk with their child's teacher and stay in touch with child's school whether it be primary school or secondary school. They recognize that parents and teachers working together are the very best support for success.

42 http://www.austparents.edu.au/

(c) Using Assessment data as instrument of decision making

117. One of the strongest components of the Australian policy formulation is the vigorous use of data for decision-making and to inform effective intervention in L&N programs in the early of schooling. In 1998, the Department of Education, Science and Training (DEST, formerly the Department of Education, Training and Youth Affairs) provided funding for a project titled *Assessment of L&N in the Early Years of Schooling.* The project provided information that would assist schools, teachers and education authorities to meet key elements of the National L&N Plan, and published a report of the same name in 1999. A second project, designed to continue discussion about issues regarding assessment in the early years of schooling, has developed three papers about issues that arose from these discussions.

118. During the implementation of the National L&N Plan the project has continued to support it by providing a forum for dialogue between key policy officers about the issues relating to L&N assessment in the early years of schooling.

Singapore, New Zealand, Finland, Republic of Korea, England, the USA, Japan, and Canada

119. The main contributions and lessons drawn from these top-performing education systems are the successful policies developed on teacher selection and training, and on delivering quality education for every child. It is worth to note that some of the education systems analyzed achieved successful outcomes within a few decades as a result of implementation of some of the strategies presented, such as the case of Singapore, and Republic of Korea.

120. A recent comparative study (McKinsey & Company, 2007) found that top-performing school systems like Singapore, Finland, Republic of Korea, England, Canada, and others came out on top due to their strong focus on **improving instruction**. In order to improve instruction, these school systems consistently do three things well: (a) they get the right people to become teachers; (b) they develop these people into effective instructors; and (c) they put in place systems and targeted support to ensure that every child is able to benefit from excellent

instruction[43].

(a) Getting the right people to become teachers

121. The same study found that top performing education systems have demonstrated that the quality of an education system depends ultimately on the quality of its teachers. To that end, they developed policies that focused on strong processes for selecting and training teachers, paying good starting compensation, and carefully managing the status of the teaching profession.

122. In England, for instance, after nearly half century of little or no improvement in student outcomes in L&N, the government rolled out new national training, which employed best practice training techniques. In just three years, they increased the number of students meeting the target standards in literacy from 63 percent to 75 percent.

123. Examples of successful strategies utilized by some of the top performing systems to select highly skilled candidates to teach are highlighted on the table below.

Countries	Candidate Selection for Teacher Training
England	**Made teaching the most popular profession among undergraduates and graduates in just five years** ***Strategy***: Using marketing and recruitment techniques taken from business to increase and attract quality applicants for the teaching training. ***Incentives*:** Good starting salary
Finland	**Becoming a primary teacher** The state controls the entire process for the selection of students for teacher training. ***Strategy*:** varying salaries of primary teachers by as little as € 100 a month. Raising status of teachers by requiring Master's Degrees. ***Incentives*:** Good starting salary and lifted the status of its primary school teachers relative to those in secondary schools **Requirements for training:** Assessment on: (a) literacy, numeracy and problem solving skills; (b) communication skills, willingness to learn, academic ability, motivation for teaching; (c) test run by individual university.
Singapore	**Selection for Teacher Training** The state controls the entire process for the selection of students for teacher training. **Strategy:** State-wide selection process (MOE) in partnership with National Institute for Education **Incentives:** Good starting salary **Requirements for training:** Applicants' academic achievement**,** communication skills, and motivation for teaching.
Republic of Korea	**Primary Teacher** **Requirement for training:** 4 years of undergraduate at a selective National School of Education and be in the top 5% of their academic cohort. **Secondary Teacher** **Requirement for training:** Complete training at one of 350 competing providers and application for teaching job.

43 A list of key questions and parameters prepared by the McKinsey report as policy guidance to develop a robust education system is available on Annex VII

124. A common characteristic to these systems is the control of teacher supply. Failing to control entry into teacher training leads to an oversupply of candidates, which has a negative effect on teacher quality. In Hong Kong, England, and Republic of Korea's primary education systems, the government uses its control of funding to limit the number of teacher candidates (and the supply of teacher training places).

(b) Developing teachers into effective instructors

125. There are basically three approaches high performing school systems use to help teachers improve instruction, **create awareness of weaknesses in their practice**, **provide them with a precise knowledge of best practice** and **motivate them to make the necessary improvements**. These approaches promote changes fundamentally in what happens at the classrooms. At the level of individual teachers, this implies getting three things to happen: (a) ***self-evaluation***: Individual teachers need to become aware of specific weaknesses in their own practice; (b) ***exposure to best practices***: Individual teachers need to gain understanding of specific best practice. In general, this can only be achieved through demonstration of such practices in an authentic setting (i.e. study tours); and (c) ***motivation***: Individual teachers need to be motivated to make the necessary improvements. This motivation goes beyond material incentives, it comes about when teachers have high expectations, a share sense of purpose, and above all, a collective belief in their common ability to make a difference to the education of the children they serve.

126. It is important to note that in order to improve instruction these three components need to work simultaneously. Without all three things in place, change will be limited.

127. The table below sheds light on examples of practical skills exercised during the initial training. These practical skills find substantial support at the school level, where coaching one-on-one takes place, and teachers have the opportunity to assess their own weaknesses. Another routine of practice exercised by these countries is sharing best practice among teachers, which enables them to learn from each other. It develops a culture of learning, where teachers give each other feedback, share successful teaching methods, and helps shaping a common aspiration and motivation for improving the quality of instruction.

Countries	Building practical skills during the initial training
England	***Teacher self-evaluation and Exposure to best-practice:*** ▪ ***Coaching one-on-one***[44] in the classroom by experienced colleagues. Teachers with a track record of excellent instruction are given reduced teaching loads in order to allow them to spend more time coaching their colleagues. ▪ One year program/24 weeks to practice and create awareness of trainee teachers' weaknesses ▪ Training programs using best-practice techniques with successful outcome. **Performance Monitoring** Agency (TDA) controls school performance, and set strict standards for teacher training institutions, including a minimum requirement of 24 weeks of practical experience on most coursers. All funding for teacher training is under its control. **Teaching license:** After 1 year of teaching
Finland	***Teacher self-evaluation & Exposure to best practices:*** Most faculties of education manage their own training schools: these are fully operational schools, where students carry out their initial teaching practice. The organization structure helps to ensure that the content of teacher training is tightly linked to the actual practice within schools, and provides additional opportunities for the faculty to incorporate observation and best practice gained in the classroom into their teacher training courses. ▪ Teachers also work together, plan their lessons jointly, observe each other's lessons, and help each other improve.
Japan	***Teacher self-evaluation & Exposure to best practices:*** ▪ ***Trainee teachers work full time in schools and coaching one-on-one*** are provided twice a week from guidance teachers to create awareness of weaknesses during their first year of practice. ▪ *During* ***"lesson study"***, teachers work together to refine individual lessons, plan their lessons jointly, observe each others lessons, and help each other improve. Groups of teachers visit each others classrooms to observe and understand the practice of other teachers, and best practices are shared through out the school.
Boston, USA	**Building practical skills during the initial training** On the 1 year Teacher Residency Program trainees spend 4 days each week in a school. **Collaborative teaching** Teachers from the same subject and grade jointly plan and analyze teaching practice based on assessment data. The sessions are facilitated by the principal or one of the literacy coaches, and use data as the basis for structured discussion. The aim is to uncover differences between the instructional practices and to understand how these differences impact results. The sessions are followed by peer observation and common planning of teaching strategies.

Making In-service Training an Effective Tool to Improve Instruction

128. Several education systems provide in-service training through on-the-job coaching.

44 Expert teachers are sent into the classroom to observe and provide one-on-one coaching in terms of feedback, modeling better instruction, and in helping teachers to reflect upon their own practice

Expert teachers, trained in how to coach other teachers, give feedback, model instruction, and share in planning. **Singapore** appoints senior teachers and master teachers to leading the coaching and development of the teachers in each of its school. Coaching interventions can lead to a substantial improvement in outcomes in a short time.

129. **England**, through its National L&N Strategies, has trained L&N coaches in every primary school. It developed a network of national experts to train these coaches, focusing both on effective pedagogies to be used to improve student outcome and on the techniques to get teachers to employ them. The result has been a significant improvement in outcomes over a period of just three years.

(c) Delivering for every child

130. In addition to developing effective instructors, successful education systems make sure that every child is able to benefit from this increased capacity. To that end they set high expectations for what each child should achieve, and then monitor performance against the expectations. Intervening whenever they are not met.

131. High performing school systems build effective interventions at the school level, identifying schools with poor performance. The very best of these systems intervene at the individual student level, developing processes and structures within schools that are able to identify whenever a student is starting to fall behind, and then intervening to improve that child's performance.

