OECS EDUCATION PLANNER'S HANDBOOK:
FOR NATIONAL CAPACITY BUILDING IN PERFORMANCE MONITORING

(1ST DRAFT)

Prepared for the
OECS Education Reform Unit Sponsored
Capacity Building Workshop for Education Planners
July 25-27th, 2000 - Tortola, British Virgin Islands

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ACRONYMS

BVI	British Virgin Islands
CAPE	Caribbean Advanced Proficiency Examination
CDB	Caribbean Development Bank
CEO	Chief Education Officer
CIDA	Canadian International Development Agency
CXC	Caribbean Examination Council
DFIDC	Department for International Development Caribbean
ECERP	Eastern Caribbean Education Reform Project (CIDA funded)
EFA	Education for All (UNESCO)
EMIS	Education Management Information Systems
ERC	Education Reform Council (Council of OECS Ministers of Education)
GPI	General and Pedagogical Information
IIEP	International Institute for Educational Planning (UNESCO)
IT	Information Technology
MOE	Ministry of Education
MER	Monitoring Education Reform
OECD	Organisation for Economic Co-operation and Development
OECS	Organisation of Eastern Caribbean States
OERS	OECS Education Reform Strategy
OERU	OECS Education Reform Unit
OETEC	OECS Technical Education Committee
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational Scientific Cultural Organization
UWI	University of the West Indies

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CAPACITY BUILDING WORKSHOP FOR EDUCATION PLANNERS
OECS Education Reform Unit (OERU)

July 25-27th, 2000 - Tortola, British Virgin Islands

WORKSHOP AGENDA

Tuesday, July 25th, 2000 **Time**	
Opening Session – Host Country, Ministry of Education, BVI	9:00 - 9:30
Welcome, Introductions and Agenda – Monica Woodley, Performance Monitor, OERU	9:30 - 9:45
Monitoring Education Reform Workshop Report: Overview of Performance Monitoring Initiative - M. Woodley, Performance Monitor, OERU OECS Education Monitoring Model – Cools Vanloo, Planner, SVG Core List of OECS Education Indicators - Martin Baptiste, Planner, Grenada	9:45 - 10:30
Health Break	10:30 - 10:45
Plenary Session: Discussion of MER Report – M. Woodley, Performance Monitor, OERU	10:45 - 11:00
Country Reports on Education Indicators – Senior Planners	11:00 - 12:00
Plenary Session: Issues in Monitoring Education in the OECS – W. Meier, Workshop Facilitator, RBMG	12:00 - 12:30
Lunch	12:30 - 13:30
Facilitating a Participatory Process – Workshop Facilitator	13:30 - 15:00
Health Break	15:00 - 15:15
National Capacity Building in Performance Monitoring – Workshop Facilitator	15:15 - 15:45
Plenary Session: Discussion of OECS Education Planner's Handbook (1st Draft)	15:45 - 16:30

Wednesday, July 26th, 2000	**Time**
Questions and Answers Day 1	9:00 - 9:15
Building a Performance Measurement Framework (PMF) – Workshop Facilitator	9:15 - 10:30
Health Break	10:30 - 10:45
Group Work: Preparing the PMF with Stakeholder Participation	10:45 - 12:30
Lunch	12:30 - 13:30
Resolution of Outstanding Issues	13:30 - 13:45
Techniques and Methods for Data Collection and Analysis – Workshop Facilitator	13:45 - 15:00
Health Break	15:00 - 15:15
Group Work: Completing the PMF with Stakeholder Participation (cont.)	15:15 - 16:30

Thursday, July 27th, 2000	**Time**
Questions and Answers Day 2	9:00 - 9:15
Group Presentations and Discussion	9:15 - 10:30
Plenary Session: Discussion on Using the PMF as a Planning Tool for Monitoring Education	
Health Break	10:30 - 10:45
Demonstration of School Level Information Management – Workshop Facilitator	10:45 - 12:30
Lunch	12:30 - 13:30
Resolution of Outstanding Issues	13:30 - 13:45
Demonstration of the EMIS Application - GPI – Mark Ernest, Information Specialist, OERU	13:45 - 15:00
Health Break	15:00 - 15:15
Planning Exercise: Where do we go from here?	15:15 - 15:45
Wrap-up and Evaluation	15:45 - 16:00

1.0 INTRODUCTION

The OECS Education Reform Unit has, over the years, supported a series of major reforms in education in collaboration with the Ministry of Education (MOE) in each Member State. The Eastern Caribbean Education Reform Project (ECERP), with financial assistance from the Canadian International Development Agency (CIDA), has implemented a number of initiatives aimed at strengthening the capacity of Eastern Caribbean States to plan and implement education reform through sub-regional cooperation. To this end, two such initiatives involve the identification and use of a set of core education indicators and a sub-regional Education Management Information System (EMIS) for the OECS. These two initiatives provide the *"framework and mechanisms"* which we can use to monitor the performance of education in the OECS.

To this end the OERU will support a series of National Stakeholder Workshops that will be held throughout the OECS beginning in September 2000. These workshops will address topics related to the use of performance indicators, e.g., data collection, data analysis, presentation and dissemination of performance information, as well as the use of performance information for policy and decision-making. In preparation, Education Planners have asked for a facilitator's handbook to support them in their role during the implementation of these workshops and subsequent performance monitoring activities. This document is meant to serve that purpose and has been drafted for consideration by the participants during the "Capacity Building Workshop for Education Planners" to be held in Tortola, BVI on July 25-27th, 2000. It will also serve as a participant handbook for the afore-mentioned workshop, since the workshop is designed to provide Education Planners with a firsthand opportunity to become familiar with the proposed content/topic areas, as well as experience the recommended approach to facilitating these National Stakeholder Workshops. All observations and suggestions for improving this document are welcome and should be addressed to Monica Woodley, Performance Monitor, by email to mwoodley@oeru.org or by telephone at (758) 452-2082.

This handbook is organized into 7 Chapters which correspond to the content/topic areas of the Workshop Agenda. Chapter 1 is this introductory chapter. Chapter 2 presents the OECS Education Monitoring Model and describes the eight key result areas that will be monitored. Chapter 3 identifies the set of education indicators for each of the eight key result areas and

provides agreed upon narrative definitions and/or formula for each. Chapter 4 discusses the rationale for National capacity building workshops in education monitoring, then proposes an agenda and facilitation approach. Chapter 5 provides a suggested approach to national capacity building in performance monitoring, including a proposed agenda. Chapter 6 describes the Performance Measurement Framework (PMF) and how to complete one with stakeholder participation, including suggested techniques and methods for data collection and analysis. Chapter 7 discusses school level information management and demonstrates up-links to national EMIS applications. The last Chapter 8 provides some examples of national level EMIS applications can assist in diagnosing problems and informing education management and national policy decision-making.

2.0 OECS EDUCATION MONITORING MODEL

The conceptual framework underpinning the education monitoring system for the OECS is illustrated in Figure 1 at the end of this chapter. It is based on the systems model and articulates the relationships between eight key result areas that range from the macro socio-economic context of education, to the micro level of the teaching-learning process in the classroom and then cycling back through the contribution of learning outcomes to the socio-economic development. This chapter describes each of the key result areas in sequence.

The first key result area of the model is the **demographic, social, and economic context of education**. This context forms the basis for the scope, relevance and nature of the education process. Thus, the demand for education at various levels, the amount of resources available – both human and material – the absorptive capacity of the society for graduates of the system all depend on the community/national context. Whether, the education system privileges the use of emerging technologies and de-emphasizes traditional modes of occupational activity can depend upon the socio-economic conditions of the national economy and prospects for the future. At the same time, the learning outcomes of the education system can also have a positive effect on the demographic and socio-economic indicators used to monitor the prevailing conditions in a country.

The **administration, planning and supervision of education** is the key results area concerned with the management capacity of the education system centrally and in the regional/district units. Particular attention is focused on the supervision function and school quality control activities. In order to fulfill their monitoring and advisory functions, MOEs should be continuously analyzing information collected on performance indicators coming in from all parts of the system i.e. schools to districts and central offices. An Education Management Information System (EMIS) is the requisite tool for store-housing, compiling and analyzing this information. Based on the findings, MOEs should be undertaking or commissioning policy research on poorly understood aspects or problems in the education system. Unfortunately most are poorly equipped to do this work and simply manage the schools and teachers, rather than the education system itself. This key result area is divided into four major functions: the strategic function related to policy formulation and implementation; the information function related to the strengths and weakness of the EMIS; the management function related to the capacity to take corrective action based on valid and reliable performance information; and, the operational function related to school and classroom management to ensure optimal effectiveness of the teaching-learning process.

Access, our third key result area, is a function of the demographic, socio-economic context as well as the planning and administration of the education system. It is concerned with the availability of sufficient places for those who qualify to participate in an educational program. In considering access one pre-supposes that there is a "need" for formal; or non formal education which has to be satisfied, or at least addressed, by offering equal opportunities of participation to all. A minimum level of basic education, as measured in terms of literacy and numeracy, is recognized as a "need" and a universal right. There may however be barriers in either the supply or demand for education that makes access difficult for certain groups, e.g. rural children. Whether children go to school depends, for example, on whether parents can afford the investment, especially at the pre and post compulsory levels. However, access can also be affected by the quality of the teaching/learning process. Parents may, for example, not send their children to tertiary level institutions, if it is perceived that the investment is not worthwhile in terms of the quality of learning outcomes that result. The same may be true for various types of non-formal educational opportunities. Education indicators are needed to continuously monitor

the status of unsatisfied need, as well as barriers to a balanced supply-demand system for education.

Our fourth key result area, **equity**, is closely associated with issues related to access, but also cuts across almost all of the other key results areas. It concerns the extent to which available educational opportunities are accessible to children regardless of characteristics that cannot be altered such as differences in gender, maternal language, residential location, ethnicity, religion, etc. In order to assess equity in education, especially gender equity, it is important to ensure that disaggregated data (i.e. by sex, location, age, etc.) is collected for all the relevant education indicators selected for each key result area. Sex-disaggregated data, for example, allows the education planner to measure the gender gap at different points in the education system e.g. primary admission rates, net enrollment rates, attrition rates, retention rates, graduation rates, transition rates or post-graduation employment rates.[1] Sex disaggregated data can also be collected for qualitative indicators that measure quality of educational inputs, teacher-learning process or student attainment and student achievement. Equity of treatment (in the teaching/learning process) and equity of resource allocations are germane to any comprehensive analysis of the functioning of the education system. Thus, measuring equity informs all aspects of the system's operation, whether there are more opportunities for boys than girls at different levels or whether a disproportionate amount of resources are expended on tertiary rather than primary education.

The fifth key result area, **resources,** is sub-divided into four (4) main types of inputs: 1) costs and financing; 2) human resources; 3) physical infrastructure and equipment, and 4) curriculum and instructional materials. To understand the reasons behind poor system outputs or learning outcomes will require an assessment of the inputs and the educational process in schools and classrooms. Costing concerns how the available funds are allocated among different levels i.e. primary, secondary, etc. and types of programs, while financing refers to the sources of these funds. In the first instance, performance information should allow decision-makers to analyze the coherence between education policies and fund allocation, how the funds are distributed by type of expenditure e.g. teacher salaries versus instructional materials and who makes these decisions. Related to costs is the concern for the efficient utilization of financial resources, in

[1] Disaggregation of the same performance information by maternal language, geographical area, ethnic origin, religion and other possible factors of discrimination may reveal other important equity issues as well.

other words, cost-efficiency. Performance information on financing should allow for a detailed examination of the respective contributions of the major stakeholders i.e. government, external aid, communities, private sector enterprises and parents. This will assist in identifying where changes in relative contributions from stakeholders can result in changes to the supply, quality or equity of educational opportunities. Human resource concerns, e.g., size, qualifications and experience of the teaching force, is another area where education indicators, such as student-teacher ratios are of primary importance. Also, the availability of suitable space for students engaged in learning or recreational activities is also indicative of the level of educational funding at the school level, along with the technological equipment and instructional materials needed to support the teaching/learning process.

There is a bi-directional cause-effect link between resources and the **teaching/learning process,** our sixth key result area. While resource levels (both quantity and quality) are important factors that determine the quality and scope of the teaching/learning process , e.g., whether computer assisted learning is an integral part of the classroom dynamic, the teaching learning process can also determine resource levels. The introduction of innovations will prompt a corresponding rationalization or increases in the resources directed at activities in the classroom especially regarding the use of interactive learning equipment and instructional materials. The quality of the teaching/learning process also directly affects the system outputs. Classroom organization factors such as student/teacher ratios and the proportion of time allocated and actually spent on the core subjects and the efficient use of classroom learning time can all effect student achievement. While the nature of teacher-student relations in terms of the learning process – whether teachers have a positive attitude towards students and vice-versa, or whether there is frequent feedback to students can effect their motivation and eventual educational attainment.

