SACMEQ IV STUDY MAURITIUS

A study of the conditions of schooling and the quality of education

Southern and Eastern Africa Consortium for Monitoring Educational Quality

2017

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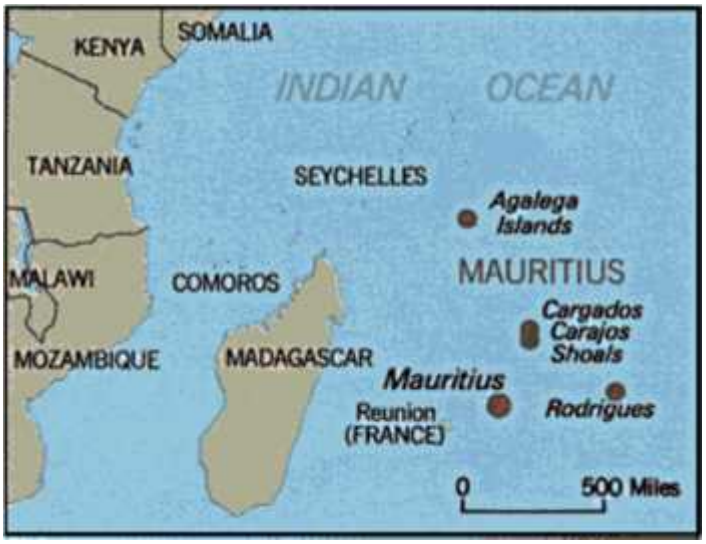
CHAPTER 1

SETTING OF THE STUDY

1.1 Introduction

The Republic of Mauritius is a sovereign democratic state located in the Indian Ocean and covers a territory of about 2,040 km^2 comprising the main island of Mauritius, the islands of Rodrigues, Agalega and St. Brandon. It has a population of about 1.3 million people composed mostly of people from Indian origin, natives from African origin forming the second largest ethnic group and a low percentage of people of Chinese and European descent. The population comprised 49percent males and 51percent of females as at 2015.



Mauritius has for long been a colony of the Dutch (1598-1710), French (1715-1810) and British (1810-1915). Mauritius obtained its independence in 1968. The country achieved the status of Republic in 1992. English has remained the main language of Mauritius despite being rarely used in informal daily interactions. The colonial past has shaped the multi-cultural facet of Mauritius and is reflected in today's society.

As at 2014, 43percent of land was dedicated to agriculture, 25percent was under built-up areas, 2percent used to accommodate public roads and the rest comprised unused agricultural fields,

forests, scrub lands, swamps, rocks or water bodies. The Mauritian economy has shifted over the years from a mono-crop economy to becoming more geared towards the services sector with relatively large contributions from the ICT, tourism and financial service sectors. The country has also experienced a boom in the manufacturing sector, more specifically the textile industry during the 1980's, thanks to preferential trade agreements.

The Mauritian Government has been striving hard, ever since the early years after independence, to ensure the safeguard of the Welfare State and develop a substantial social welfare system that provides basic free services to the entire population, indiscriminately. This includes, inter-alia, free education at Pre-primary, Primary and Secondary levels, free healthcare services, social benefits, basic retirement pension (BRP) as well as free transport for the elderly and students.

1.2 Education in Mauritius

Education is compulsory in Mauritius between age 5 and age 16. Educating the population has been one of the main priorities of the Government since independence as the need for a literate and skilled human resource has been accruing in order to meet new and rising economic challenges. A sufficiently skilled workforce has indeed enhanced economic development and prosperity in the country. As part of the Welfare State policy, education is, as mentioned earlier, free at Pre-primary, Primary and Secondary levels.

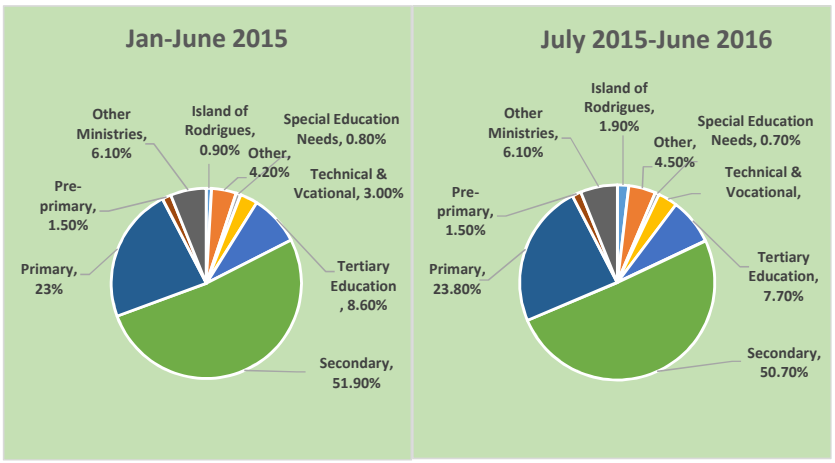
Considerable investment has been done by the Government in the field of education. It represents a significant portion of the total Government expenditure. For the period January to June 2015, Rs 7,867 million was spent on education representing 13.5 percent of total expenditure and Rs 14,727 million was spent in the field of education for the period 2015-2016, representing 13.3 percent of total expenditure.

The total budget on education and training from January to July 2015 was allocated as follows and illustrated in *Diagram 1*:

(i) January to June 2015: 52 percent to secondary education, 23 percent to primary education, 9percent to tertiary education, 3 percent to technical and vocational education, 2 percent to pre-primary education and the remaining 1 percent to other expenses.