132. Ensuring that every child benefits from high-quality instruction is not only and important end in itself, but it will define the system's level of strength. For instance, the PISA scores of the top performing systems show a low correlation between outcomes and the home background of the individual student. The best systems have produced approaches to ensure that the school can compensate for the disadvantages resulting from the student's home environment. They start by setting clear and **high expectations** for what individual students should know, understand, and be able to do. They ensure that resources and funding are aimed at those students who need them

most. Then, they closely monitor the performance of schools against these expectations and develop effective mechanisms to intervening when these expectations are not met.

133. All these top-performing and rapidly improving systems have curriculum standards, which set clear and high expectations for what students should achieve.

Monitoring and Intervention at the School Level

"We cannot improve what we cannot measure"

134. A combination of monitoring and effective intervention is essential in ensuring that good instruction is delivered consistently across the system. High-performing school systems monitor their performance through examinations and inspections, making the intensity of this monitoring inversely proportional to the capacity of individual schools to improve by themselves.

Countries	Monitoring and Intervening at the School Level
England	**School review:** Independent Inspectorate (with 35 inspectors) is directly accountable to parliament. **Self-evaluation with external review every 3-4 years** **Outcome of monitoring:** Publication of performance results
New Zealand	**School review** reports to its own Ministry of Education (MOE) **Self-evaluation with external review every 3-4 years** **Outcome of monitoring:** Publication of performance results
Singapore	**Self-review with occasional external review**
Hong Kong	**School review** separated to the school branch offices to which the school report, but still inside its MOE
New York, USA	**Annual external review**: All the schools are to be reviewed by an external inspectorate once every year **Outcome of monitoring:** Publication of performance results

School monitoring evolves towards less intensive review models as they improve.

135. Top-performing systems, as well as rapidly improving ones, create mechanisms to allow central or local governments to replace the school's leadership in cases where normal governance arrangements do not allow this to happen. In Chicago, England and New Zealand,

the district, local authorities, or central government, respectively, have the right to replace the school leadership when a school fails to improve. Boston removed the bottom five percent of principals during the first year of its reform, and then several of the lowest performing principals each year thereafter.

136. New Zealand, Alberta, England and Chicago have introduced funding models, which divert additional resources to those schools, which are in need of improvement. The funding formula provides increased funding to schools, which enroll students from disadvantage background.

137. The best systems use the results of monitoring and intervention to identify best practices, which can then spread through the system. Singapore studies the practices in its best schools, and has ensured that the lessons from this are transferred to other schools. Singaporean researchers have built classroom-laboratories at the National Institute for Education where they carefully monitor student reactions to new instructional approaches and strategies being tested there. They then apply their findings to future education reform.

Selecting and Developing Effective Instructional Leaders

138. According to the Mc Kinsey study (2007), research on school leadership suggests, "school leadership is second only to classroom teaching as an influence in learning." [45] Some 97 percent of schools in England rated good or excellent overall by the Independent Inspectorate are led by management teams that are also rated good or excellent overall; only 8 percent of schools with leadership teams rated satisfactory or below are rated good or excellent overall.[46] Research shows that without an effective principal, a school is unlike to have a culture of high expectations, or strive for continuous improvement.

139. Best-performing school systems implement a coherent and aligned development model, (frequently based on an apprenticeship model), which helps aspiring and existing school leaders to develop these practices. After identifying the right people to become principals, it then needs

45 NCSI, Seven Srong Claims about Successful School Leadership (2006)
46 Ofsted, School Inspection Date (2005-2006)

to structure the roles, expectations and incentives to ensure that principals focus on instructional leadership, not on school administration.

4. Case Studies: St. Lucia and Jamaica

140. In this section the focus will be on programs and country strategies in St. Lucia and Jamaica with the most potential for impacting L&N outcomes. In the case of St. Lucia, the program to be analyzed is the School Based Assessment (SBA) – Minimum Standard Test (MST), and in Jamaica, the Program: Literacy 1-2-3.

St. Lucia

1. Background

141. St. Lucia and other OECS country members have recently engaged in the preparation of a long-range education sector plan. In its plan, the St. Lucian government has articulated a strong pledge to education. Over the past 30 years this continuous commitment has led to almost universal coverage of primary education. Nevertheless, the government recognizes that there are still quality issues to be addressed at all levels. In response to that the government has implemented a variety of initiatives, and among them: (a) designing remedial programs to improve L&N skills for underachieving students in primary schools; (b) improving teacher qualification; (c) reforming the secondary school curriculum; and (d) increasing the use of diagnostic assessment mechanisms.

Programs	Outcomes
OEDP: 2002 **1. Support for development of L&N Strategy** **2. School Improvement Projects (SIPs)** Goal: Management of education at school level. The initiative encourages schools to focus on projects that seek improving the teaching and learning process, and increasing student participation in co-curricular activities.	1. Drafting of L&N policies and action plans, and initial implementation at the school level has been facilitated through the identification and training of L&N Coordinators. 2. Currently, many schools embark on a variety of school projects. In-service training for principals and senior teachers are examples of these projects. Increased parent and community participation in the development of SIPs, which is a direct spin-off of the increased local ownership of school management. This in turn is highly correlated internationally with student

	achievement.
3. CETT, 2002 A network of Professional Development clusters	The pilot intervention was successfully done, but the government has decided not to scale up the program.
4. SBA – MST Program(2008)	First Trial Run in April, 2008

142. Although these initiatives brought invaluable inputs to the system, impact on national L&N continues to be modest.

2. Literacy and Numeracy

143. Student performances on national and regional assessments in St. Lucia demonstrate low and undesirable achievement in the areas of L&N. Many students, mostly from poorer families, complete the primary level unable to read and write while some of those who move on to secondary are unable to properly participate at that level[47].

As shown in the table below, while both CEE subject areas recorded an increase in performance in this year's examination, performance is still poor.

St. Lucia, CCE Results, 2008

Subject Area	Year 2008	Year 2007	Year 2006
Mathematics	46.1	41.7	37.1
English	53.0	43.3	45.1

Source: Office of the Registrar of Examinations, 2008

144. ***Gender differences in academic achievement is still a challenge***. Females out-perform males at various levels of schooling, in a broad range of curriculum subjects and this is substantiated on within-class and national examinations. This year, of the students assigned to secondary schools, 51% were females and 49% were males.

St. Lucia, CEE Results
Performance by sex, 2008

47 Hobbs Cynthia, *Project Appraisal Document for the First Phase of the Multi-Country Organization of Eastern Caribbean States (OECS) Education Development Program for the Governments of the OECS,* the World Bank, Washington, D.C., May 2002

Subject Area	Males	Females	Total
Mathematics	42.6	49.6	46.1
English	46.8	58.4	52.6

Source: Office of the Registrar of Examinations, 2008

145. In a L&N survey conducted by Ward and Fulton (2002:5) in which interviews and class observations were the primary data gathering methods used, it was reported that "teachers are teaching skills in isolation (phonics, vocabulary work, and punctuation) and using repetition instead of strategic teaching." The report called for "an increased emphasis on L&N over several years" (p.7). One of the areas that require close investigation is the methodology used to teach literacy and the extent to which this methodology fosters the acquisition of literacy among primary school students. In a diagnosis of children of different language backgrounds in a rural school in St. Lucia, Simmons-McDonald (2002) found that no less than 60% of the students tested (from Grades K – 6) were reading in a range of 1 to 4 grade levels below their actual grade.

146. An evaluation (DIFD, 2005) to identify the magnitude of the L&N problems in St. Lucia found that improving the standards of L&N is a major challenge. Multiple changes within education make it difficult to establish causes for statistical differences in performance from year to year. According to the evaluation, teachers are the key to progress. In the case of numeracy, many teachers are responsive to tackling the numeracy problem though they may underestimate the magnitude of it. "Many may put more faith in the affective aspects of poor attitude to the subject than the deeper issues of how learning of mathematics occurs. Making math fun is worthwhile where possible, but in itself doesn't overcome conceptual problems arising through faulty learning from the past and unhelpful learning experiences in the present. Teachers need ongoing encouragement and support, first to understand the way numeracy can be developed and then to work on the teaching skills, which can enable student progress".

147. The same evaluation affirms that achieving effective leadership in mathematics teaching in the schools is the right direction for making progress, but initial training for the subject leaders is only a start. There has to be follow-up and continued monitoring and support. However, in the case of St. Lucia the fluidity of staffing in schools makes systematic progress difficult.

Curriculum

148. **Inconsistent supervision of curriculum implementation is a reality**. An evaluation of MST performance in St. Lucia (Ward &Fulton, 2002) found poor implementation of the English language curriculum. Among other problems, there was an absence of a teachers' guide to demonstrate classroom implementation of integrated language arts program and instructional material. In addition, there is no homogeneity of curricula throughout the system; some schools adopt the OECS curriculum, others use the old one, others adopt some of the CETT's instruments, and others a mix of all of them. There is no monitoring to supervise implementation of curriculum due to insufficient number of personnel. The ratio of coordinator per school is one literacy coordinator for 67 schools[48].