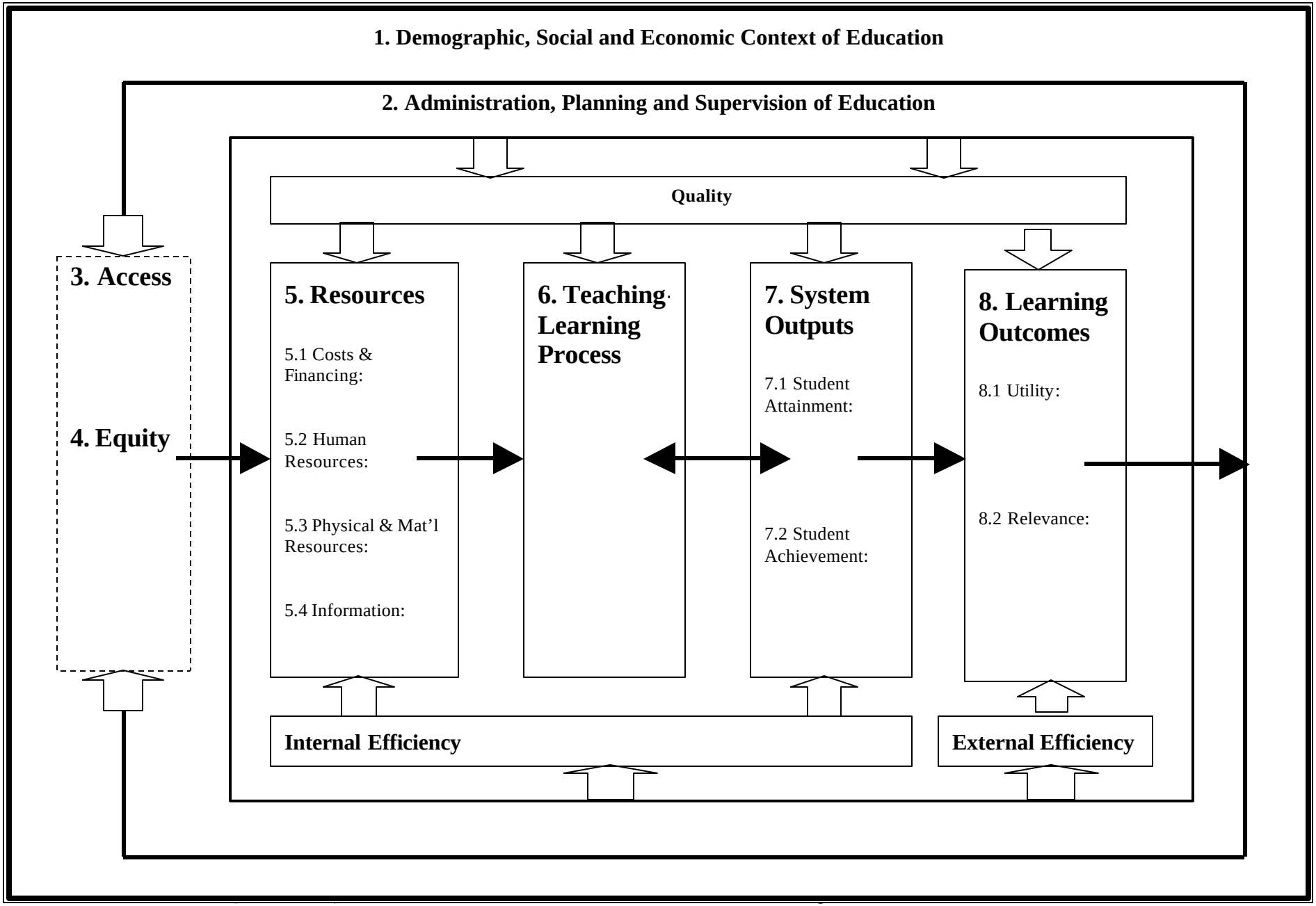
Our seventh key result area referred to as **system outputs** is a direct consequence of the teaching/learning process and has two dimensions: a) student attainment and b) student achievement. Measures of student attainment reflect the dynamics of student flows through the education system by tracking students from year to year within levels and across educational cycles. This information is then used to assess how efficiently the education system uses available resources to achieve learning outcomes. However, pressure to enhance cost-efficiencies can also lead to automatic student promotion policies and/or practices that neglect the important

need for student achievement. Measures of student achievement generally reflect the qualitative aspects of the teaching/learning process. Far too many students remain illiterate and incapable of simple arithmetic calculations after completing six and more years of basic education. School level and national assessments through the use of grade level tests, common entrance/exit exams beg the question of what have children actually learnt in school. To understand the reasons behind poor student attainment or achievement generally requires a re-examination of the quality of educational inputs and the teaching/learning process in schools and classrooms. Consequently, poor system outputs can effect the teaching/learning process when there is concerted pressure from parents and community members to reform or adapt current teaching/learning processes for better results. For example, if student performance in mathematics is low, it may demand a change in the time allocated to mathematics, improvements in time-on-task, or the introduction of remedial lessons as a basic part of the timetable. Monitoring system outputs is a powerful educational management tool.

Learning outcomes, the eighth key result area, requires an assessment of the education sector's contribution to a country's economic and social development. In practice, it refers to the utility and relevance of education or training to the subsequent activities of the students upon leaving school and entering the workforce. It has two dimensions: a) how well education prepares students for further study, employment, income generation, and/or citizenship, and b) how well the content of instruction relates to the knowledge and skills required for them to take these next steps. Learning outcomes as used here goes beyond assessing what students have learned, but focuses moreover on the relevance and utility of their newly acquired knowledge and skills to the labor market. For example, while student achievement may be promising, based on school and national level examinations, the curriculum may also have been outdated thus leading to a disconnect between the education system and labor market needs.

Measuring learning outcomes ensures that the education system is making a contribution to the socio-economic development of the country. Being the last link in our systems model, there is a feedback loop into our first two key result areas: 1) the demographic and socio-economic context of education and 2) the administration, planning and supervision of education. This feedback mechanism in our model takes into account the influence that the employers, students, parents and community members should have on education reform as a process of lifelong learning.

Figure 1: Conceptual Framework - OECS Education Monitoring Model



3.0 OECS CORE EDUCATION INDICATORS

Monitoring education begins with the identification of education indicators. It is important that the stakeholders agree *a priori* on the indicators that will be used to measure the performance of the education system. Quantitative indicators are statistical measures such as number, frequency, percentile, ratios, variance, etc. Qualitative indicators are judgement and perception measures of congruence with established standards, the presence or absence of specific conditions, the extent and quality of participation, or the level of beneficiary satisfaction, etc. It is a popular myth that data collected on quantitative indicators is inherently more objective than that collected on qualitative indicators. Both can be either more or less valid or reliable depending on whether or not the principles of social science research have been rigorously applied in the data collection and analysis process. There are six criteria that were applied to the core list of OECS education indicators presented in this chapter. Each of these criteria is presented below along with an illustrative question in guise of an explanation.

1. Validity - Does it measure the key result area?
2. Reliability - Is it a consistent measure of the key results area over time?
3. Sensitivity - When there are changes in the key result area will it be sensitive to those changes?
4. Simplicity - Will it be easy to collect and analyze the data needed for this indicator?
5. Utility - Will the performance information be useful for decision-making and learning?
6. Affordability - Will the collection and analysis of the data be affordable?

After having developed the conceptual framework for monitoring education reform in the OECS, the workshop participants set about the task of selecting a limited number of indicators that could be used in conjunction with the framework. The process of identifying and selecting the list of core OECS education indicators began with preparing a comprehensive list. The next step was to decide how many were needed and apply the selection criteria above to the list. Those that didn't meet these criteria were discarded. The best education indicators from those remaining were retained. This list was then vetted in each country and a final list of indicators was settled upon. Developing a education monitoring system is a trial and error experience that can only be improved after several cycles of data collection, analysis and appraisal. Some education indicators may, after some use, prove not to meet the above criteria and must then be discarded and replaced only if necessary.

In this section we provide definitions for the indicators that comprise this list of OECS core education indicators. While it was decided to include both quantitative and qualitative indicators in this list, the emphasis in the near term will be to develop the tools and systems to collect and analyze quantitative data. To this end a small group of dedicated Planners prepared the formulae for the calculation of the quantitative indicators that were used in the preparation of some data collection tools.

3.1 Demographic, Social & Economic Context

Indicator 1 Relative size of school age population groups: 0-2, 3-4, 5-11, 12-14, 15-17, 18-24 and 25-35.

Definition and Purpose: The number of children or adults in each school age population group shown as a percentage of the total population. This indicator covers everyone resident in the country, regardless of citizenship, educational attainment or labor market status. Relevant data should be disaggregated by: gender, parental education, residential location, private/public institution and nationality. While it presents the basic demographic data required for the overall planning of education, it also allows for the comparison of population groups at different educational levels across the region. The size of the youth population in a given country shapes the potential demand for education, putting pressure on the supply of educational services and could potentially effect other access related indicators, e.g., gross enrollment ratio.

Indicator 2 Adult literacy rate of population 15 + years that are literate.

Definition and Purpose: The adult literacy rate is defined as the percentage of the population aged 15 years and over who can both read and write with understanding a short simple statement on his/her everyday life. Generally, the term 'literacy' embraces also 'numeracy' the ability to make simple arithmetic calculations. Relevant data should be disaggregated by: age, gender and residential location. The adult literacy rate reflects the accumulated achievement of primary education and adult literacy programs in imparting basic literacy skills to the population, thereby enabling people to apply such skills in daily life and to continue learning and communicating using the written word. Literacy represents a potential for the individual's further intellectual growth and enhanced contribution to socio-economic and cultural development of society.

Indicator 3 Gross National Product per capita based on purchasing power parities.

Definition and Purpose: The value of the total production of goods and services in a given year calculated using purchasing power parities (PPP) and divided by the total national population in the same year. The use of PPP avoids problems of comparability between countries that would result from the use of a common currency (US$) and applying variable exchange rates. The PPP exchange rate gives the amount of a national currency that will buy the same basket of goods and services in a country as the US dollar will in the United States. This indicator will ensure comparability of economic performance across the region and facilitate the comparison of the costing and financing of education.

3.2 Administration, Planning and Supervision of Education

3.2.1 Strategic Function

Indicator 4 Adequacy of existing education policies.

Definition and Purpose: Education policies are adequate to the extent that they address relevant education issues or problems that have been discussed or debated through a public consultation process and informed by pertinent policy research. This qualitative indicator serves to monitor the strategic function of education management related to policy dialogue and formulation. MOEs should be undertaking or commissioning policy research on poorly understood aspects or problems in the education system based on performance information. Policy research should inform public consultations on issues in education that, subsequently result in the adoption of relevant and pertinent education policies that orient management decision-making.

3.2.2 Management Function

Indicator 5 Accountability mechanisms built into the organizational structure of the MOE, its institutions and programs.

Definition and Purpose: The existence and effectiveness of MOE regulations, procedures or management practices that circumscribe the decision-making authorities of education managers at various levels to achieve results in the fulfillment of a given mandate. It presupposes the existence of an organizational structure, staff positions and defined responsibilities. This qualitative indicator serves to monitor those aspects of the management function related to the delegation of decision-making authority and the capacity of education managers to take informed decisions when fulfilling their designated responsibilities.

3.2.3 Operational Function

Indicator 6 Frequency and nature of staff performance appraisals at MOE, district and school levels.

Definition and Purpose: The average number of official performance appraisals conducted and recorded per year for staff positions at the MOE, district and school levels. The performance appraisal process should be examined to determine the number and role of participants, if and how a written questionnaire is used and the basis of judgement, e.g., objectives-based, criteria, etc. The quantitative and qualitative components of this indicator serve to monitor those aspects of the operational function related principally to school and classroom management to ensure optimal effectiveness of the teaching-learning process, but also apply to all other educational management positions.

3.2.4 Information Function

Indicator 7 Accessibility of valid and reliable information to stakeholders on key performance indicators.

Definition and Purpose: The perception or judgement of education managers at the MOE, district and school levels and all other stakeholders regarding the ease with which they have access to information generated from the systematic collection and rigorous analysis of performance indicator data. Such performance indicators are identified in planning documents as key to the management of education in the country. This qualitative indicator serves to monitor those aspects of the information function related to the strengths and weakness of a national Education Management Information System (EMIS).

Indicator 8 Extent to which performance information is used for decision-making at MOE, district and school levels.

Definition and Purpose: The perception or judgement of education managers at the MOE, district and school levels regarding how their decision-making processes are informed by data collected on performance indicators. Such performance information can be received from the MOE or generated at more decentralized levels of education management, e.g., school level. This qualitative indicator serves to monitor those aspects of the information function related to the uses and applications of existing Education Management Information Systems.

3.3 Access

3.3.1 Status of Unsatisfied Need

Indicator 9 Net intake rate into 1st year of cycle.

Definition and Purpose: The number of new entrants in the first year of an education cycle who are of the official school entrance age, expressed as a percentage of the total corresponding population. Relevant data should be collected for the early childhood, primary, lower secondary, secondary and tertiary cycles and be disaggregated by: age, gender, school location, private/public institution and nationality. This quantitative indicator serves to monitor the status of the school-age population's unsatisfied need to access educational opportunities at each education level.

Formula: Divide the number of children of official primary school entrance age who enter the first year of a cycle of an education level, by the population of the same age, and multiply the result by 100.

$$\text{Net Intake Rate} = \frac{\text{Number of children of official primary school-entrance age 'a' who enter the first year of a cycle, in school year 't'}}{\text{Population of official primary school-entrance age, 'a' in school year 't'}} \times 100$$

Indicator 10 Gross Enrolment Ratio (GER).