Teachers

149. Assessment of L&N (World Bank and DIFD, 2002) pointed to the low quality of teaching, and urged a series of teacher training activities to address deficiencies in classroom practices across schools in St. Lucia. The main difficulties experienced by teachers are lack of training on attending students with different levels of proficiency in math and literacy, and lack of assessment skills.

3. The Student-Based Assessment (SBA) Program

150. In 2007, the Saint Lucian Ministry of Education, with World Bank funding, introduced the SBA in the country's primary schools. The idea was to introduce SBA in the Minimum Standards Testing Program in Grade 2 and 4 to foster a culture of alternative assessment throughout the school system. SBA represents a set of strategies, which promote assessment for learning through the performance of meaningful and genuine tasks. It is also geared towards assessing the multiple intelligences of the learner[49].

48 Interview: St. Lucia, July, 2008.
49 In preparation for the introduction of the SBA the MOE published the document Assessment guide for teachers, 2007

151. Research[50] on assessment practices for use in the early years of schooling found that collection of data, as such, does not lead to improved instructional practice but that it can provide indisputable evidence for the need to review practices and initiate changes. The results of data collection and analysis can motivate a course of action towards school improvement and student success. At a class and individual level the collection and analysis of data about student achievement enables teachers to make adjustments to teaching and learning activities to gain measurable improvement for individual students.

152. Therefore, to achieve full impact on learning, the SBA assessment program needs to be accompanied by: (a) early intervention strategies for those students who were identified as lagging behind; (b) in-service training; (c) coaching one-on-one at school; (d) exposure to best practice; and (e) leaders' monitoring and support.

153. Among these components, in-service training merits primordial attention since teachers need to learn how to interpret test results in order to identify students' needs and plan instruction accordingly.

In-Service Training

154. ***The success and sustainability of the new assessment program is highly dependent on continuous teacher upgrading in the area of assessment***. The emphasis of in-service training needs to change from training in administration of assessment instrument towards providing teachers with opportunities to analyze data, moderate results and plan programs to meet the identified needs of students.

155. In addition, in-service training needs to include: (a) learning differentiated instruction strategies to meet the needs of students with learning difficulties; (b) exposure to best practices; (c) study tours (when possible); (d) use of bi-lingual/bi-dialectal approaches in the teaching of literacy skills; and (e) use of both external (National/Regional tests) and internal (continuous assessment) data to identify learning gaps and plan intervention programs. An assessment guide for the SBA program has already been published. This resource offers an array of alternative

50 The use of data to inform effective intervention in literacy and numeracy programs in the early years of schooling. ACER.

methods for early assessment, scoring and grading.

Reflecting on Practice as a Learning Community

156. While learning how to interpret test results is critical, the opportunity to reflect on assessment practices and the creation of a learning community brings motivation for improving the quality of instruction. The box below presents an example of the positive effect of building a learning community. It shows how the use of assessment data in this type of community can increase confidence among teachers, and influence on the preparation of programs for individual students.

Reflecting on practice as a learning community

The value of teachers working together as a learning community is well recognized. In the Australian Capital Territory a project called 'Integrating System and Classroom based Assessment (ISCA), funded under the Quality Outcomes Programme and the National Literacy and Numeracy Strategies and Projects Programme through the Commonwealth Department of Education, Science and Training, involved two primary schools, with a total of 30 teachers.

The two whole school groups, in some cases working together and at other times working as individual schools, were engaged in establishing a professional learning community. Teachers were focused on improving student literacy outcomes through the integration of system and classroom assessment practices. The project was also concerned with valuing teacher judgment, particularly in classroom-based assessment. Through participation in a professional learning community, teachers were able to establish norms and values, focus on student learning and collaborate and engage in reflective dialogue. It was anticipated that through participating in the project teachers would be able to:

- integrate system and classroom assessment data to inform pedagogy;
- develop skills in mapping student literacy progress;
- develop appropriate responses to identified needs of students; and
- develop appropriate reporting mechanisms.

The Literacy and Numeracy Team in the Australian Capital Territory Department of Education and Community Services was given the responsibility of supporting the schools to use results generated by system data to improve student learning outcomes. Strong leadership and a clearly articulated vision are key factors in the success of such a process.

A positive aspect of the program was that the confidence of teachers in using system assessment data greatly improved. This improvement can be directly attributed to the project as teachers were involved in workshops where they analyzed the schools' results and discussed the implications for curriculum planning, professional development and intervention programs for individual students. Looking at system

data as a whole school, identifying strengths and weaknesses and then developing strategies to address the weaknesses was a positive experience for the teachers involved. All staff felt they had contributed to the process and gained useful strategies they could use in their classrooms

Challenges:

157. **The National Education Management Education System (EMIS) is deficient to provide support to the SBA.** The EMIS is not effective at the system level or at the school level. Reporting of data is a mechanical process without analysis of test results. Data is not assimilated as part of schools' daily practice. There is no monitoring mechanism to follow up students' progress, to project students' performance by the end of the primary cycle or to tell principals that consistent poor student performance can be signaling need for teacher training. At the system level, even with information available officers make decisions using other criteria, such as political agenda, and cost[51].

158. **There is no monitoring system in place to support teachers and supervise whether they are doing a good job.**

159. **The curriculum issue needs to be addressed urgently.** The SBA will require greater connection with the curriculum. Consequently, strengthening the implementation of a cohesive curriculum is critical.

160. **Lack of ownership. Teachers are not properly involved in the process of the SBA formulation.** According to feedback on the MST-SBA Trial Run, teachers were not part of the test design. Participation of teachers is an important opportunity to build on an assessment culture within the schools, and to stimulate teachers' contribution in the process of change.

161. **Lack of standards (benchmarks) to contrast students' test results**. Based on the same feedback, teachers did not know whether the results were matching the skills students should be mastering by their grade level. Some of them complained that the tasks were too difficult for grade 2 students while others felt it was not challenging enough.

51 Interview: St. Lucia, July, 2008.

162. ***Involvement of all relevant stakeholders about the new assessment needs to be strengthened.*** Broad-based discussions among principals, teachers and parents on the new assessment systems should be encouraged.

Jamaica

1. Background

The Ministry of Education is under Modernization

163. Over the last few years the Ministry of Education of Jamaica has been experiencing a significant process of modernization that has focused mainly on three areas: (a) redirecting the central Ministry toward policy and strategy and away from operational matters; (b) creating Regional Educational Agencies (REAs) with greater autonomy and a much stronger focus on school improvements; and (c) creating three new operating Agencies that will be the three main drivers of transformation improving quality; curriculum and assessment; and transforming the teaching profession. The new agencies[52] will be:

- The National Education Inspectorate
- The Curriculum and Assessment Agency
- The National Teaching Council

164. By recognizing that improving L&N performance is a government priority, the Jamaican Ministry of Education created a comprehensive National Literacy Plan, which is briefly

52 Most of these agencies are still under early process of implementation.

described below.

2. The National Literacy Plan

165. In 2007, the Jamaican Government developed a strategic framework, Literacy 1-2-3, to ensure that reforms are sustained, that resources are targeted effectively, and that improvements are achieved in all schools. Literacy 1-2-3 is planed to be rolled out to 800 primary schools under the PESP-IDB project. The development of Literacy 1-2-3 was informed by the strategies used by CETT; the New Horizons Program (NHP); the Jamaican All- Age School Project (JAASP), the Language Experience and Awareness (LE&A) approach; and a study of the language situation in Jamaica. The program is curriculum-based, and is intended to provide a holistic approach to the teaching of literacy using the Language Arts window in Grades 1-3 of the Revised Primary Curriculum (RPC).

166. A numeracy strategy will be created later with lessons drawn from the successes of literacy practice. The Jamaican Ministry of Education will work closely with the newly established Centre for Mathematics and Science Education at the University of West Indies, to develop this new strategy. Specific initiatives relating to this partnership will include: (a) Nationwide workshops to increase the mathematics subject knowledge of primary school teachers in order to boost their confidence and improve teaching quality; (b) Research projects aimed at identifying the causes of underperformance in mathematics.

Early Assessment by teachers

167. ***Revamping of the Grade I Inventory.*** The Grade I inventory was restructured to assess family and community support for the child's learning. The profile intends to assist teachers in planning lessons and structuring delivery of knowledge to optimize the learning of each child. Specific key indicators to be assessed would include social and emotional development of the child, as well as, the teacher/school readiness. Children with disabilities would be included in the process with the necessary adaptations being made to facilitate them.

2.2 Remedial Intervention Strategies to support students who experience difficulties in reading. A complete review of the literacy provision at the primary and secondary levels has been undertaken and the lessons learnt from this will be incorporated in practice.

2.3 National Benchmarks. A team is developing better data on school and student performance including trend, benchmarking and value-added data and the development of school profiles.

2.4 Professional Development through:

2.4.1 Teacher Professional Development, revolving loan fund to teachers who are permanently employed in public educational institutions and are pursuing a Bachelor's Degree or a Diploma in Teacher education. Approximately 18,000 teachers are targeted under this program.

2.4.2 Teacher Registration. Registration is mandatory for teachers in public educational institutions, and recommended for teachers in private educational institutions. A Teacher Registration Certificate is provided, and the goal is to register all teachers by August 2009. Thereafter, registration will be a requirement for employment in the teaching profession, and access to a number of benefits.

2.5 Delivering quality of education for every child through:

2.5.1 Schools where achievement is lowest. Specific interventions are being targeted at schools where achievement is lowest: A proposal to introduce CETT into the 100 lowest achieving schools, based on a 3 year contract, is under consideration. In addition, a team of 50 literacy specialists is being recruited to support targeted schools on a regional basis that are not part of CETT.

2.5.2 Transition from Creole to Standard Jamaican English. Literacy 1-2-3 is structured to build phonetic awareness, (assist children to make the transition from Creole to Standard Jamaican English [SJE]); listening skills; reading skills; comprehension and writing skills.

2.6 Monitoring of performance

2.6.1 For Teachers and Principals New appraisal instruments for principals and guidance counselors are being piloted and the teacher evaluation instrument and system is being reviewed.

2.6.2 School Review. School review will be a priority of the transformed education system. The REAs will have a stronger focus on school improvement, and the new Inspectorate will take a more rigorous approach to school review and inspection and to the follow up from inspection findings.

2.6.3 Program Supervision. The national coordinator will provide strategic oversight and drive the program to achieve its targets. Shorter-term targets for improvement are being developed for regions and then for schools. School based literacy coordinators will ensure that improvements are implemented in all schools and will undertake diagnostic, monitoring and evaluation functions relating to learning and teaching.

2.6.4 Assessment. A prominent feature of the program is self-evaluation by schools. This will require new and improved data mechanisms, the development of better quality data and training for officers and school managers.

2.6.5 National Assessment Programme. The literacy model is integrated into the National Assessment Programme, (Grade 1 Readiness; Grade 3 Diagnostic; and Grade 4 Literacy Tests), and uses a range of literacy curriculum materials that were written, designed and illustrated by Jamaicans.

2.7 Developing Effective Instructional Leaders. 91% of the 800 Primary school principals have received certification through a program with Mt St Vincent University in Canada. This has now been taken over by St Joseph's College. Corporate training for secondary school principals is being delivered by the University of the West Indies. Feedback from both programs has been very positive. Future training needs are being analyzed to reflect the changes that modernization will bring.

2.8 Parental and Community Involvement

2.8.1 Home School Agreements. These agreements aim to strengthen the relationship and

establish partnerships between home and school, and consequently improve the behavior, attendance and academic performance of students. It defines the roles and responsibilities of each partner and seeks to hold each accountable for their actions. It draws on successful practice in Jamaican schools. Discussions have been held with stakeholder groups and sensitization with schools is being undertaken.

2.8.2 School Improvement Plan. Based on approved school improvement plan, selected schools are provided with a lump sum of money to implement the plan. The program is monitored by Regional Territorial Education Officers who are expected to ensure that the correct procurement guidelines are followed and that funds are spent as indicated on the School Improvement Plans.

168. A National Literacy Coordinator and a team of regional coordinators have been appointed to provide sustainable approaches to reading and to ensure that there are improvements in literacy levels.

2.10 Technology and L&N

169. In general, the use of technology as a tool to support L&N in the region has been deficient. However, as the box below illustrates, Jamaica has started using technology to improve L&N in low performing schools across the country.

EXPANDING EDUCATION HORIZONS PROJECT HELPING TO IMPROVE L&N

KINGSTON(JIS): Thursday, May 29, 2008

The Expanding Educational Horizons (EEH) project in the Ministry of Education has been reaping rewards through the use of technological tools to improve L&N in low performing schools island-wide.
Since the inception of the programme in 2005, 17 schools have graduated with between 60 and 90 per cent improvement in L&N skills. Come June 5, another batch of schools will be graduating from the programme.
The programme is a joint initiative of the Ministry of Education and the United States Agency for International Development (USAID) and is aimed at enhancing curriculum delivery and improving L&N in 71 primary schools and six non-governmental organizations (NGOs).
Speaking with JIS News, Project Director of the EEH project, Dr. Jean Beaumont, explained that these institutions were targeted because of their very low performance in all areas of the school's curriculum especially in L&N.
"The project had to go about identifying why they (the schools) were performing at that level and placed the emphasis on teacher training with a view to impacting students' performance," Dr. Beaumont pointed out.
She added that the aim was to identify and implement best practices, strategies and methodologies to enhance L&N.

As a result, several activities were implemented including equipping schools with technology tools, conducting workshops, producing teachers' guides and increasing access to resource materials.
She noted that the integration of technology has impacted positively on the overall teaching and learning environment and students' performance. A technique, which she described as a tremendous success is digital storytelling, a method which involves the production of narrated short films using still photos, music and voice.
Teachers have been creating electronic portfolios which involve documenting students' readings of a given passage over time, their reflections on the readings and the teachers' comments and interventions between readings.
Televisions, VCRs, portable radios, CD players and tape recorders are also used by teachers and students to play or record stories. The listening and comprehension skills are developed when teachers play these audio stories frequently and ask the students questions on characters and events in the story.
Another device, which has aided teachers, is the Jamaica Administrative System (JAS). This is a database where teachers input data on children's performance in the classroom.
With the implementation of this database, Dr. Beaumont noted that "the teachers can generate a school report, the principals can generate transcripts and the entire school can use that performance data to determine where the children's needs are, where their strengths are and how to plan for school improvement."
In terms of support, Dr. Beaumont said that two literacy specialists, 11 literacy resource specialists and one literacy consultant work closely with the schools to offer guided practice to both classroom teachers and students.
Dr. Beaumont noted that a number of factors have led to the poor performance of these schools including poor leadership, the school environment, the students' perception of education and the attendance level.
Interventions, she said, have included working with the Parent Teachers Associations (PTAs) and giving tips on how parents can help the students at home.

Source: http://www.jamaicalabourparty.com/home/content/expanding-education-horizons-project-helping-improve-literacy-and-numeracy

Conclusions and Challenges:

170. The scope of the literacy plan seems to be comprehensive. It embraces the most significant strategies to improve quality of literacy. However, in order to achieve the proposed objectives Jamaica needs to overcome some of the most critical problems hindering L&N effective outcomes, such as:

- Teachers' training, deployment, assessment, and qualification
- Lack of assessment standards
- Weak inspection and supervision
- Inadequate information management and tracking systems
- Highly centralized institutional structure

In addition to overcome these challenges, some strategic issues should also be considered, such as:

- Mechanisms to attract highly skillful candidates into the teaching profession,
- Innovative pre-service and in-service approaches,
- L&N performance standards (benchmarks), and incentives for best performance,

❖ Test results information to improve quality and equity of education

171. While relevance of data is clearly contemplated in the Literacy 1-2-3; the use of it is fairly explicit. Traditionally, the information yielded by national assessment in Jamaica has not been fully exploited. Information obtained from assessment has often been of poor quality, and even when it has not, it has not been systematically factored into decision-making. Some countries like Chile have successfully introduced the use of data in the nationwide policy dialogue, and as consequence it has increased ownership and accountability in the process of decision making. The box below illustrates how test results can be transformed into policy decisions and at the same time can contribute to improve quality and equity of education.

Use of Results

Chile (SIMCE[53])

SIMCE results are used extensively in policy discussions. SIMCE reports classrooms reports containing the average percentage of correct answers for each objective assessed, as well as the average number of correct answers over the entire test. At the beginning of the school year, SIMCE reports results nationally and also by school, location, and region. SIMCE manuals explain the results and how teachers and schools might use them to enhance student achievement. P-900[54] program schools receive support in the form of improved infrastructure; textbooks and classroom libraries; teaching material; and in-service, school-based workshops. Schools are removed from the P-900 program when their SIMCE scores exceed the 10 percent cutoff limit.

The SNED[55] program uses SIMCE scores along with four other measures of school quality. Teachers in the best-performing schools within a region receive a cash award roughly equivalent to a monthly salary. In an effort to ensure equity, the Ministry of Education selects schools catering to similar socioeconomic groups that are classified in terms of urban or rural location and elementary or secondary school level. Although a range of factors is taken into account in calculating the index, school achievement accounts for almost two-thirds of the index score. The weighting system is regularly modified to reflect policy priorities.