Definition and Purpose: Total enrolment in each cycle, regardless of age, expressed as a percentage of the officially eligible school-age population in a given school-year. Relevant data should be collected for the early childhood, primary, lower secondary, secondary and tertiary cycles and be disaggregated by: age, gender, school location, private/public institution and nationality. This quantitative indicator serves to monitor the general level of access to, participation in and capacity of the education system. It can also be used together with the Net Enrolment Rate to measure the extent of over-aged and under-aged enrolment.

Formula: The GER gives information on the participation of a specific school-going age group population of a given area (Country/district/parish) at a given level of education. The GER rates are computed for Primary, Secondary and Tertiary Levels of education.

$$\text{GER at Primary level} = \frac{\text{Enrollment at Primary level}}{\text{Primary school-going age population}} \times 100$$

Indicator 11 Net Enrolment Ratio (NER).

Definition and Purpose: Total enrolment in each cycle of the official school-age group, expressed as a percentage of the officially eligible school-age population in a given school-year. Relevant data should be collected for the early childhood, primary, lower secondary, secondary and tertiary cycles and be disaggregated by: age, gender, school location, private/public institution and nationality. This quantitative indicator serves to monitor the general level of access to, participation in and capacity of the education system. It gives a more precise measurement of the extent of participation in education of children belonging to the official school-age groups.

Formula: In order to compute Net Enrolment Ratio for a specific level of education, the enrolment has to be adjusted for the over- and under-age children attending that level of education and relate it to the corresponding school-going population. The NER is computed as:

$$\text{NER at Primary level} = \frac{\text{Enrollment at Primary level adjusted for over- and under-age population enrolled in the primary schools}}{\text{Primary school-going age population}} \times 100$$

3.3.2 Supply and Demand

Indicator 12 Availability of school facilities for special needs students.

Definition and Purpose: School entrances, classroom doors and doorways, student desks and toilettes are constructed in a manner to facilitate the access and participation of students who are physically challenged. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: school location and private/public institution. This qualitative indicator serves to monitor the presence of physical barriers in the construction of school facilities that reduces the demand for education by physically challenged children, thus reducing their overall access and participation.

Indicator 13 Criteria for admission to schools, cycles or education programs.

Definition and Purpose: MOE instituted quotas, age requirements or other criteria, in conjunction with entrance exams, used to screen students in an effort to limit admission because of an insufficient number of places for those who would normally qualify to participate. Relevant data should be collected for the secondary and tertiary cycles and be disaggregated by private/public institution. This qualitative indicator serves to monitor the presence of administrative barriers in the supply of education services that makes access difficult for certain groups, e.g. rural and poor children.

Indicator 14 Percentage of 25+ population enrolled in continuing education programs.

Definition and Purpose: The number of 25+ year olds enrolled in a minimum of three courses or programs per calendar year. Continuing education programs include: correspondence courses, in-service or on-the-job training, apprenticeship, arts, crafts, recreation, or any other education or training courses. The intensity of participation, i.e., total number of hours, should be recorded. Relevant data should be disaggregated by gender. This quantitative indicator serves to monitor the demand for non-formal education and training opportunities by the adult population.

Formula:

$$= \frac{\text{Total Number of adults 25+ enrolled in adult continuing education programs}}{\text{Total number of adult population (25+)}} \times 100$$

3.4 Equity

Equity concerns the extent to which available educational opportunities are accessible to children regardless of characteristics that cannot be altered. In order to assess equity in education it is important to ensure that disaggregated data is collected for all performance indicators related to students, teachers, schools, etc. Gender-disaggregated data, for example, allows for the quantitative measure of the 'gender gap' at different points in an education cycle, e.g., net intake rate, attrition rate, retention rate, graduation rate and transition rates or post-graduation employment rates. Other equity indicators, such as, the gender segregation index can then be calculated if necessary. Gender-disaggregated data can also be collected for qualitative indicators that measure the quality of educational inputs and teacher-learning process. Further disaggregation of the same data by other possible factors of discrimination may also reveal equity issues that may have otherwise remained hidden. Consequently, included in the definitions of the core indicators for monitoring education in the OECS are the required levels of dissaggregation taken from among the following list:

- Age
- Gender
- Parental Education
- Residential or School Location (District/Zone; Urban/Rural)
- Private/Public Institution
- Nationality

3.5 Resources

3.5.1 Costing and Financing

Indicator 15 Educational expenditure as a percentage of GNP.

Definition and Purpose: The percentage share of the value of the total national production of goods and services in a given year that has been devoted to education. In this definition 'educational expenditure' means the sum of the following: direct public expenditures by government, public subsidies by government to households and other private entities, payments from households and private entities to educational institutions in the form of fees and tuition, as well as household and private payments other than to educational institutions for the purchase of personal items used for education, e.g., books, uniforms, living expenses, etc. Expenditure data should be collected for the primary, lower secondary, secondary and tertiary cycles and be disaggregated by private/public institution. This quantitative indicator serves to monitor both the government and private expenditures on education, separately and combined, relative to an important economic indicator that can be compared across the region. This will

facilitate comparisons of the relative shares of government and private investments, and of total investments by level of education.

Formula: The percentage of public expenditure on education in relation to the GNP is calculated as:

$$\text{Percentage of GNP Spent on education} = \frac{\text{Public expenditure on education}}{\text{GNP}} \times 100$$

Indicator 16 Government expenditure on education by resource category as a percentage of total.

Definition and Purpose: Government expenditures refers to all amounts that originate with government that are devoted to education through either capital or current expenditures. Capital expenditures are those for assets which last longer than one year, including outlays for school construction, renovation, major repair of buildings, and for new or replacement equipment. Current expenditures are those for goods and services consumed within the current year, which have to be made recurrently to sustain the production of educational services. Included are the proportions of current expenditure allocated to the compensation of teachers, compensation of administrative non-teaching staff, and (non-personnel) current outlays for textbooks and instructional materials calculated by expressing the respective amounts as percentages of total current expenditure. Government expenditure data should be collected for the primary, lower secondary, secondary and tertiary cycles and presented as capital and recurrent expenditure resource categories. This quantitative indicator serves to monitor the proportion of government expenditures allocated to maintain the public education infrastructure, employ its personnel and purchase other important teaching/learning inputs. Ensuring an optimum mix of quality inputs is crucial to educational performance.

$$\text{Percentage of Government Expenditure Spent on Education} = \frac{\text{Total government expenditure on education by category in financial year t}}{\text{Total government expenditure in financial year t}} \times 100$$

Indicator 17 Current expenditure per student by government as a percentage of GNP per capita.

Definition and Purpose: Current expenditure per student relative to GNP per capita is calculated by expressing current government expenditure per student in units of national currency as a percentage of GNP per capita, also in national currency. Current expenditure per student by government on a particular level of education is calculated by dividing the total current expenditure at that level by the corresponding

full-time equivalent enrolment for any given year. Current expenditures are those for goods and services consumed within the current year, which have to be made recurrently to sustain the production of educational services. Included are expenditures for the compensation of the teaching staff, compensation of non-teaching staff, and other (non-personnel) current outlays for textbooks and instructional materials. Government expenditure data should be collected for the primary, lower secondary, secondary and tertiary cycles. This quantitative indicator serves to monitor current government expenditures in relation to GNP in a manner that will be comparable across the region.

Formula: Divide per student government current expenditure on each level of education in a given year by the GNP per capita for the same year and multiply by 100.

Percentage Per Student Government Expenditure of GNP per capita	$\frac{PCXE}{E \quad P} \Big/ \frac{GNP}{} \times 100$

PXCE = Government expenditure on education level in financial year t
GNP = Gross National Product in financial year t
E = Total enrolment in educational level h in school year t
P = Total national population in year t

Indicator 18 Current public and private expenditure per student by education level.

Definition and Purpose: Current expenditure per student, either public or private, on a particular level of education is calculated by dividing the total current expenditure (see definition above) at that level by the corresponding full-time equivalent enrolment for any given year. Enrolment data are generally adjusted so as to match the fiscal year of the country. Expenditure and enrolment data should be collected for the primary, lower secondary, secondary and tertiary cycles as appropriate. This quantitative indicator serves to monitor current expenditures by level of education in a manner that will be comparable across the region.

Formula: This is calculated by dividing total private or public cost of education by the number of students; where, Total Private or Public Cost = Tuition Cost + Non-Tuition Cost + Earnings Forgone – Scholarship.

$$\text{Private or Public Unit Cost of Education} = \frac{\text{Total private or public cost}}{\text{Total No. of Students}}$$

Indicator 19 Salary compensation for teachers as a percentage of GNP.

Definition and Purpose: Total current expenditure by government on teacher compensation as a percentage of GNP for a given year. Teachers are persons who are employed to guide and direct student's classroom learning experiences in gaining the knowledge, attitudes and skills that are stipulated in a defined curriculum. All teachers receiving a salary would be included regardless of their current status, e.g., maternity or professional development leave. Salaries paid to School Heads or Principals who are no longer teaching would not be included. Government expenditure data should be collected for the primary, lower secondary, secondary and tertiary cycles. This quantitative indicator serves to monitor current expenditure by government in relation to GNP in a manner that will be comparable across the region.

Formula: Divide public expenditure on teachers' salary in a given financial year by the GNP for that same financial year.

$$\text{Percentage teachers Salary of GNP} = \frac{\text{Total public expenditure on teachers' salary in financial year t}}{\text{GNP in financial year t}}$$

Indicator 20 Ratio of students to non-instructional student support personnel.

Definition and Purpose: The total number of students divided by the number of salaried non-instructional student support personnel at the same level of education. Non-instructional student support personnel include: guidance counselors, library staff, etc. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles. This quantitative indicator serves to monitor the allocation of current expenditures by government on non-teaching staff with direct student contact, and thus optimal levels of educational financing.

3.5.2 Human Resources

Indicator 21 Percentage of certified (trained) teachers.

Definition and Purpose: The number of school teachers who have successfully completed a recognized teacher's certification training program, expressed as a percentage of the total number of teachers employed. Teachers are persons who are employed to guide and direct student's classroom learning experiences in gaining the knowledge, attitudes and skills that are stipulated in a defined curriculum. Teachers that have been promoted to School Heads or Principals and who are no longer teaching would not be included. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: gender, school location and private/public institution. This

quantitative indicator serves to monitor the quality of the single most important input into the teaching/learning process, namely the teachers themselves.

Formula:

$$\text{Percentage trained teachers} = \frac{\text{Number of trained teachers in education in an education level in a year}}{\text{Total number of teachers in education level in same year}} \times 100$$

Indicator 22 Gross student-teacher ratio.

Definition and Purpose: The average number of students per teacher employed at the level of education specified. Teachers are persons who are employed to guide and direct student's classroom learning experiences in gaining the knowledge, attitudes and skills that are stipulated in a defined curriculum. All teachers employed at the level of education specified would be included regardless of their current status, e.g., maternity or professional development leave. Teachers that have been promoted to School Heads or Principals and who are no longer teaching would not be included. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: gender, school location and private/public institution. This quantitative indicator serves to monitor the adequacy of the human resources input, in terms of numbers of teachers employed, in relation to the size of the student population.

Formula: The total number of teachers in the system includes teachers on study leave.

$$\text{Gross student-teacher ratio} = \frac{\text{Total number of teachers in the system}}{\text{Total number of students enrolled}} \times 100$$

3.5.3 Physical Infrastructure and Equipment

Indicator 23 Average square feet of school area by student.

Definition and Purpose: The total number of square feet of enclosed space available to students while engaged in learning activities divided by the total number of students enrolled in the school. Eligible school areas would include, e.g., classrooms, libraries, laboratories, indoor sports facilities, etc. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: school location and private/public institution. This quantitative indicator serves to monitor the adequacy of the school infrastructure and detect possible problems of over-crowding.

Formula:

$$\text{Average square feet of school area by student} = \frac{\text{Total classroom area (square feet)}}{\text{Total enrolment of school}}$$

Indicator 24 Percentage of schools adequately equipped with A/V and reprographic equipment, computers for administration, telephone lines and internet services.

Definition and Purpose: The number of schools observed to have A/V and reprographic equipment, computers for administration, telephone lines and internet services in working condition, expressed as a percentage of the total number of schools who do not meet these specifications. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: school location and private/public institution. This quantitative indicator serves to monitor the adequacy of the school facilities and detect possible resource constraints facing teachers and administrators alike.

Indicator 25 Availability of space for recreation.

Definition and Purpose: Availability of space for recreation is reflected in the extent to which students can play team sports on school grounds, e.g., basketball, football, cricket, etc. This would necessarily require a playground area and/or gymnasium of a size that is in proportion to school enrolment. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: school location and private/public institution. This qualitative indicator serves to monitor the adequacy of the school facilities in providing students with opportunities for extra-curricular activities.

3.5.4 Curriculum and Instructional Materials

Indicator 26 Percentage of students with access to all required textbooks.

Definition and Purpose: The number of students with access to all required school textbooks divided by the total student enrolment in a given year. Access denotes that students either own the textbook, because it has been purchased for them, or has been temporarily provided to them by the school for their personal use. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: school location and private/public institution. This quantitative indicator serves to monitor the adequacy of the didactic materials available to students and detect possible resource constraints to their learning.

Formula:

$$= \frac{\text{Number of students with all textbooks in a period in a school}}{\text{School Enrolment in that same period}} \times 100$$

Indicator 27 Average number of students per computer for teaching/learning activities.

Definition and Purpose: The total number of students enrolled in the school divided by the number of computers dedicated to teaching/learning activities in the classroom. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: school location and private/public institution. This quantitative indicator serves to monitor the adequacy of technological supports to the teaching/learning process and detect possible resource constraints in this area.