Interesting Points. SIMCE uses an intensive public-relations campaign that includes brochures for parents and schools, posters for schools, videos for workshops, television programs, and press releases. Reports are distributed to principals, municipal leaders, school supervisors, and ministry officials. Parents also receive an individualized report for their school. Newspapers publish school-by-school results. Because municipalities receive funding from

53 SIMCE: The National System for Educational Quality Measurement
54 Chilean program to improve learning of children who attend free elementary schools located in rural and extreme urban poverty areas in the country' thirteen regions.
55 The National System to Evaluate School Performance

the central government on a per student basis, they have a vested interest in the outcome; good SIMCE results tend to attract more students and hence more revenue. Schools that have a large number of absentees on the date of testing do not receive results. Some schools overestimated the extent of students' poverty to help increase their chances of qualifying for aid under the P-900 program. Teachers tend to be more concerned with their school's rank relative to similar schools than with the opportunity to use the results to promote in-school dialogue to help diagnose areas where students appear to have learning difficulties. Some teachers have been critical of the overly technical nature of the school reports. SIMCE devotes relatively little attention to data obtained in student, parent, and teacher questionnaires. Attitudes to learning and student values proved technically difficult to measure. The SNED program assumes that financial incentives will inspire teachers to make greater efforts to enhance student learning.

Source: Arregui and McLauchlan 2005; Benveniste 200; Himmel 1996, 1997; McMeekin 2000; Olivares 1996; Wolff 1998.

5. Conclusions and Recommendations:

172. This review presented a diagnostic of the current status of literacy and numeracy in the nine Caribbean countries analyzed. It outlined the challenges specific to the Caribbean region, such as the need for national L&N strategy, assessment programs, high standards (benchmarks), use of information to improve instruction, and qualified teachers. By providing comparison with countries that implemented successful L&N strategies, the review intended to enable the Caribbean countries to reflect upon adopting and tailoring some of the best practices to their context. Below we summarized some general conclusions of the review on the current status of L&N in the considered Caribbean countries, followed by some specific recommendations on how to improve the L&N outcomes.

173. **Substantial effort has been undertaken from several countries in establishing National literacy and numeracy strategies. However:**

- ***A regional L&N plan should be created as a regional initiative.*** While reducing administration costs trough deeper cooperation at the regional level, this would reduce duplication and lead to more innovative education policies in L&N. Possibilities for cooperation abound with the most obvious being: (1) sharing best practice in L&N; (2) creating regional L&N curriculum and assessment system; (3) setting of high standards to

be compared against regional L&N benchmarks; (4) continuous and increased collaboration in examinations, building upon the CXC experiences; (5) emphasizing the role of research at national and regional levels in order to support L&N strategies.

- The regional L&N plan should be developed with a set of ***regional performance standards*** (regional benchmarks) for student achievements in L&N in early years (specific grades should be agreed by the Caribbean countries) of the primary level. All countries should agree to report students' achievement against these standards.

- ***Harmonization of specific processes for recording information and managing data across the region*** would be critical for monitoring progress. These processes should utilize sets of indicators or markers that provide consistency across individual countries and a common terminology to describe student achievements. They would also inform individual countries about development of students' skills over time, provide direction in planning teaching programs and provide schools and systems with an insight into emerging trends in students' learning.

- ***A Regional assessment system for early grades*** should be created to measure student achievement in different aspects of regional curriculum for L&N at agreed early grades. Regional assessment should report student achievement against learning outcomes described in regional curriculum frameworks, and monitor changes in performance levels over time. Inexistence of directly comparable exams at the primary levels makes it difficult to make any meaningful comparison of L&N outcomes at that level across countries and to provide some objective benchmarking on the quality of primary education of each country.

- ***Research at national and regional level should play a central role in supporting L&N policy by:*** (a) identifying effective teaching practices, including those targeted to disadvantaged students (ESL, special needs, low income, boys); (b) creating training

packages for parents and community volunteers to work with schools to enhance literacy skills; (c) evaluating different literacy approaches, and the development of assessment processes for the early identification of students at risk; (d) placing L&N in the primary school curriculum literacy development for students with special needs; (e) creating a community awareness program to promote the importance of parents' involvement in their children's L&N development; and (f) developing agreed upon L&N benchmarks.

- ***A regional policy should be drafted to provide guidance on how the vernacular could be managed and exploited for its potential while easing learners into competence in the official language.*** Attention to the vernacular is necessary because it plays a major role in structuring learners' thinking processes and aids their cognitive development. This process comes to a stop or is reversed when students are immersed into Standard English to the neglect of their home language. Due to learners' lack of facility in Standard English, there is no compensatory cognitive development for that which was lost from being deprived of the opportunity to use Creole-influenced vernacular.

- ***Caribbean students' learning should be assessed against international standards***. As part of the regional efforts, the Caribbean countries should participate in international exams such as the PIRLS, the PISA, the LLECE, and the TIMSS. At the primary level, benefits on participating in international test like PIRLS, conducted at the fourth grade, can be twofold: (a) to assess students' performance in literacy in the region, and (b) to access relevant information about the policy and practices related to learning to read and reading instruction - information of the home environment, how parents can foster reading literacy, and curriculum and classroom approaches to reading instruction. At the secondary level, even if the existence of the CXC provides regional comparison of learning outcomes, participating in other international exams would still provide some international benchmarking of the Regional performance. Also, this will help increasing accountability of education providers for educational outcomes, and deepen involvement of the public in achieving education goals. As the Caribbean countries strive to compete in the global economy, they need to understand how well their students and education systems perform comparatively on a global scale.

174. In the area of quality, substantial effort have been made towards improving teacher qualification through pre-service and in-service training. However:

- ***Caribbean countries should reform teacher training and deployment schemes at the national level.*** Both the content and the practice need to be reviewed in the teacher training programs, especially in the areas student-centered learning and the use of technologies in the L&N teaching and learning process. However, some reforms at the regional level like certification system and economies of scale (textbooks, L&N software) should be encouraged to help conserve limited resources, and facilitate teacher mobility/deployment across the region.

- ***Teachers should be exposed to techniques of differentiated instruction***. Such exposure can help teachers to explore the philosophy of and acquire skills in managing classrooms that cater to students with diverse cognitive abilities. It is worth noting that training teachers in Differentiate Instruction (DI) would be of benefit not only to the weaker students, but also to the more able ones. The goal of DI is to help students of all abilities to achieve at their highest potential.

- ***Early diagnostic information should be produced in order to identify students who are lagging behind.*** That includes hard data on actual reading and math levels and the types of miscues that children make, which is vital to the implementation of appropriate strategies for effective teaching and the facilitation of learning. It is only through early diagnosis and the immediate introduction of appropriate measures of remediation that the problem can be addressed efficiently and the cycle of constant remediation in the higher grades and secondary school stopped.

- ***Teacher development programs should incorporate knowledge base that includes procedures for continuous, in class assessment of students' reading abilities as well as information on how to interpret results*** from district - and state - mandated assessments and modify instruction according to assessment outcomes. It is important that the teacher

can identify which component skills should be assessed systematically at earlier stages of reading development, and how to assess them independently for diagnostic and instructional purposes if a student is not reading at the expected level.

- ***Highly committed, well-qualified and skillful teachers should be helping children with L&N difficulties***. This emphasizes the need to ensure that all teachers, not only specialist teachers, participate in professional development that focuses on the needs of children with learning difficulties. Schools should be well advised to encourage and support staff to participate in the on-going development of their expertise in teaching children with learning difficulties. These opportunities should be made available through school based professional development and exposing teachers to best practice on L&N strategies.
- ***Policies that regulate how long teachers can remain in classrooms without pursuing pedagogical training should be developed.*** Such policies should make it mandatory for teachers to upgrade their training at regular intervals in order to stay abreast of new developments in pedagogy. This could be facilitated through ongoing site-based staff development programmes. Thus, the onus would be on schools to identify the needs of their teachers and arrange training sessions to meet those needs. Such measures would go a long way to ensuring that teachers are effective in the classrooms, thus increasing the chances of students achieving at higher levels.

175. Effort has also been made to improve monitoring and assessment at the classroom level through new approaches on continuous assessment. However:

- ***Effective Interventions at the school level should be developed***. Schools need to set high expectations (benchmarks) for what each and every child is able to achieve, and then monitor performance against the expectations, intervening whenever they are not met.

- ***Clear directions to emphasize L&N in the early year should be promoted***. This emphasis does not necessarily mean allocating more time but rather using time more effectively in schools and actively developing L&N through the rest of the curriculum.

- ***Monitoring and effective interventions should be created at the level of individual student.*** The processes for monitoring and intervention needs to be located in the schools themselves, where they are able to identify the students in need of support and provide support when needed on a continuous basis.

- ***Schools at the district level should be supported in the use of assessment data.*** It is important to set up district teams to monitor, support and guide schools in the use of both external (National/Regional tests) and internal assessment (continuous assessment) data for identifying students at risk and planning intervention programs.

- ***Parental involvement in L&N skills development should be promoted.*** Learning is enhanced when teachers know something of children's home language experiences. Partnership between the school and the home should not only seek information from the home but also provide information to parents. To encourage support for literacy programs from the home, especially from parents who are illiterate, there may be the need to develop literacy programs for parents.