Formula:

$$= \frac{\text{Total School Enrolment in a period}}{\text{Number of Computers for teaching/learning in period}}$$

Indicator 28 Number of adequate sets of teaching guides and instructional materials per subject area.

Definition and Purpose: A set of teaching guides and accompanying instructional materials are considered adequate when: it was designed for the current curriculum, the guide is not missing any pages and all the required instructional materials are intact. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: school location and private/public institution. This quantitative indicator serves to monitor the adequacy of teaching supports to the teaching/learning process and detect possible resource constraints in this area.

3.6 Teaching-Learning Process

Indicator 29 Net student-teacher ratio.

Definition and Purpose: The average number of students per in-classroom teacher at the level of education specified. Teachers are persons who are employed to guide and direct student's classroom learning experiences in gaining the knowledge, attitudes and skills that are stipulated in a defined curriculum. Only teachers who are currently teaching in the classroom would be included. Teachers that have been promoted to School Heads or Principals and who are no longer regularly teaching would not be

included. However, since teaching staff includes in principle both full- and part-time teachers, comparability of this ratio may be affected as the proportion of part-time teachers varies from country to country. Consequently, a full time equivalent teaching load will be used when counting the number of in-classroom teachers. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: gender, school location and private/public institution. This quantitative indicator serves to monitor the quality of the teaching/learning process.

Formula: The net Student-Teacher ratio has a great influence on the unit cost of education. Therefore, a suitable choice of the student-teacher ratio is very important in the overall scheme of allocation of resources at the school level. It is calculated as:

$$\text{Net Student-Teacher Ratio} = \frac{\text{Total Enrolment in a school}}{\text{Total Number of teacher teaching in school}}$$

Indicator 30 Teacher attitudes and motivation.

Definition and Purpose: Teacher attitudes and motivation are reflected in the extent to which they have confidence in their ability to teach, are committed to teaching, care about their students, help each other with instructional problems and cooperate in efforts to improve school performance. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: gender, school location, private/public institution and nationality. This qualitative indicator serves to monitor the quality of the teacher's contribution to the teaching/learning process in the classroom.

Indicator 31 Student attitudes and motivation.

Definition and Purpose: Student attitudes and motivation are reflected in the extent to which they respect the authority of the teacher, are attentive during classroom discussions and activities, considerate of other students and participate in extracurricular school activities. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: gender, school location, private/public institution and nationality. This qualitative indicator serves to monitor the quality of the student's contribution to the teaching/learning process in the classroom.

Indicator 32 Variety of pedagogical approaches and teaching practices used.

Definition and Purpose: A variety of pedagogical approaches and teaching practices are used to better accommodate student differences and the content of the subject being taught. Teachers use a variety of techniques, including individual assignments with worksheets, class discussion, group work, explaining, drill-and-practice, asking questions, and cross-age tutoring. When available, teachers also make regular

use of technological supports, such as, interactive radio, computer-based training, internet access, etc. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: gender, school location and private/public institution. This qualitative indicator serves to monitor the quality of the teaching strategies employed in the classroom in an effort to get students actively engaged in the teaching/learning process.

Indicator 33 Utilization rate of instructional materials, textbooks or technology.

Definition and Purpose: The number of classes during which the teacher utilizes instructional materials, textbooks or technology as teaching aids, expressed as a percentage of the total number of classes taught in a school year. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: gender, school location and private/public institution. This quantitative indicator serves to monitor the extent to which teachers make use of available resources to enhance the teaching/learning process.

Formula:

$$= \frac{\text{Actual number of periods where instructional materials/textbooks/ technology is used}}{\text{Total number of periods where these materials can be used}} \times 100$$

Indicator 34 Proportion of instructional time spent on core subjects.

Definition and Purpose: The number of instructional hours spent teaching core subjects, expressed as a percentage of the total number of instructional hours spent teaching all subjects. Relevant data should be collected for the primary in Math, English, Social Studies, Science; lower secondary, secondary in Math and English, and disaggregated by: gender, school location and private/public institution. This quantitative indicator serves to monitor time-use allocation for subjects considered core to the curriculum.

Formula:

$$= \frac{\text{Actual number of periods spent on core subjects for level}}{\text{Total number of periods spent on all subjects offered for that level}} \times 100$$

Indicator 35 Frequency of assessments and promptness of feedback.

Definition and Purpose: Frequent student assessments are reflected in the extent to which they occur regularly and in an integrated way at the classroom, school and system levels. The central purpose must be to provide diagnostic feedback to students, teachers and education managers. Teachers provide immediate feedback on student's in-class responses, written work, and homework, mixing praise and constructive criticism equally. The school should maintain records of individual student's performances on standard tests using simple routines for collecting, storing and reporting this information back to students and parents. Education managers should use test results and grade reports to spot and respond to potential problems, at either the individual or school level, providing continuous feedback to teachers and students over time. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: school location and private/public institution. This qualitative indicator serves to monitor the extent to which student performance is assessed and used to enhance the teaching/learning process.

Indicator 36 Adequacy of teacher preparedness.

Definition and Purpose: Adequacy of teacher preparedness is reflected in the extent to which teachers research the topic of instruction, prepare detailed lesson plans, use library resources and prepare their own exercises, projects and quizzes for classroom use on a regular basis. All teachers should be able to explain what they teach in terms of the curriculum objectives and how far they have progressed in terms of the school's approved work plan. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: gender, school location and private/public institution. This qualitative indicator serves to monitor the extent to which teachers plan to manage the teaching/learning process.

Indicator 37 Efficient use of classroom learning time.

Definition and Purpose: Classroom learning time is used efficiently when teachers maintain a brisk pace for instruction with clear stop and start cues and quick introductions of topics. They are aware of whole-class needs in pacing lessons, providing assistance to individuals, setting and supervising seatwork, and encouraging out-of-class work for those who need it. In general, non-instructional classroom time is kept to a minimum. Relevant data should be collected for the primary, lower secondary, secondary and tertiary cycles and disaggregated by: gender, school location and private/public institution. This qualitative indicator serves to monitor the actual time spent by students engaged in the teaching/learning process while in the classroom.

3.7 Education System Outputs

3.7.1 Student Attainment

Indicator 38 Attendance rate.

Definition and Purpose: Average number of school days that a student misses in a given school-year, expressed as a percentage of the total number of scheduled school days for the cycle under study. Relevant data should be collected for the primary and secondary cycles and disaggregated by: age, gender, school location and private/public institution. This quantitative indicator has predictive qualities when monitoring internal efficiency at the primary and secondary levels, and provides educational planners with a rough guide to the capacity or 'power' of retention of the educational cycle under study.

Formula:

$$\text{Attendance Rate} = \frac{\text{Total School attendance for period}}{\text{Total number of School days open for period}} \times 100$$

Indicator 39 Transition rate.

Definition and Purpose: The percentage of students enrolled in the last year of a cycle who subsequently enter the first year of the next cycle in the following year. Relevant data should be collected to calculate the transition rate from primary grade 6 to lower secondary grade 7/form 1, and from primary grade 6 to secondary 5 year cycle form 1. This quantitative indicator serves to monitor the articulation of the primary and secondary education cycles from the perspective of the internal efficiency of the education system as a whole. However, interpretation of the findings should take into consideration the existence of divergent education policies or practices across the region with regard to the purpose of lower secondary education, common entrance examinations, secondary admission requirements and fee structures, or any combination thereof.

Formula: It is calculated by relating the number of graduates who join the next level of education in a given year to those who graduated from the lower level in the previous year. The transition rates should be calculated for males and females separately to get an accurate picture of differences in access to the higher levels of education.

$$\text{Transition Rate From primary} = \frac{\text{Number of students who join the first year of secondary school in t year.}}{\text{Total number of who graduate from the primary schools in the t-1 year.}} \times 100$$

Indicator 40 Promotion Rate.

Definition and Purpose: The percentage of students enrolled in one stream, grade or program of study, who are admitted to and enter another at the appropriate grade/form. Relevant data should be collected to calculate the transfer rate of students from lower secondary form 3 to form 4 of the secondary 5 year cycle. All data should be disaggregated by: age, gender, school location and private/public institution. This quantitative indicator serves to monitor the articulation of two cycles of secondary education from the perspective of the internal efficiency of the education system as a whole. It provides educational planners with a rough guide to the capacity or 'power' of retention of secondary education. Interpretation of this indicator should however take into consideration the existence of divergent education policies or practices across the region with regard to the purpose of lower secondary education, common entrance examinations, secondary school admission requirements and fee structures, or any combination thereof.

Formula: It is calculated by following a cohort of students who join a given class in a given year and move to the next class the subsequent year.

$$\text{Promotion Rate} = \frac{\text{Number of students who move to the next class in the subsequent year}}{\text{Total number of student enrolled in a given class at the beginning of the year}} \times 100$$

Indicator 41 Repetition rate.

Definition and Purpose: The number of students enrolled in a given grade/form in a given school-year who study in the same grade/form the following school year, expressed as a percentage for each grade/form in the cycle, and as an average percentage for the entire cycle. Relevant data should be collected for the primary and secondary cycles and disaggregated by: age, gender, school location and private/public institution. This quantitative indicator serves to monitor internal efficiency at the primary and secondary levels, but its interpretation must take into consideration the existence of divergent education policies or practices across the region with regard to automatic promotion, age-based promotion, merit-based promotion or any combination thereof.

Formula:

$$\text{Repetition Rate} = \frac{\text{Number of repeaters from a cohort of students who repeat in the subsequent year in the same class}}{\text{Total number of student enrolled in a given class at the beginning of the year}} \times 100$$

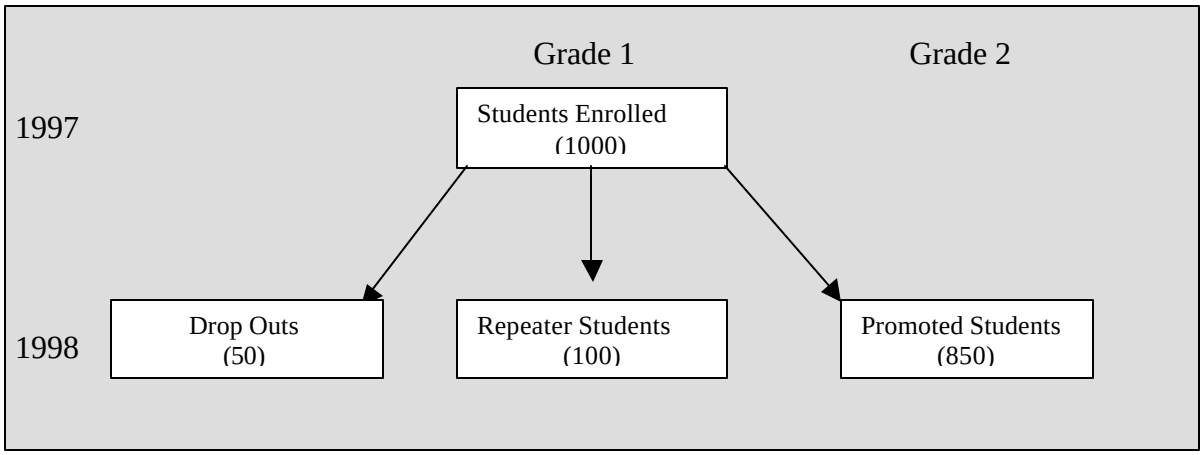
Indicator 42 Drop out rate.

The number of students enrolled in a given grade/form in a given school-year who do not enroll in school the following school year, expressed as a percentage for each grade/form in the cycle, and as an average percentage for the entire cycle. Relevant data should be collected for the primary and secondary cycles and disaggregated by: age, gender, school location and private/public institution. This quantitative indicator serves to monitor internal efficiency at the primary and secondary levels.

Formula: It is calculated by following a cohort of students who join a given class in a given year but drop out from the school system.

$$\text{Drop-out Rate} = \frac{\text{Number of drop-out students from a given class in a given year}}{\text{number of student enrolled in a given class at the beginning of the year}} \times 100 \text{ Total}$$

Note: The relationship between drop-out, repetition and promotion rates is illustrated with the help of flow diagram given below:



$$\text{Dropout Rate} = \frac{50}{1000} \times 100 = 5\%$$

$$\text{Repetition Rate} = \frac{100}{1000} \times 100 = 10\ \%$$

$$\text{Promotion Rate} = \frac{850}{1000} \times 100 = 85\%$$

Total Enrolment = 50 + 100 + 850 = 1000

Total Enrollment = Drop outs + Repeaters + Promoted students

Indicator 43 Survival rate.

Definition and Purpose: The percentage of a cohort of students who enrolled in the first year of the primary or secondary cycle in a given school year and who are promoted in successive years to the final grade/form of the cycle. Relevant data should be collected to calculate the survival rate to grade 6 and form 5 for the primary cycle and the secondary 5 year cycle respectively. Tertiary level survival rates are defined as the proportion of entrants to the to tertiary level education who obtain a first degree. The first degree at the tertiary level refers to any official designation recognizing successful program completion, independent of the duration of study and which does not have as a prerequisite the holding of a prior tertiary level degree. Relevant data should be collected for students graduating with tertiary "A" level, certificate, diploma or similar designations. All data required to calculate survival rates should be disaggregated by: age, gender, school location and private/public institution. This quantitative indicator serves to monitor internal efficiency of education systems at all levels, and the magnitude of student withdrawal/dropout for each cycle. Education planners are thus provided with a rough guide to the capacity or 'power' of retention of the educational cycle under study. However, interpretation of this indicator should take into consideration the existence of divergent education policies or practices across the region with regard to automatic promotion, age-based promotion, merit-based promotion or any combination thereof.