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Annex I

Case Studies: St. Lucia & Jamaica Profiles

St. Lucia

St. Lucia	1985	1990	1995	2000	2006
Structure and Coverage of System					
Duration of education					
Primary level	7	7	7	7	7
Secondary level	5	5	5	5	5
Compulsory schooling	..	..		11	11
Gross enrollment ratio (%)					
Primary level	..	138.5	..	109.2	117.7
Secondary level	..	52.9	..	74.5	87.2
Tertiary level		5.0	..	..	9.8
Net enrollment ratio (%)					
Primary level	..	95.1	..	97.0	97.9
Secondary level	..	..	..	62.7	..
Grade 1 intake rate (%)					
Gross intake	..	121.1	..	111.9	107.1
Net intake	..	..	..	78.9	74.9
Student flow – Primary level					
Primary completion rate (%)	..	121.7	..	100.5	114.4
Pupils reaching grade 5 (% of cohort)	..	96.1	..	98.5	..
Repetition rate (%)	..	..	..	3.3	3.2
School life expectancy (years)	..	..	..	..	13.7
Student flow --- Secondary level					

Progression to secondary level (%)	34.0	..	34.0	68.9	..
Repetition rate (%)	4.1	..	..	0.2	..
Public Expenditure on education					
Total spending as % of GDP	..	..	..	7.5	6.6
Current spending per student					
Primary level (% of p.c. GDP)	..	9.5	..	27.5	13.1
Secondary level (% of p.c. GDP)	..	..	..	..	23.4
Tertiary level (% of p.c. GDP)	..	..	..	..	..
Ratio of pupils to teachers					
Primary level	30.3	29.0	26.9	23.2	23.5
Secondary level	..	..	..	17.8	17.0
Gender parity index (GPI)					
GPI, gross enrollment ratio in primary and secondary education	..	1.0	..	1.1	1.0

Source: The World Bank, EdStats.

Jamaica

Jamaica	1985	1990	1995	2000	2006
Structure and Coverage of System					
Duration of education					
Primary level	6	6	6	6	6
Secondary level	7	7	7	5	5
Compulsory schooling	..	..	6	6	6
Gross enrollment ratio (%)					
Primary level	100.5	101.3	101.5	94.6	94.9
Secondary level	59.4	65.3	65.7	86.3	87.1
Tertiary level	4.4	7.0	7.8	15.4	..
Net enrollment ratio (%)					
Primary level	94.2	95.7	..	90.3	90.3
Secondary level	57.6	63.6	..	77.2	78.3
Grade 1 intake rate (%)					
Gross intake	99.0	95.2	..	94.2	93.0
Net intake	..	..	..	77.0	74.8
Student flow – Primary level					
Primary completion rate (%)	..	91.1	89.3	86.6	82.3
Pupils reaching grade 5 (% of cohort)	94.9	..	..	88.9	..
Repetition rate (%)	3.5	4.0	..	5.1	2.8
School life expectancy (years)	10.3	10.9	..	11.5	..
Student flow --- Secondary level					
Progression to secondary level (%)	..	..	..	94.4	98.6
Repetition rate (%)	1.4	..	..	1.6	1.5
Public Expenditure on education					
Total spending as % of GDP	4.7	4.5	5.1	5.7	5.3

Current spending per student					
Primary level (% of p.c. GDP)	9.0	9.8	9.7	15.0	14.6
Secondary level (% of p.c. GDP)	14.6	9.3	..	23.6	21.5
Tertiary level (% of p.c. GDP)	..	..	..	79.0	..
Ratio of pupils to teachers					
Primary level	35.2	34.0	32.5	33.6	27.7
Secondary level	..	22.5	..	18.9	18.5
Gender parity index (GPI)					
GPI, gross enrollment ratio in primary and secondary education	1.1	1.0	..	1.0	1.0

Source: The World Bank, EdStats.

Annex II

ICT Programs including In-service Teacher Professional Development

Countries	Programs
Barbados	**Edu Tech 2000** (MOEYC - CDB - IDB) Objective: Train prospective teachers in: learner-centered curriculum, use of ICT, and integration of ICT and curriculum Target Population: In-service primary and secondary teachers. As of early 2007, 2,700 of Barbados 3,000 teachers have completed these courses. Challenges: The two-week summer format the TPD is both brief and abstracted from the classrooms, and teachers do not receive credit for participating. In addition, there is an emergent need to develop a second phase of training to help teachers increase mastery of teaching with technology, supporting innovation among both teachers and students.
Jamaica	In general, most TPD has been provided through the cascade model, and more particularly, the programs below provide TPD to support specific uses of ICT. **At the Primary level:** **Ed Tech 20/20 (IDB – WB)** Objective: Among other activities it provides training for teachers in the use of the technology in the teaching and learning process for all schools in the project, and a literacy program involving about 400 primary students.

	Challenges: Primary teachers trained by secondary teachers. It is unclear type of motivations, incentives or capacity of teachers of secondary teachers to train primary teachers. **New Horizons Project (NHP-USAID)** Objective: Intended to increase L&N levels among students in 72 primary schools. The NHP originally included plans for installation of computer labs in 15 primary schools, with audio-visual equipment provided to the remaining 57 schools. Over the course of the 7 years project, ICT-related objectives were revised to target establishment of 6 "hub" multimedia centers that were to provided shared resources to schools in their regions. Challenges: Initial plans for 15 multimedia centers scaled down to 1 center **Primary Education support Project (PESP-IDB)** Objective: Holistic and comprehensive enhancement of teaching and learning at the primary level through effective use of ICT with emphasis on constructionist pedagogies. Challenges: There are limited use of ICT and limited scale of ICT-focused on TPD (only 1 teacher and the principal from each of the 15 pilot schools) **At the Secondary Level:** **Jamaica 2000/The Jamaica Computer Society Education Foundation (JCSEF)** Objective: A nationwide program to introduce ICT into secondary schools. Over time, the JCSEF modified its objectives to include the improvement of teaching and learning in Jamaican secondary schools. Challenges: Project apparently focused on hardware acquisition and installation. Limitation of cascade model. **eLearning Jamaica** Objective: To enhance teaching and learning through integration of ICT. Challenges: Learner-centered pedagogies don't match teachers or students needs for CXC performance. Limitations of Cascade model of TPD. Complex array of proposed technologies increases burden on TPD. Three-year project timeframe is very short.
Trinidad & Tobago	**Fast Forward** Objective: To improve both the quality of teaching and learning in schools and access to ICT for teachers and students. TPD would include: (a) familiarize teachers with ICT; (b) train teachers to integrate technology into their regular curricula; (c) train teachers to use Macromedia. Challenges: Teachers' attitudes towards ICT are not positive, and teachers are not engaged.

Source: Gaible, Edmond, *Review of ICT in Education in the Caribbean. The InfoDev, Washington, D.C., 2008.*

Annex III

Comparison of Pupil-Teacher ratio between the Caribbean Countries and Top Education Systems in the World

Pupil-teacher ratios, analyzed Caribbean Countries, 2005

Pupil/Teacher ratios	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Primary Level	15.1	18.2	17.7	28.0	27.7	17.6	23.5 (2006)	17.5	16.5
Secondary level	15.9	15.1	15.4	18.0	18.5	9.9	17.0 (2006)	17.9	16.5

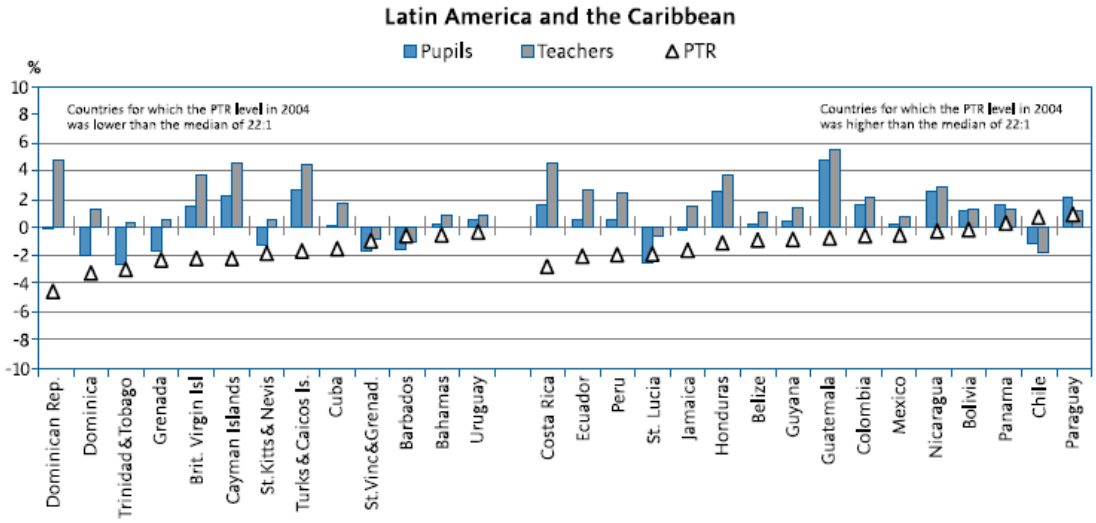
Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, January 2008

Pupil-teacher ratios, Developed Countries, 2005

Pupil/Teaccher ratio:	Australia	Canada	Finland	Japan	New Zealand	Poland	Republic of Korea	Singapore	United Kingdom
Primary Level	17.9	17.4	15.5	18.9	16.3	11.5	27.9 (2006)	23.5	17.5
Secondary level	11.6	17.7	12.4	12.6	14.7	12.7	18.0 (2006)	17.2	14.8

Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, January 2008

Pupil-teacher ratio (PTR)



Source: UNESCO Institute for Statistics database, 2006.