Formula: Divide the total number of students belonging to a school cohort who reached a particular grade of the specified level of education by the number of students in the school cohort i.e. those originally enrolled in the first grade of primary education, and multiply the result by 100. Note that the number of repeaters or dropouts are not included in the promotees for the year.

$$\text{Survival Rate} = \frac{\text{Total number of promotees from a cohort of year 'k'}}{\text{Total number of students belonging to the cohort of year 'k'}} \times 100$$

3.7.2 Student Achievement

Indicator 44 Student performance on standardized tests at grades 2, 4, 6 and Form 3.

Definition and Purpose: The number of students who have mastered a defined level of basic learning competencies by grades 2, 4, 6, and Form 3 expressed as a percentage of the total number of students enrolled in those grades. Basic learning competencies demonstrate an ability to read and write, facility with arithmetic, and skills in problem solving. Relevant data should be collected at the primary level and disaggregated by age, gender, parental education, school location and private/public institution. This quantitative indicator serves to monitor the quality of learning achievement with respect to the requisite knowledge and analytical skills expected of students at the end of primary school.

Formula: The percentage of Students passing the standardised tests in relation to those enrolled in the relevant grade is calculated as:

$$\text{Percentage of students passing standardized tests} = \frac{\text{No. of students who passed the standardized test}}{\text{No. of students who sat the standardized tests}} \times 100$$

Indicator 45 Secondary student performance on CXC/"O" level exams.

Definition and Purpose: The percentage of a student cohort that entered secondary 5 year cycle in a given year who pass the CXC/"O" level exams Basic I and General or Technical I, II, and III in: 1) English and Math, and 2) at least five subject areas including English. Relevant data should be collected at the secondary school level and disaggregated by gender, school location and private/public institution. This quantitative indicator serves to monitor the quality of learning achievement with respect to the requisite knowledge and analytical skills expected of students at the end of secondary school.

Formula: The percentage of student cohort that entered secondary 5 year cycle in a given year who passed the exam in the given year is calculated as:

$$\text{Percentage of students passing CXC/'O" Levels} = \frac{\text{No. of students who passed the exams in a given year}}{\text{No. of students enrolled in secondary 5 that year}} \times 100$$

Indicator 46 Secondary student performance sitting CXC core subject exams.

Definition and Purpose: The percentage of students who sat the CXC English and Mathematics examinations in a given year and obtained a passing grade. This data should be collected at the secondary school level and disaggregated by gender, school location and private/public institution. This quantitative indicator serves to monitor the quality of learning achievement with respect to the requisite knowledge and analytical skills in core subjects expected of students at the end of secondary school.

Indicator 47 Secondary student performance sitting CAPE\A level subject exams.

Definition and Purpose: The percentage of students who sat two or more CAPE/A level subject exams in a given year and obtained a passing grade (excluding the General Paper). Relevant data should be collected at the secondary school level and disaggregated by gender, school location and private/public institution. This quantitative indicator serves to monitor the quality of learning achievement with respect to the requisite knowledge and analytical skills expected of students at the end of secondary school.

3.8 Learning Outcomes

3.8.1 Utility of Learning Outcomes

Indicator 48 Transition to the world of work.

Definition and Purpose: The average length of time in weeks required for tertiary school graduates to find suitable employment. Suitable employment refers the graduates' level of satisfaction with their first job in relation to their employment expectations. Relevant data should be collected from graduate tracing studies in each country in the region where appropriate. All data collected should be disaggregated by: gender, school location and program of study.

Indicator 49 Relative earnings by level of educational attainment.

Definition and Purpose: The mean earnings (income from work before taxes) of persons at a given level of educational attainment divided by the mean earnings of persons with secondary (5 year cycle) school attainment and multiplied by 100. The estimates are restricted to individuals with income from employment during the reference period. Relevant data should be collected from the appropriate government ministry responsible for revenue, employment or labor statistics. This qualitative indicator serves to monitor the external efficiency of tertiary education from the perspective of the utility of learning outcomes for graduates.

3.8.2 Relevance of Learning Outcomes

Indicator 50 Youth employment and unemployment rates by educational attainment.

Definition and Purpose: The unemployment rate is calculated as the percentage of unemployed people in the labor force, where the age groups are defined as 15-19, 20-25 and 25-29 years according to the ILO guidelines. Employment and unemployment rates are then correlated with educational attainment using secondary completion as a benchmark. Relevant data should be collected from the appropriate government ministry responsible for employment or labor statistics. This quantitative indicator serves to monitor the external efficiency of the education system from the perspective of the relevance of learning outcomes to the labor market.

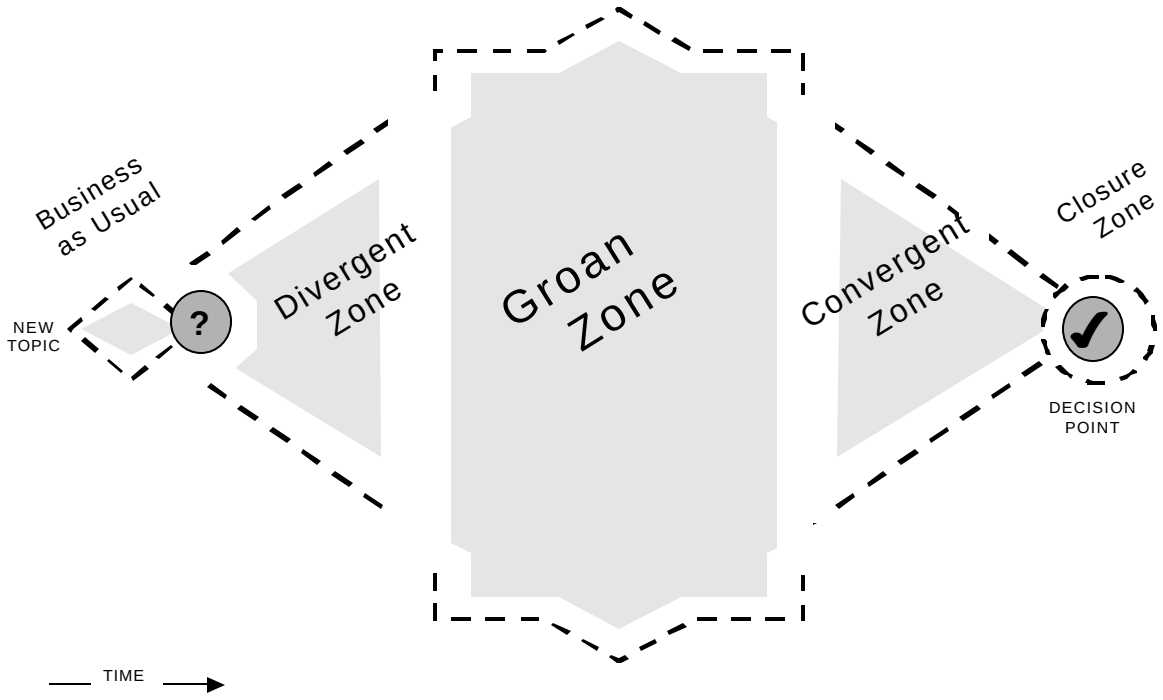
Indicator 51 Level of employer satisfaction with tertiary level graduate employee work readiness.

Definition and Purpose: The perceived satisfaction of employers, as judged by employers, with the attitude, aptitude and competency of tertiary school graduates in relation to their work. Relevant data should be collected from graduate tracing studies in each country in the region where appropriate. All data collected should be disaggregated by: gender, school location and program of study. This quantitative indicator serves to monitor the external efficiency of tertiary education from the perspective of the relevance of learning outcomes to the labor market.

4.0 FACILITATING A PARTICIPATORY PROCESS

4.1 The Dynamics of Group Decision-Making

The *Diamond of Participatory Decision-Making* describes the process a group goes though to solve a difficult problem. The process is neither smooth nor sequential. It is characterized by confusion and misunderstanding. Most people find it hard to tolerate the ambiguity and the conflict that are inherent when people don't have shared frames of reference. Yet a group's most significant breakthroughs, such as reaching a sustainable agreement, are often preceded by a period of struggle.

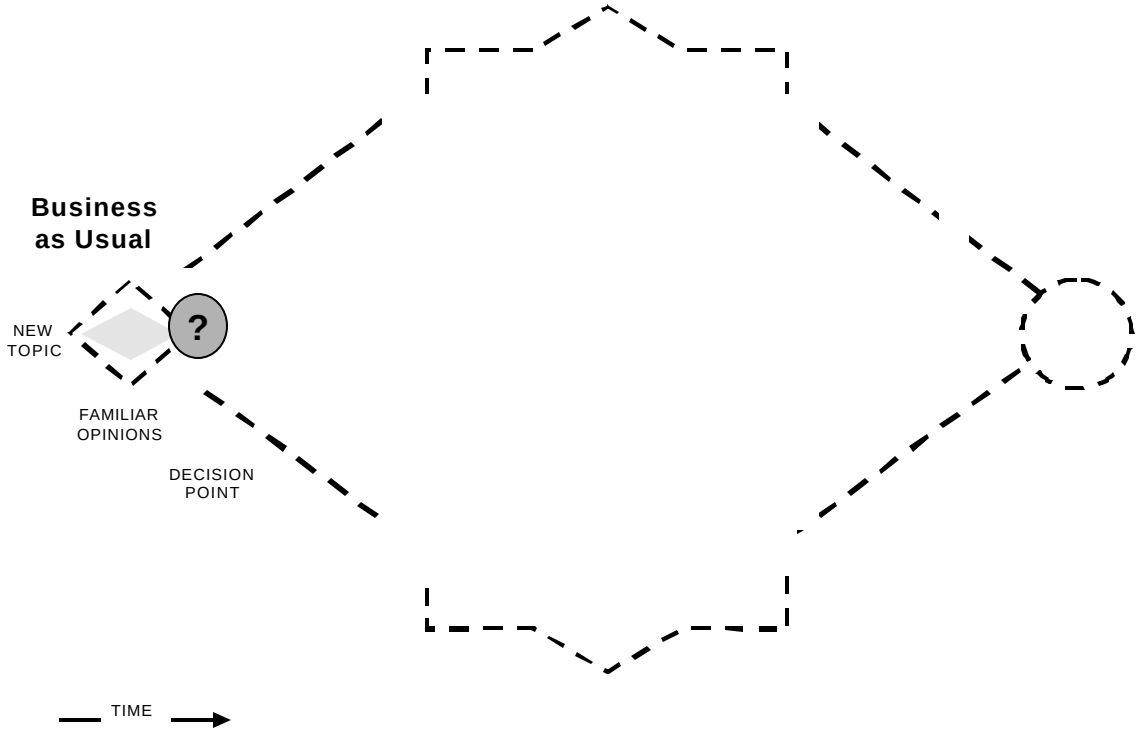


Sustainable agreements don't happen in a burst of inspiration; they develop slowly. It takes time and effort for people to build a shared framework of understanding, and groups need different types of support at different points in the process. Facilitators who understand this will vary their technique accordingly, to match the group's current dynamics.

By legitimizing the awkward, uncomfortable, yet entirely normal dynamics of diversity, this facilitation tool helps facilitators give their groups more meaningful support during difficult times. This in turn enables all parties to tap the enormous potential of group decision-making.

4.1.1 Business as Usual

When a new topic comes up for discussion in a group, people normally begin the conversation by proposing obvious solutions to obvious problems. The emotional atmosphere is usually congenial but superficial. People refrain from taking risks that would put them in vulnerable positions. If an idea seems workable, it usually leads to quick agreement. "Sounds good to me," people say. The facilitator's main task during this phase is to pay attention to the quality and quantity of each person's participation. Is everyone engaged? Does everyone seem comfortable with the discussion? If so, great! The facilitator then summarizes the proposals under consideration, and helps the group reach agreement quickly.

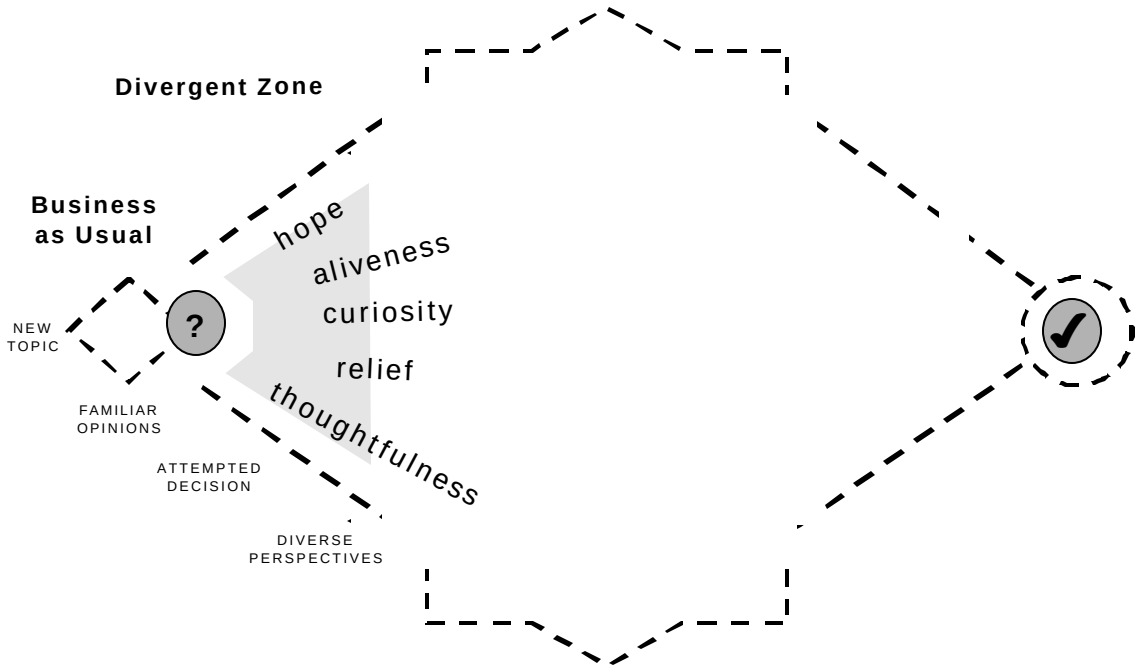


But suppose the facilitator notices that some people do not support the proposal – as indicated by statements like "I don't think this will work, but I don't want to stand in the group's way." The facilitator should then start looking for ways to encourage the group to break out of the narrow band of familiar opinions and move their discussion into the Divergent Zone.

4.1.2 The Divergent Zone

When a facilitator helps a group move from Business As Usual to the Divergent Zone, the mood changes dramatically. Business-as-usual discussions are tedious and stiff; people censor themselves rather than risk being embarrassed by criticism. In contract, laughter and playfulness are common in the Divergent Zone. So are feelings of curiosity and discovery.

Suspended judgement is one of the most important thinking skills facilitators can teach their groups. Facilitators can provide their groups with opportunities to experience suspended judgement, through formats like idea-listing and go-arounds – a format that supports discussion without forcing people to go in any particular direction. By teaching suspended judgement, and by modeling it whenever possible, a respectful, supportive facilitator can create a relaxed, open atmosphere that gives people permission to speak freely. And sometimes people simply want to engage in conversation. At this phase of the discussion, the facilitator does not even try to resolve disagreements. S/he honors everything everyone says and refrains from asking anyone to revise or reconsider their opinions. The facilitator can then rely on facilitative listening skills, such as stacking, encouraging and making space.

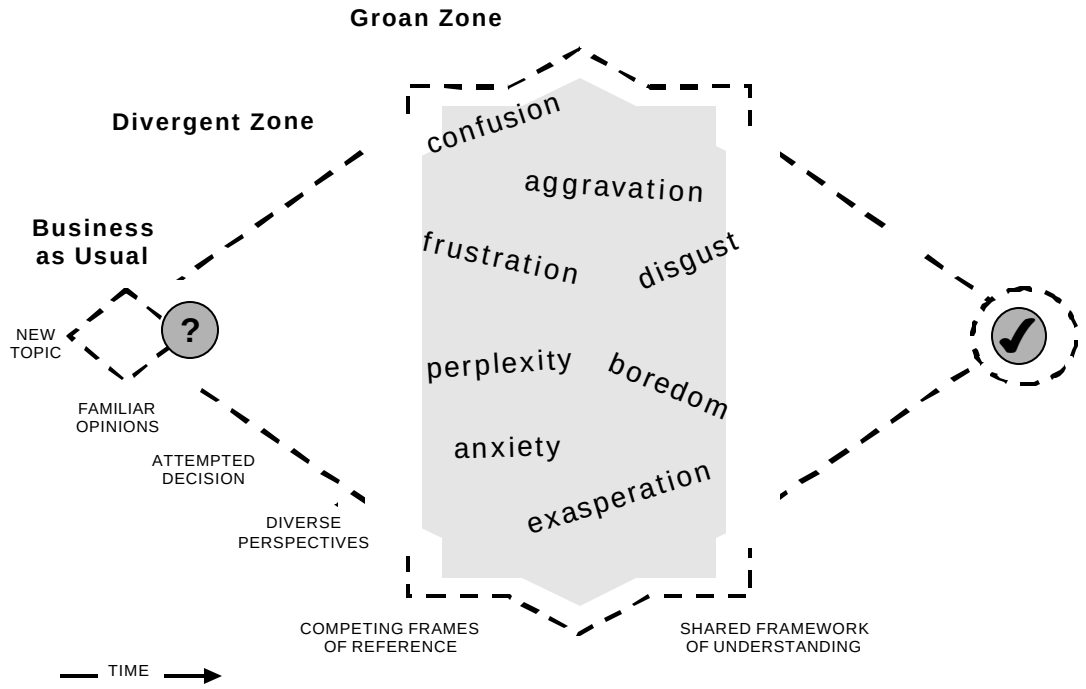


No matter what approach s/he takes, the facilitator's main task in the Divergent Zone is to create opportunities for everyone to express their views on the topic at hand. This is a prerequisite for building sustainable agreements.

4.1.3 The Groan Zone

Once a group has expressed several diverging points of view, the members face a quandary. They often don't understand each other's perspectives very well, yet they may not be able to resolve the issue at hand until they do understand each other. This is one of the fundamental problems or working in groups.

Even in groups whose members get along reasonably well, the Groan Zone is agonizing. People have to wrestle with foreign concepts and unfamiliar biases. They have to try to understand other people's reasoning – even when that reasoning leads to a conclusion they don't agree with.

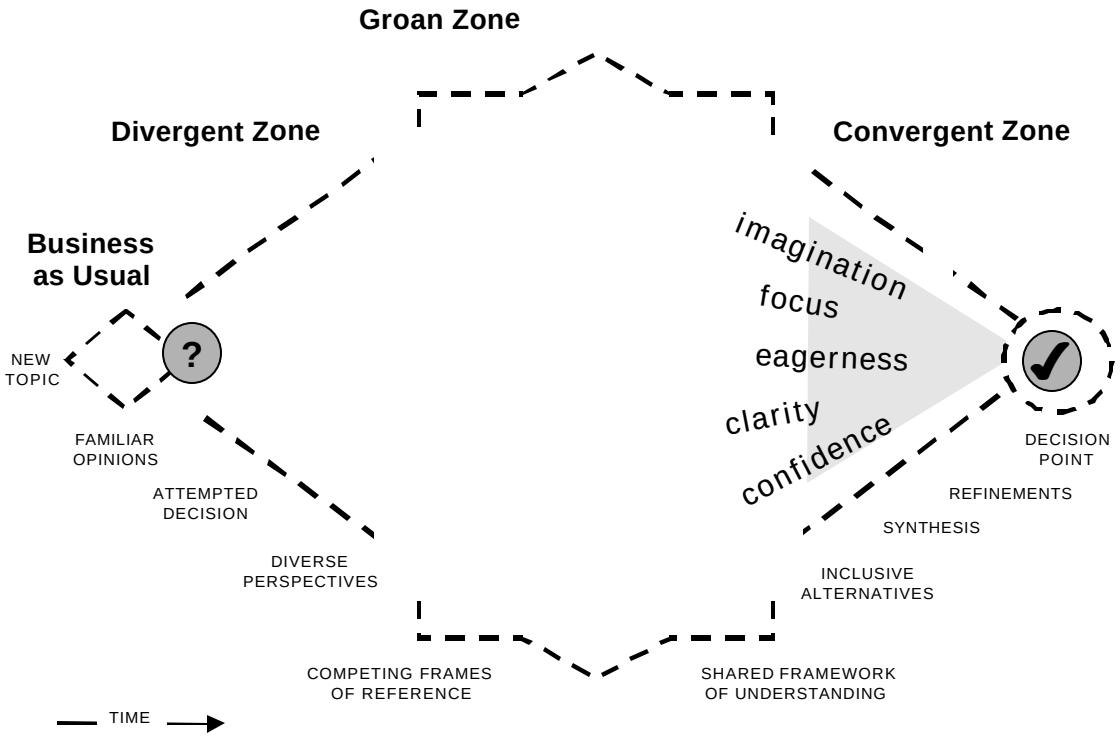


The facilitator's main objective in the Groan Zone is to help the group develop a shared understanding. This is anything but easy. The greater the divergence of opinions in the room, the greater is the chance for confusion and misinterpretation. The facilitator should concentrate on promoting mutual understanding. This takes a lot of careful, responsive listening; at times, the facilitator may be the only person in the room who is listening at all. Structured activities to create a shared context or strengthen relationships are very helpful during periods of misunderstanding. They help people focus on the same thing at the same time. But it's not easy for a facilitator to obtain a group's agreement to do a structured activity. People oppose facilitators regularly – and this is particularly true in the Groan Zone, when trust-levels are low the tension-levels are high. Facilitators must expect the group to challenge, and probably reject, a high percentage of suggestions made by the facilitator.

When this happens, remember to honor objectives and ask for suggestions. In the Groan Zone, everyone's ideas are frequently misunderstood – and yours will be too. Keep in mind that your role is to help, not to be "right." Be patient, be tolerant, be flexible; don't be attached to what you suggest. Whether you are helping one person stand up to pressure from others, or helping two people clear up a misunderstanding between them, or helping a whole group focus on the same thing a the same time, the overall goal remains constant: Support the group to keep struggling.

4.1.4 The Convergent Zone

Once a group has a developed shared framework of understanding, everything feels faster, smoother, easier. The pace of discussion accelerates. Confidence runs high during this period. The experience of searching for an inclusive solution is stimulating and invigorating. People are surprised to discover how well they seem to understand one another. Members now perceive the group as a team.



Facilitators play a double role during this period of a group's work: sometimes teaching and sometimes getting out the way. It may be crucial for a facilitator to teach participants how to turn an either/or problem into a both/and solution – often the facilitator is the only one who recognizes that both/and thinking is even possible. Structured thinking activities such as exploring inclusive principles, creative re-framing and strengthening good ideas are useful when a group appears to be trapped in this mentality. But for much of the time, a facilitator might be reduced to chart writing and keeping track of time. When this happens, be happy! It means the facilitation is succeeding.

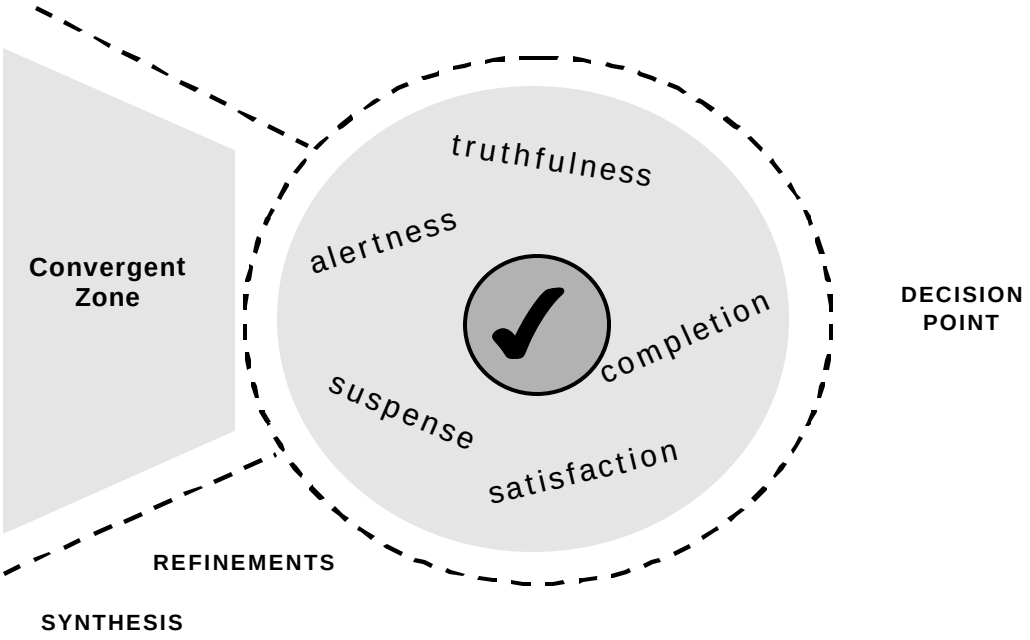
Sustainable agreements require well thought out ideas that incorporate everyone's needs and goals. If the struggle of the Groan Zone is the heart of a sustainable agreement, the ingenuity of the Convergent Zone is the brain.

4.1.5 Reaching Closure

The Closure Zone can be viewed as the final phase of decision-making. As such, it consists of four distinct steps:

1. Ending discussion:
2. Clarifying the proposal;
3. Polling the group member;
4. Using the group' decision rule to reach a final decision.

In the Closure Zone most people are focussed. They pay attention to nearly every comment – and most comments are brief and to the point.