Annex IV
Internal Efficiency Primary and Secondary Levels

Primary Level, 2005

	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Repetition rate	..	3.5	3.4	0.9	2.8	..	2.2	4.1	5.2
Dropout rate									
Pupil/Teacher ratios	15.1	18.2	17.7	28.0	27.7	17.6	23.5 (2006)	17.5	16.5

Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, January 2008

	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Survival rate to grade 5	97.8 (2004)	92 (2005)	79 (2002)	..	90.3 (2001)	86.5 (2000)	95.9 (2004)	82 (2000**)	91* (2004)
Survival rate to last grade of primary	98.3 (2004)	96*	93**	123	82** (2005)	109*	114	92**	83.6 (2004)
Primary to Secondary transition rate	99.0	98.9	..	..	99** (2004)	90** (2003)	79.7	84 (2004)	92.7* (2004)

Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, January 2008

Secondary Level, 2005

	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Repetition Rate	..	9.1	4.5	7.2 (2001)	1.5	3.1	..	8.2	0.8
Dropout Rate	..		2.0 (2002/03)						
Pupil/Teacher ratios	15.9	15.1	15.4	18.0	18.5	9.9	17.0 (2006)	17.9	16.5

Source: EdStat, The World Bank, and UNESCO Institute for Statistics, Data Centre, http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, January 2008

	Barbados	Dominica	Grenada	Guyana	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & the Grenadines	Trinidad & Tobago
Survival rate to Form 1 (F1)		68	73	82	91	90	68	52	82
Survival rate to Form 5 (F5)		57	66	34	62	61	62	42	56

Source: The World Bank, 2003.

ANNEX V

TERMS OF REFERENCE
LITERACY AND NUMERACY (L&N) IN THE CARIBBEAN
INDIVIDUAL CONSULTANT

1. BACKGROUND

Evidence has accumulated about the fact that a large number of children enrolled in schools in Latin America and the Caribbean do not learn to read adequately and on time. This is a major root cause of learning deficiencies consistently identified by assessment tests at higher levels (Inter American Development Bank [IDB] Education Initiative, 2006). National assessment tests at the primary education level indicate that in most of the Caribbean countries, a group of students is not well prepared for the transition from primary to secondary education; they are reading below their grade level and also master mathematics skills below their grade level. As the majority of Caribbean countries have advanced with universal secondary education, this group of students is nevertheless placed in secondary schools, which most often do not have appropriate programmes in place to provide the needed additional attention and instruction. In sum, few secondary schools are equipped to deal with the issues in an adequate manner.

As it is not always possible for low achieving secondary school graduates to improve their education, many of them fail to attain the age-specific L&N levels and are often not well prepared for work. Employers throughout the region state that many young people do not possess the pre-requisite skills for entry-level jobs, lacking basic skills in reading, writing and mathematics.

2. OBJECTIVE OF THE CONSULTANCY

2.1. The objectives of the consultancy are to:

(a) undertake a diagnostic of the current status of L&N competencies (i.e. Mathematics and English) among primary and secondary students in the Caribbean Region, benchmark the results to comparable countries, and identify 'bottlenecks' or issues that could explain the problems experienced of countries in meeting the Millennium Development Goals goals;

(b) compile an inventory of interventions targeting L&N in both Caribbean Development Bank (CDB) and IDB[56/] supported education projects and other donors and, based on available evaluation results, identify "successful practices";

(c) undertake a literature review about latest research on L&N, including teacher training, new methodologies and technological solutions (such as software packages etc.); and

(d) develop more detailed case studies about the identified issues for Jamaica and St. Lucia.

3. SCOPE OF WORK

3.1 The Consultant will be responsible for:

(a) Conducting a diagnostic of the current status of L&N at the primary level in the Caribbean Region analyzing and presenting available data from the primary education tests (such as, the Barbados Secondary School Entrance Exams [BSSEE], the Jamaica Grade Six Achievement Test [GSAT][57/], the Trinidad and Tobago Secondary Entry Assessment [SEA], the Bahamas Junior Certificate [BJC], and the Guyana Secondary School Entrance Exam [SSEE]) and the other OECS countries (to the extent possible). The list of test results to be analyzed should also include the Minimum Competency Tests (at Grades 2 and 4, and Form 3 in some countries) where applicable. The same diagnostic will be done for secondary education using available Caribbean Examination Council (CXC) or equivalent data. Both levels will be benchmarked with results of "comparator" countries. The Consultant will propose a few comparator countries to the Banks for discussion and identify possible reasons for the problems experienced at either the primary or secondary level. In addition, a few of the countries (such as Dominica, St. Vincent and Grenada) have recently conducted separate literacy assessments and these results should be contained in this report.

(b) Reviewing and summarizing project reports and other relevant documents identifying interventions in the various CDB and IDB education projects currently in execution specifically targeted at numeracy/literacy (English, Mathematics, Reading) at either the primary or secondary level; reviewing and reporting on ongoing initiatives by other donors (such as the Centre for Excellence in Teacher Training initiative supported by the United States of America). In addition, the Consultant will review the Department for International Development of the United Kingdom (DFID) reports on the Organization of Eastern Caribbean States (OECS) Education Development Project that was funded by DFID and the World Bank.

(c) Reviewing the results of existing evaluations/assessments to assess the impact of the project interventions and, based on evaluation results/empirical evidence, identify

[56/] IDB member countries of the English-speaking Caribbean are Guyana, Trinidad and Tobago, Barbados, Bahamas, and Jamaica. CDB countries are the same but also include the OECS countries which will be included in this study (See Section III).
[57/] Jamaica also has a grade four literacy test.

"successful practices." The consult will also be discussing the extent to which the interventions use technologies to strengthen students' skills in L&N.

(d) Conducting a literature review presenting the latest research findings about new methodologies/approaches for improving the issues identified in the diagnostic regarding numeracy and/or literacy. Areas of intervention could include teacher training, and use of new/available technologies. This will be the basis for developing recommendations of how these findings could be applied to the Caribbean Region.

(e) Developing more in-depth case studies for Jamaica and St. Lucia using field visits to collect and analyze data about L&N at grade 2 and 4 and other points outlined in (a) to (d) above.

(f) Conducting interviews, including telephone interviews, with major stakeholders and collecting available data/studies at the Universities of West Indies, Faculty/School of Education. In conducting the telephone interviews, inquire how the available data about test results is being used by the Ministries and whether such data are analyzed at the central level only and the results provided to schools and to teachers.

ANNEX VI

Inter-American Development Bank/Caribbean Development Bank Questionnaire on Literacy and Numeracy (L&N) in the Caribbean Regional Study

General Directions:

First, we would like to express our appreciation for you taking your valuable time to answer these questions. Your answers will be an important asset in the development of our study that will provide a diagnostic of the current status of literacy and numeracy competencies among primary and secondary students in the Caribbean Region.

The study will consider, among others, key strategic issues such as: (a) teacher quality; (b) teacher training; (c) assessment; (d) equity; (e) accountability; (f) impact of international donors' intervention.

In the following pages you will find a number of closed and open questions. In the case of closed questions, please answer placing an X in the appropriate box. In the case of open questions, please, feel free to elaborate all you want.

In Part B of the questionnaire you will be asked a few questions, which answers will be taken during a telephone interview that will be arranged as soon as we receive the present questionnaire completed.

We would greatly appreciate your promptness on filling out this questionnaire and sending back to me as soon as possible.

Thanks in advance for your priceless contribution.

Country: _____

Name of the person filling the questionnaire: _____

Position in the Ministry: _____

Contact Information: _____

PART A – Please answer the following questions in writing. Feel free to give as much information as you wish. Remember the information you are providing will be used only in the benefit of the region and your own country.

Assessment:

National Level:

1) Questions	Yes	No	Comments
a) Does the Ministry of Education have a yearly statistical publication?			
b) Are test results used to compare academic achievements by:			
schools at different times?			
regions at different times?			
c) Are test results and other system-wide indicators published and disseminated to:			
Parents?			
Schools?			
General public?			
d) Is the Planning Unit or its equivalent in the Ministry, providing the			

necessary analysis for policy development and decision-making?			
e) Are teachers evaluated?			If your answer is yes, How often?

2) Does the Ministry of Education have formal assessment mechanisms in place to monitor progress on the following areas? In those areas where your answer is yes, please explain how they operate:

Areas	Yes	No	Explanation
Teacher Quality			
Teacher Training			
Teacher Evaluation			
Student achievement			
Student Flow			
Effectiveness of School Management & Administration			
Equity			

3) Is there a National Strategy for L&N in your country?