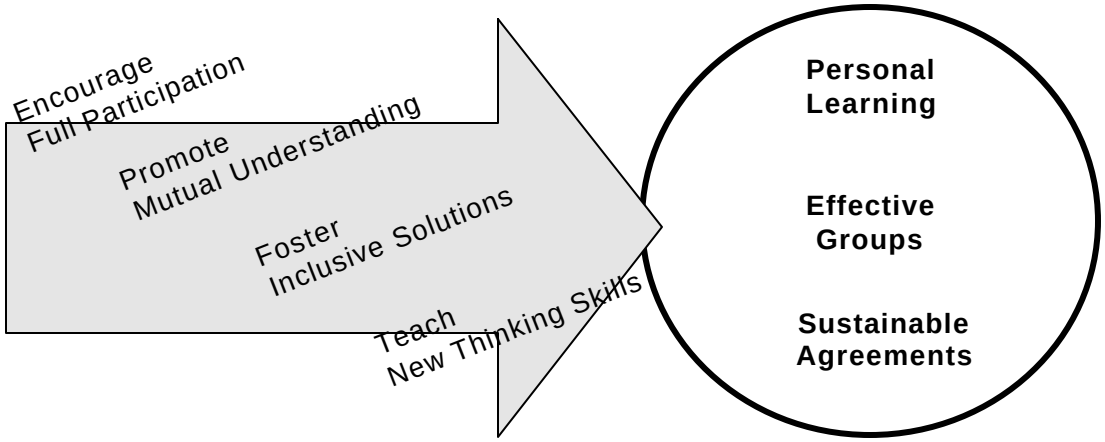


These experiences occur, of course, only when the group knows how the decision will be made. When a group does not have a clear understanding of how they are going to reach closure, the facilitator must look for the earliest opportunity to help the members clarify their decision rules.

The tools for reaching closure might be the single most important set of thinking skills a facilitator can teach a group. The Gradients of Agreement Scale helps members discern the actual degree of support for a proposal. Furthermore, a meta-decision procedure allows a group to use different decision rules for different circumstances. Overall, when members grasp the principles and mechanics of reaching closure, it will strengthen their capacity dramatically.

4.2 The Role of Facilitator

The facilitator's job is to support everyone to do their best thinking. To do this, the facilitator encourages full participation, promotes mutual understanding and cultivates shared responsibility. By supporting everyone to do their best thinking, a facilitator enables group members to search for inclusive solutions and build sustainable agreements.



4.2.1 The Facilitator Encourages Full Participation

Inherent in group decision-making is the basic problem that people don't say what they are really thinking. It's hard to take risks, and it's particularly hard to do so when the group's response is likely to be hostile or dismissive.

The facilitator understands this inherent difficulty and takes responsibility for helping overcome it. S/he has the skills and the temperament to draw people out and help everyone feel heard. The facilitator knows how to make room for quiet members; how to reduce the incidence of premature criticism; how to support everyone to keep thinking instead of shutting down.

4.2.2 The Facilitator Promotes Mutual Understanding

A group cannot do its best thinking if the members don't understand one another. But most people find it quite difficult to detach from their fixed positions. Instead, they get caught up in amplifying and defending their own perspectives.

A facilitator helps the group realize that sustainable agreements are built on a foundation of mutual understanding. S/he helps members see that thinking from each other's points of view is invaluable. Moreover, the facilitator accepts the inevitability of misunderstanding. S/he recognizes that misunderstandings are stressful for everyone involved. The facilitator knows that people in distress need support; they need to be treated respectfully. S/he knows it is essential to stay impartial, to honor all points of view and to keep listening, so that each and every group member has confidence that someone understands them.

4.23 The Facilitator Fosters Inclusive Solutions

Most people are entrenched in a conventional mindset for solving problems and resolving conflicts – namely: "It's either my way or your way." This is the win/lose mentality.

An experienced facilitator knows how to help a group search for innovative ideas that incorporate everyone's points of view. This can be challenging task – the facilitator is often the only person in the room who has even considered the possibility that inclusive alternatives may exist. To accomplish this task, a facilitator guides the group through the steps to build sustainable agreements.

4.24 The Facilitator Teaches New Thinking Skills

Very few people understand the mechanics of group decision-making well enough to organize a group into a productive team of thinkers.

A facilitator has both the opportunity and the responsibility to teach group members how to design and manage an effective decision-making process. The skills a group can learn from a competent facilitator are principles for finding inclusive solutions; well-designed procedures for running meetings; structured thinking activities; clear language to describe group dynamics.

5.0 NATIONAL CAPACITY BUILDING IN PERFORMANCE MONITORING

In November 1999, recognizing the need for education staff capacity building in the area of performance monitoring, Education Planners agreed that a series of workshops should be held throughout the OECS region. These workshops are to address the topics related to the use of performance indicators, e.g., data collection, data analysis, presentation and dissemination of performance information, as well as the use of performance information for policy formulation and education management decision-making. This chapter discusses the rationale for these National Capacity-Building Workshops, then proposes a facilitation approach with a proposed agenda.

5.1 Capacity Building Rational

We know that education is one of the main factors influencing human development because of its impact on economic growth and on the equitable distribution of individual and social benefits. We also know that education management information systems play an important part in education reform strategies. In order to ensure that education policies and management decisions at all levels are relevant and appropriate, more and better education monitoring is necessary. We are talking about more than just compiling absolute student numbers. While absolute student numbers are important and a necessary pre-requisites, what is of real importance is the transformation of these numbers into pertinent education indicators that can be used to monitor and inform progress on education reform, identify implementation problems and set targets for planning, among other things. The following objectives for the development and use of the list of core OECS education indicators have been identified:

a) To monitor and assess school and national level needs in education;
b) To monitor progress with regard to the OECS Education Reform Strategy;
c) To facilitate availability of data/information for external and international agencies;
d) For sharing between member states.

In this context, we believe that the availability and use of education indicators would strengthen the development of a new culture of management decision-making in education within the OECS; a performance management culture that desperately needs to be nurtured and institutionalized.

There are a significant number capacity building initiatives undertaken by a variety of organizations on the topic of education indicator development, at the country, regional, and international levels. However, Education Planners strongly believe that it is the responsibility of the OERU to ensure that there is an effective education monitoring system in the OECS. Furthermore, the OERU has an important role to play in supporting the National capacity building efforts of Member States in this regard.

5.2 Participatory Facilitation Approach

An effective education monitoring system in the OECS will depend on the extent to which each Member State develops its capacity to collect, analyze and report on the afore-mentioned list of education indicators. Since much of the data for these education indicators will have to be collected at the school level, it is important that principals, teachers, students, parents and even communities be involved. To build national capacity to monitor education will require the participation of all the key stakeholders. Their commitment to and sense of ownership of the education system will depend largely on their awareness, understanding and involvement in its development. At this point in the process, the development of the conceptual framework and the list of core OECS education indictors have been the purview of government representatives, i.e., MOE staff. The facilitation approach proposed here is one that suggests that it is time to be much more inclusive and participatory.

The participatory approach has no standardized consultation procedures or sequence of activities to increase the breadth of participation that would be applicable to every Member State situation. The common feature is a flexible process of public consultation that sets out to facilitate stakeholder interaction. The scope of consultation will vary in any given situation depending on the style of governance in practice. In countries where the principles of representative democracy apply, consultation may be limited to government stakeholders, i.e., MOE policy analysts, policymakers and education managers. Broader consultations including principals, teachers, parents and students are likely to occur only where the principles of participatory democracy are practiced and funding allows. It is a well-known fact of life, that unless those persons most directly affected by new education program initiatives are involved in shaping their development, the programs themselves are not likely to be implemented with fidelity. We have seen this with education policy formulation, curriculum renewal, in-service teacher training, etc. in many different jurisdictions. The participatory approach however would normally involve a consultation process, as inclusive of all the stakeholders in education as possible, going beyond the tight nexus of MOE representatives to include school level employees and members of civil society.

Opening up the education management process to non-government stakeholders recognizes participation as a social value that strengthens civil society and enriches the development process. Education reform commissions, public consultations, stakeholder workshops, opinion surveys and the use of the mass media are all participatory methods. Instituting a process of genuine and active participation in monitoring educational development builds commitment, fosters empowerment and develops local ownership at the level where t is most needed … the school and the community. This approach can be referred to as participatory planning, capacity building, or sustainable development.

5.3 Proposed Agenda for National Capacity Building Workshops

People learn best by doing things for themselves, thus the very popular expression among adult educators of "learning by doing". If people are assisted to plan and manage their own work, the results are more likely to meet their perceived or even real needs. Building capacity within schools and communities for monitoring education is thus an important objective of this participatory approach. To accomplish this very broad objective it can be broken down into its constituent learning objectives as follows:

Participants will be able to:

a) Explain the importance of education monitoring;
b) Recognize the conceptual framework for education monitoring
c) Name the eight key result areas for educational performance;
d) Explain their role and responsibilities for education monitoring;
e) Use the tools provided for education data collection, analysis and reporting.

To accomplish these learning objectives, the agenda and its content has to be designed so that the workshop participants are actively engaged in the discussion and use of the concepts, results areas, indicators and tools provided. Similarly, the present *Capacity Building Workshop for Education Planners* is to accomplish some of the same objectives and has been designed as an experiential model. In fact, it serves as a pilot of some of the activities, content and tools proposed for the National Capacity Building Workshops. Consequently, your evaluation of this workshop and that of your colleagues will be invaluable in shaping the final agenda you decide to adopt for your country.

NATIONAL CAPACITY BUILDING WORKSHOP IN EDUCATION MONITORING

OECS Education Reform Unit (OERU)

PROPOSED AGENDA (1st Draft)

Day 1	Time
Opening Session - Host Country	9:00 - 9:15
Welcome, Introductions and Agenda	9:15 - 9:30
Presentation/Discussion: OERU Education Monitoring Initiative	9:30 - 10:30
Health Break	10:30 - 10:45
Presentation/Discussion: OECS Education Monitoring Model	10:30 - 11:30
Presentation/Discussion: Core List of OECS Education Indicators	11:30 - 12:30
Lunch	12:30 - 13:30
Plenary Session: Issues in Monitoring Education Reform	13:30 - 15:00
Health Break	15:00 - 15:15
Presentation/Discussion: Facilitating a Participatory Process	15:15 - 16:00

Day 2	Time
Questions and Answers Day 1	9:00 - 9:15
Presentation: Building a Performance Measurement Framework (PMF)	9:15 - 10:30
Health Break	10:30 - 10:45
Group Work: Preparing the PMF with Stakeholder Participation	10:45 - 12:30
Lunch	12:30 - 13:30
Resolution of Outstanding Issues	13:30 - 13:45
Presentation: Techniques and Methods for Data Collection and Analysis	13:45 - 15:00
Health Break	15:00 - 15:15
Group Work: Completing the PMF with Stakeholder Participation (cont.)	15:15 - 16:00

Day 3	Time
Questions and Answers Day 2	9:00 - 9:15
Group Presentations and Discussion	9:15 - 10:00
Plenary Session: Discussion on Using the PMF as a Planning Tool for Monitoring Education	10:00 – 10:30
Health Break	10:30 - 10:45
Demonstration: School Level Information Management Tools	10:45 - 12:30
Lunch	12:30 - 13:30
Resolution of Outstanding Issues	13:30 - 13:45
Demonstration: The Sneaker Net and/or EMIS Application for National Education Monitoring	13:45 - 15:00
Health Break	15:00 - 15:15
Planning Exercise: Where do we go from here?	15:15 - 15:45
Wrap-up and Evaluation	15:45 – 16:00

6.0 BUILDING A PERFORMANCE MEASUREMENT FRAMEWORK

Because performance monitoring is a vital component of educational management, it is important to establish a structured plan for data collection, analysis, use and dissemination of performance information. This plan must describe who will do what, when and how? A Performance Measurement Framework will help structure the answers to these questions. It will document the major elements of the monitoring system and ensure that comparable data is collected on a regular and timely basis. Its main components are organized in a matrix format as illustrated in Figure 2.

Figure 2: Performance Measurement Framework

Key Result Areas	Education Indicators	Data Sources	Methods & Techniques for Data Collection and Analysis	Frequency of Data Collection	Responsibility
1. Demographic, socio-economc context					
2. Administration, Planning & Supervision					
3. Access					
4. Equity					
5. Resources					
6. Teaching-Learning Process					
7. System Outputs					
8. Learning Outcomes					

Once the stakeholders have selected the performance indicators, the next step is to involve them in the preparation of the Performance Measurement Framework so as to resolve any issues surrounding data collection and analysis. Stakeholder involvement in this step is critical because it enhances commitment and ownership to the national education monitoring effort. For each indictor, stakeholders will have to collectively decide on the appropriate data sources, methods and techniques of collection and analysis, as well as frequency of data collection. In addition, stakeholder groups would ideally assume different roles and responsibilities that would require clarification and confirmation by those most closely concerned. Completing the Performance Measurement Framework is best accomplished in a group setting with the requisite stakeholder representation. Participants should have representative and binding decision-making authority to ensure smooth implementation throughout the education system.

6.1 Identifying Data Sources

It is necessary to identify the data source for each indicator that has been selected. Data sources are the institutions, e.g., Government Ministries, Ministry of Education, schools, etc., and/or the individuals, e.g., education officers, principals, teachers, students, etc., from which the data will be obtained. Generally, institutions are identified as data sources when secondary research is required to obtain existing statistical data. Individuals are generally identified as data sources when primary research is required because there is no existing data on the selected indicator. For example, a country's GNP statistic for a given year could be obtained from the Ministry of Economic Planning, Ministry of Finance, the Treasury Board or even one of the international financial institutions, i.e., the Caribbean Development Bank, World Bank or the International Monetary Fund. Similarly, the choice of data sources for student enrolment data will depend; in some countries it is centralized with the Ministry of Education and in other countries is decentralized at the district or school level. Primary research with students and/or principals would however be required in order to collect data on teacher attitudes and motivation.