Yes	
No	

4) Does the Ministry of Education in your country establish baseline information and indicators against which student progress in L&N will be measured?

5) Does the Ministry of Education in your country have a specific budget targeted for L&N? If the answer is yes, please specify how much?

Yes	
No	

6) Do primary schools in your country have continuous assessment during the first four grades of schooling?

Yes	
No	

7) Given the use of national tests in your country, please complete the table below:

Tests	Grades	Frequency (Yearly, every 2 years, etc)	Annual Census or Sample	Level (municipal, National, Regional)	Curriculum-based (Yes/No)	Used Solely for grade promotion (Yes/No)	Used as a classroom instrument to improve performance (Yes/No)	Used as a guide to policy decision-making (Yes/No)

CXC								

8) Is information on test results delivered in a timely manner so that decisions can be made effectively?

Yes	
No	

9) How would you characterize the connection between L&N curriculum and assessment in your education system?

10) Do schools use school improvement projects as a strategy to improve literacy in your country? If the answer is yes, please describe the mechanisms used.

Yes	
No	

11) If schools in your country use improvement projects, does the Ministry of Education in your country provide proper support for it?

Yes	
No	

Teachers:

12) Are teachers taught how to fit assessment into their daily practice? If the answer is yes, please proceed to questions 11 and 12. Otherwise, please go to question 13.

Yes	
No	

13) How do teachers manage the classroom to make assessment of individual students possible? Please specify types of assessment strategies/tools used.

14) How do teachers manage the data that regular assessment generates? Please specify types of strategies/tools used.

15) Are teacher empowered with skills in communicating assessment results to stakeholders such as:

Stakeholders:	**Yes**	**No**
Students		
Parents		
Other members of instructional teams		

16) Do teacher-education programs in your country include induction? If your answer is yes, please

specify the number of hours and how it works.

Yes	
No	

17) Are teachers skilled to identify students with learning difficulties and indicate remedial action to be taken?

Yes	
No	

18) Does teacher training contemplate development of teaching guides and assessment materials to supplement existing L&N curriculum?

19) In your country, does the use of modern technology produce significant impact on L&N outcome? If your answer is yes, please specify how, and the type of technology and/or interventions used.

Yes	
No	

International Donors

20) How would you characterize the impact of L&N programs developed by international donors such as Inter-American Development Bank, Caribbean Development Bank, Department for International Development, the USAID, the World Bank, and other donors in you country?

21) Can you identify specific interventions made by international donors in your country as successful? Please specify.

22) In your perspective, how international donor could contribute more effectively to improve L&N?

Part B – You can, if you wish, answer the following questions in writing. As before, please fell free to give as much information as you want. In the following days a date and time will be fixed, at your convenience, to contact you by phone. You can choose to answer the following question at that time orally.

1) Does the Ministry of Education in your country have a framework for teacher training? If your answer is yes, please describe your country work plan. In case your answer is no, is there any other strategy in place to improve teaching performance?

Yes	
No	

2) What are the main strengths and weaknesses in your National Assessment System? Please consider linking your answer with curriculum, teacher training, quality standards, and/or education management information system.

3) After decisions are made and policies on L&N are implemented, how does the system assess the results? How are the results of these policies and/or decisions evaluated?

Annex VII: Key Conclusions from the Report "Working on the Three Rs"

1. The ability to read and understand basic information texts is an obvious and fundamental component of functional literacy. In functional terms, what matters is for people to be able to identify a relevant item of text, to read it reasonably rapidly and easily, to take in the essential information and, if appropriate, to act on it. The ability to cope with more complex text is important if individuals are to be able to progress to higher level jobs.

2. Reading and writing must be considered separately. They tend to be rolled up together and treated as one, but writing tends to pose much more of a problem. The ability to put together a piece of writing that conveys meaning clearly and accurately is an essential functional skill. The inability to put together a short coherent piece of writing has serious implications for those seeking work or thinking of changing jobs.

3. Spelling and grammar are important and are widely seen as weak. Correct spelling of everyday words and proper use of basic grammar are important for clarity of expression and fostering a reader's confidence. There is a particular dislike of 'text speak'. A functionally literate employee should be expected to be able to observe the basic rules of grammar, be able to spell everyday words correctly, use capital letters and basic punctuation properly, and use a writing style appropriate to the situation.

4. Legibility of handwriting matters. The case studies repeatedly threw up the importance of legible handwriting. There is a wide range of forms to be completed by hand in most organisations. In certain circumstances, some of these are documents that may potentially be called in evidence in legal proceedings. A functionally literate employee should have handwriting that is sufficiently well formed that others will be able to read the text with confidence.

5. Because reading and writing are different skills, both need to be tested. A multiple choice, online comprehension exercise is not an adequate means of assessment of writing as well as reading.

6. Understanding and responding appropriately to oral communications are essential skills. Employees also need to be sufficiently articulate to be able to raise queries if the instructions are not clear to them, or to raise practical matters of concern that flow from the instruction.

7. Multiplication tables and mental arithmetic without using a calculator constitute an essential aid in all sorts of work activities.

8. The ability to interpret and respond to quantitative data is a key part of modern working life. Data of this type is presented not only to keep employees in the picture, but employee are also expected to interpret it sufficiently to contribute to problem solving and quality improvement.

9. Calculating and understanding percentages is a functional maths skill. Percentages are widely used in

internal communications and in many jobs it is essential to be able to calculate them readily. A functionally literate person should therefore both be able to calculate a percentage and interpret the significance of percentages communicated to them.

10. As well as percentages, a mathematically literate person will be able to work comfortably with fractions, decimals, and ratios. For many organizations, the ability to use a formula is also highly desirable.

11. It is important for employees to have awareness of different measures and the ability to convert between them. Despite all the moves towards metrication, imperial and metric measures both remain in daily use. Employees need to be able to cope with that reality.

12. Spotting errors and rogue figures is an important element of functional maths. A functionally numerate employee will also instinctively carry out a reality check and pause to check what may potentially be a rogue result.

13. Some basic understanding of odds and probabilities to enable people to make a more realistic assessment, rather than treating every risk as equally likely to happen, could form a useful element of functional mathematics.

14. Functional skills are skills that have a practical purpose. It is important to boost awareness of their potential application, particularly key elements of skills for a nation: a blueprint for improving education and training 2007-2017 mathematical literacy, in real and different contexts.

15. Employees need to know not only whether young people have passed or failed their functional skills modules but also the margin by which they have done so. The right approach is that the simple pass or fail should be accompanied by release of the percentage mark for each element of the modules.

16. To ensure employer buy in, it is essential that the Qualifications and Curriculum Authority standards are clear to employers both in terms of the skills they will deliver and the level of mastery they reflect, using 'can do' illustrations of skills.

17. IT skills are of growing importance in most jobs, but the ability to acquire those depends on a solid foundation of literacy and maths skills.

18. During the course of the research, employees voiced concerns about a number of other aspects of what they viewed as basic skills. These included the decline in practical or 'hand' skills of young people, the increasing need for social skills and some concerns about general attitude.

Annex VIII

Key questions and parameters in education system development

Question	Successful education systems
Getting the right people to become teachers:	
▪ What is the average academic caliber of people who become teachers?	Among the top 10% of each cohort
▪ How is the teaching profession viewed by university students and recent graduates?	One of the top 3 career choices
▪ How rigorous are selection processes into teaching training?	Rigorous checks designed to assess teaching potential; e.g. teaching practice, L&N tests
▪ What was the ratio of places on initial teacher education courses to applications?	1:10
▪ How does start compensation for teachers compare to other graduate salaries?	In-line with other graduate salaries
Developing effective instructors:	
▪ What is the total amount of coaching new teachers receive in schools?	>20 weeks
▪ What proportion of each teacher time is spent on professional development?	10% of working time is used for professional development
▪ Does each teacher have an exact knowledge of specific weaknesses in their practice?	Yes, as a result of everyday activities occurring in schools
▪ Can teachers observe and understand better teaching practice in a school setting?	Yes, teachers regularly invite each other into each other's classroom to observe and coach.
▪ Do teachers reflect on and discuss practice?	Yes, through both formal and informal

	processes in schools
▪ What role do school leaders play in developing effective instructors?	The best coaches and instructors are selected as leaders
▪ How much focused, systematic research is conducted into effective instruction and then fed back into policy and classroom practice?	Research budget equivalent to $50 per student each year focused on improving instruction
Ensuring every student performs well	
▪ What standards exist for what students should know, understand and be able to do?	Clear standards appropriate to system performance
▪ What system-wide checks exist on the quality of school performance?	All schools are aware of their strengths and weaknesses
▪ What action is taken to tackle underperformance?	Effective mechanisms to support all failing students; minimal performance variation between schools
▪ How is funding and support organized?	Funding and support are focused where it can have most impact.

Source: McKinsey