It is important to choose data sources wisely to avoid having to switch from year to year as this would jeopardize data reliability. It is a cost-effective strategy to first identify existing data sources so as to maximize value from existing data and build upon these data collection efforts. In some cases, institutions, e.g., primary and secondary schools that have been identified as a data source for student attainment indicators may require some capacity building in school level information management. This should not be viewed negatively, but as an opportunity to strengthen school management and obtain valuable data tailored to your education monitoring needs.

6.2 Methods and Techniques for Data Collection and Analysis

Now that data sources have been identified, one has to decide how the data should be obtained. National education data can be collected in different ways, for example:

- Basic education data collected in the annual school census;
- School records management and data transfer;
- Supplementary data collected periodically, e.g., every 3-4 years by sample survey;
- Qualitative data collected through education research and case studies;
- Peer review and controlled self-assessment processes for teachers;
- Financial or statistical data can also be gathered from other MOE departments on educational finance and expenditures from the department responsible for educational budgets, etc.;
- Similarly, demographic and employment data can be gathered from other Government Ministries responsible for the nation's population census.

The annual school census is by far the most popular way of collecting basic education data. However, data collection methods and techniques must be compatible with available resources. The Planning Unit at the MOE must try to keep the amount of education data collected in the annual school census limited to that necessary for education policy formulation and management purposes. This is not easy, but it may be of some help to remember that there are different ways of collecting education data. The annual school census is not the only, or the most effective, way to obtain education data. Let's turn our attention to some others before examining the annual school census method.

Consider for a minute the importance of school records management and its affect on annual school census data. School records management involves the storage, retrieval and use of education data. More precisely, it is the application of systematic and scientific techniques to control the quality and reliability of all the data and information that school principals need. Poor record management results in difficulties in administering, planning and monitoring school performance, or at a national level, education system performance. In fact poor records management and the lack of staff development along the entire information cycle is responsible for problems with policy implementation and management in schools and ministries of education. Investing in school records management, data analysis, reporting and information transfer procedures can pay high dividends in terms of local commitment to using education indicators to monitor school performance. The benefits of keeping good school records should be impressed upon MOE staff, principals and teachers. Suffice it to say that it is a prerequisite to improved school-based management.

Some education data is not required on an annual basis because it is either issue specific or it doesn't change significantly from year to year. Take for example, the number of school textbooks, the average distance for students to go to school, or the number of classrooms and hallways. Data on these topics can be collected periodically, every 3-5 years, following a rolling timetable without sacrificing timeliness or data quality. Special survey questionnaires can be designed and administered by the MOE, or education research studies undertaken on a contractual basis for this purpose. The main reason for excluding these topics from the annual school census is that this information is not normally needed every year for operations management.

Educational research studies is another method most appropriate for collecting qualitative data on current teaching-learning processes in the classroom, reasons for student drop-out, graduate employment difficulties, etc. The ethnographic method of collecting qualitative data has gained popularity in education circles because of the various techniques that have been developed over the years in the field of

anthropology. Gathering rich, detailed, thick descriptions of the educational experience from the student and/or teacher perspectives can inform in-service and pre-service teacher training programs contributing in many ways to school performance. Participant observation, focus groups, case studies, testimonials, etc. are the qualitative research techniques of choice, as opposed to survey questionnaires.

The teaching-learning experience for teachers and their students in the classroom can be very personal. Sometimes, the mere presence of another adult or stranger, e.g., principal, parent, researcher, etc., can change normal classroom dynamics. Consequently, even the most unobtrusive data collection techniques can seem invasive to the teacher, especially if it has a monitoring or evaluation overtone. In these situations, peer review and controlled self-assessment processes are the most effective in collecting valid and reliable data on the teaching-learning processes in the classroom. They also have the added benefit of empowering the teacher to work on identified areas for improvement, and provide the tools for continuous self-monitoring. Once a secure and non-threatening context is established for the use of these techniques, and the findings, then the process of learning and sharing with others can begin. The strength of school-based management approaches can often be found in these participatory monitoring and evaluation techniques.

The annual school census questionnaire is indeed one of the most popular methods for collecting education data because of its ease of administration and relatively low cost. Generally, the MOE is responsible for the design of the questionnaire and ensures that it meets its information requirements. Herein lies a common weakness, the questionnaire is usually designed from the data user's perspective and provides little value-added or benefit to the data provider. Nevertheless, it is a very important tool in the arsenal of the education data collector and careful attention should be paid to its design. A good example of an annual Primary School Questionnaire, developed by the Government of St. Lucia, Ministry of Education is attached as Annex XX.

For the reasons given above, try to keep the amount of data collected to a minimum so as to be able to calculate a set of core education indicators while mot over-burdening the data providers. Only basic data not possible to obtain in any other way and needed every year is collected in the annual school census questionnaire. Most importantly, no duplicate data collecting must be allowed. If this occurs, schools will not take the data collection seriously and the response rate and quality of the data will deteriorate. The quality of the data collected through questionnaires generally depends to a large extent on the quality of the instrumentation or form used. Ask yourself these questions when preparing your next written questionnaire:

- Is the layout attractive and clear?
- Is the text easy to read?
- Is there enough space for filling in the answers?
- Does it feature lines, squares and headlines to make the text well arranged?
- Is it a self-contained questionnaire with the instructions included?
- Are the instructions easy to find, clear, comprehensive and easy to follow?
- Is the number of questions kept to a minimum?
- Are open-ended questions avoided?
- Is the sequence of topics/questions logical?
- Are the response alternatives provided mutually exclusive?
- Do tables have a minimum number of sub-categories?
- Are tables printed on one page, rather than being split across two pages?
- Is the paper of standard size and good quality?

The annual school census questionnaire, like any other data collection instrument, must be pre-tested in the field under normal circumstances. This is normally done in the form of a pilot study involving a sample of schools selected from each type of school and district. It is important to encourage the selected schools to actively make comments and suggestions for improving the questionnaire. The pre-test is expected to reveal errors, possibilities for misinterpretation, ambiguities and inadequate items. Difficulties in understanding the instructions given for completing the questionnaire may also be revealed. Based on the feedback received during pre-testing, the MOE decides on what revisions to make and finalizes the questionnaire.

Each MOE will have its own printing, distribution and process for collecting completed questionnaires. However, each will have to face the burden of data compilation and analysis, especially if paper-based questionnaires were used. The internet and use of email attachments has facilitated data transfer and manipulation several fold by comparison. A combination of a diskette net and central EMIS can represent a substantial human resource cost savings as well. When possible, data processing should involve computer spreadsheets or databases capable of generating statistical tables for each of the quantitative core education indicators. Tables and figures should be analyzed and presented in a way that supports interpretation and understanding by the public to whom the MOE is ultimately accountable.

Once the Annual Status of Education Report is printed, dissemination becomes the next most important step. It s important that the performance information on education indicators be made available to the public and the schools as soon as possible. The goal is that the data collected on education indicators in October the previous year are published in May the following year. It is important that the results are published as soon as possible, as timeliness is an important element of the quality of education statistics.

6.3 Frequency of Data Collection and Analysis

Several issues arise when determining the frequency of education data collection and analysis. The first issue is one of establishing a baseline. A Baseline Study is the most common approach used for collecting baseline data, but is often misunderstood and warrants clarification.. A Baseline Study is *a data collection and analysis activity the purpose of which is to describe the status of a selected number of indicators at a given point in time.* Unlike the broad comprehensive baseline study that casts a wide net to gather all manner of data related to education, what is referred to here is an activity that is highly focused on collecting an initial round of baseline data on part, or all, of the core OECS education indicators. This data can then serve as reference points for setting performance targets and measuring key result areas at a later point in time. Performance targets set expectations for results and are the basis from which measurement takes place and improvement begins. Without targets, it is not possible to know whether the education system is improving or falling behind in obtaining its expected results. In summary, without the initial data set that a baseline provides it would be impossible to set performance targets and determine educational development thereafter.

Once baseline data has been established for a given year, then regular monitoring of education indicators can begin. When to begin and with what indicators is the second issue. The regular monitoring of education indicators should normally be staged, beginning in the first year with a select group of quantitative indicators, expanding to cover all quantitative indicators, before including the qualitative indicators in the third and following years. A cost-effective strategy is to begin a first cycle with the indicators for which the data is easiest o collect and analyze in order to build on assured success. While this cycle of data is being collected the necessary data collection tools and systems can be put into place for the second and subsequent phases of implementation.

The last issue to be resolved will be seeking agreement on the frequency with which data will be collected and analyzed for each performance indicator. While ideally education monitoring should be done on a continuous basis, practical and resource issues often act as a constraint. For example, education data that can be collected through normal administrative processes in the course of an academic year, such as student registration and standard examinations, can be used to monitor most *access* and *system output* indicators on an annual basis. On the other-hand, the *teaching-learning process* indicators would require special studies, the cost of which would be prohibitive to undertake on annual basis even when limited sampling techniques are employed. Consequently, the frequency of data collection and analysis, especially when they are contiguous, must be examined in light of the methods and techniques employed.

6.4 Roles and Responsibility for Data Collection and Analysis

Sometimes the most difficult issues to resolve are those related to determining the roles and responsibilities for data collection and analysis. When primary research is required, it may be best to share responsibilities for data collection, data analysis and reporting among the various stakeholders. For example, when survey questionnaires are used by the Ministry, School Principals may be asked to collect the data, the Education Officer may analyze the data, while the Chief Education Officer would take responsible for the preparation of the annual status report. When only secondary research is required, responsibility for data collection would be limited to the gathering of existing statistical data, e.g., demographic, literacy, or GNP per capita, from the appropriate institutions. This is a straight-forward but time-consuming task that can be assigned to administrative support personnel. However, processing this data in light of other data collected is best left to qualified professional staff with the analytic skills required to generate useful and meaningful performance information that can be used for management decision-making. Since such decision-making does take place at the school, district and Ministry levels, responsibilities for data collection, analysis and performance reporting should be appropriated shared according to the pertinence of the education indicator for education management at these levels.

7.0 SCHOOL LEVEL INFORMATION MANAGEMENT

7.1 Administration

An annual school census is generally completed once very school year during the second half of the month of October. This means that the data collection is done approximately two months after the school year starts, when the school organization is well established and enrollment has stabilized. Data collection instruments are usually completed by the Principal, Head-teacher, the school's record officer or by any other person designated by the MOE. The sources of information to be used are the school records, which should be brought up to date. Summary tables should be used for some types of data; using individual records would take too much time and is also a possible source of errors. The link between the annual school census instrument and the school record forms should be made explicit by using a reference table. The example provided in Figure 4. allows the Principal or Head-Teacher to inventory the available forms with the requirements of the data collection instrument.

Figure 4. – Linking the Annual School Census with School Record Forms.

Annual Census Instrument		Description of Data Requirements	School Records	
Section / Item	**#**		**Form**	**#**
School Data				
General	1	Coordinates and characteristics of the school.	Yes	1
Staff Appraisals	2	Who received a staff appraisal and when during the year.		
Performance Info	3	How has the school used education indicators.		
Income/Expenditures	4	Accounting data on income, expenditures and amounts.	Yes	2
Support Personnel	5	Type and number of non-instructional student support staff	Yes	3
School Facilities	6	School facilities, equipment and pedagogical materials.		
			Yes	4
Teacher Data		ETC.	Yes	5
Teachers on Leave	1		Yes	6
Teacher Complement	2		Yes	7
Teacher Nationality	3			
Teacher Certification	4			
			Yes	8
Student Data			Yes	9
Student Flow Through	1		Yes	10
Student Attendance	2		Yes	11
New Entrants to K	3		Yes	12
Student Composition	4			
Student Enrollment	5		Yes	13
Teaching-Learning Data				
Teacher Attitudes	1		Yes	14
Student Attitudes	2		Yes	15
Pedagogical Approaches	3			
Use of Classroom Time	4			

If a questionnaire is used, the person responsible for completing it writes his/her name and signature on the first or last page of the questionnaire. The school Principal should also make sure that the questionnaire is correctly completed and he or she should express his/her approval by putting his/her name and signature on the first or last page of the questionnaire. Several copies of the completed questionnaire should be submitted to the Ministry of Education and/or District Education Office no later than October 31. It is recommended that the school use one copy and/or the summary tables as a source for statistics on the school. Afterwards, this copy should be filed in the school archive/records office. It is recommended that the statistics produced for their own use should at least contain:

- basic facilities and equipment
- number of classrooms and classes
- students per grade, gender and age
- teachers by gender and qualifications
- attendance of teachers and students

All this is found in the school records and/or in the annual school questionnaire/summary tables. Time series, that is, development over time, can also be prepared by the school for its own use, as well as indicators like student/teacher ratio, drop-out rates, etc.. It is important that the school has basic facts and figures about the school for local politicians, parents, the parent teacher associations, etc., but most importantly for school-based management purposes.

7.2 The Primary School Information Management Tool

The Primary School Information Management Tool (PSIMT) is comprised of five worksheets:

1. Instructions
2. School Data
3. Teacher Data
4. Student Data
5. Data on the Teaching-Learning Process
6. Education Indicators

Note: The instructions for completing each worksheet and summary table will be completed after the Capacity Building Workshop for Education Planners. The following is a print out of the above worksheets for discussion, review and revisoin.

ANNEX A: Participant List

"Capacity Building Workshop for Education Planners"
Tortola, BVI - July 25 – 27th, 2000

COUNTRY	Participants	E-Mail
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ANNEX A – Primary School Questionnaire