(ii) July 2015 to June 2016: 51 percent to secondary education, 24 percent to primary education, 8 percent to tertiary education, 3 percent to technical and vocational education, 2 percent to pre-primary education and the remaining 12 percent to other expenses.

Diagram 1: Total Expenditure on Education, Republic of Mauritius



Source: Education Statistics 2015- Statistics Mauritius

1.3 Pre-primary Education

Children are involved in the education system since their very young age starting with the Pre-primary level as from the age of 3. This allows the children to adapt to the pre-school setting thus facilitating their introduction to and inclusion in the Primary level. As at March 2015, there were 936 schools providing pre-primary education, with 906 in Mauritius and 33 in Rodrigues. Among these, the majority (686 schools representing 73 percent of the total) were run privately, 188 (20 percent) were operated by the Early Childhood Care and Education Authority on Government Primary School premises and the remaining 65 schools (7 percent) were managed by Roman Catholic, Hindu Education Authorities or Municipal or Village Councils.

The number of pupils enrolled in Pre-primary schools decreased by 1percent, falling from 30,142 in March 2014 to 29,832 in March 2015. *Table 1.1*, which follows, gives statistics on the evolution of pre-primary schools from 2011 to 2015 in the Republic of Mauritius.

Table 1.1: Statistics on Pre-Primary Education

	2011	2012	2013	2014	2015
Number of schools	1,018	1,026	978	957	936
Enrolment	33,901	33,518	31,419	30,142	29,832
Number of teachers	2,550	2,541	2,425	2,404	2,284
Pupil/Teacher Ratio	13	13	13	13	13
Gross Enrolment Ratio (percent)	93	111	97	95	101

The table clearly shows the decreasing trend in demography, also explaining the decline n the number of pre-schools and teachers.

1.4 Primary Education

In the Primary cycle, pupils start from the age of 5+ till 11. Till November 2016, the end of this cycle was marked by the Certificate of Primary Education (CPE) examinations, which pupils had to pass to make the transition to the secondary level. The CPE has been used for certification purposes as well as for the allocation of seats in secondary schools. As at March 2015, there were 320 primary schools; 305 in Mauritius and 15 in Rodrigues. Of these, 223 were administered by the Government, 51 by the Roman Catholic Education Authority, 2 by the Hindu Education Authority while 44 were private non-aided schools. The number of pupils admitted to primary schools was 103,642 in 2015 and among these, 51 percent were males. 68 percent of the primary students' population is admitted in Government primary schools, while the remaining goes to private aided and non-aided schools.

Table 1.2: Statistics on Primary Education

	2011	2012	2013	2014	2015
Number of schools	305	312	320	320	320
Enrolment	116,068	113,634	108,853	105,300	103,642
Number of teachers	5,701	5,427	5,512	5,629	5,351
Pupil/Teacher Ratio	20	21	20	25	25
Certificate of Primary Education Pass Rate [1]	68.6	68.8	74.8	72.9	74.2

[1] Including re-sit exams

In 2014, 20,717 pupils took part in the CPE examinations and the overall pass rate was 69.4 percent, excluding re-sit examination results. The performance of girls was higher than that of boys, with a pass rate of 76.1 percent for girls and of 63.1 percent for boys. The re-sit examination was introduced in 2013 to give the possibility to pupils who did not succeed in one subject only in the October examination to attempt this subject in the December examination. Following the re-sit examination, the overall pass rate increased to 72.9 percent, with pass rates of 66.6 percent and 79.7 percent for boys and girls respectively.

1.5 Secondary Education

The secondary education cycle starts with Form I (now Grade 7) level and ends with the Form VI upper secondary level (now Grade 13), usually from the age of 12 till 18. There are various examinations in this cycle which determine the progression of students. These include: Form III National Assessment, Cambridge School Certificate (SC) and the Cambridge Higher School Certificate (HSC). At the beginning of the upper secondary studies, students choose the stream in which they wish to pursue their studies. For instance, they may opt for Science, Economics, Technical or Arts sides, depending on their subject preferences. There were 178 schools providing secondary education as at March 2015, of which 118 provided both general and pre-vocational education, 59 provided only general education and 1 offered pre-vocational education exclusively

The total enrolment in secondary schools stood at 124,971 as at March 2015. Of the 177 schools dispensing general education. 68 were managed by the Government and the other 109 schools were managed privately. These were either private-aided secondary schools or private fee-paying schools. However, all the private secondary schools are under the aegis of the Private Secondary School Authority (PSSA), now known as the Private Secondary Education Authority (PSEA). The number of students enrolled for the general education programme was 114,311 and 10,660 were registered for pre-vocational education. For the general education programme girls represented 52 percent of the student population, while for the pre-vocational stream, boys constituted form the 65 percent.

It is also important to note that the pre-vocational stream is an alternative to students who have not been successful in the CPE examinations once or twice and who are bound to continue their education till the age of 16. This offers them the possibility to continue with vocational training and thus gain the necessary skills to enter the labour market.

Table 1.3: Statistics on Secondary Education

	2011	2012	2013	2014	2015
Number of schools	185	183	178	177	178
Enrolment	122,559	122,898	124,420	124,630	124,971
Number of teachers	8,507	8,643	8,524	8,410	8,370
Pupil/Teacher Ratio	14	14	14	15	15
Cambridge School Certificate Pass Rate	76.7	75.7	75	73.4	72.5
Cambridge Higher School Certificate Pass Rate	79.3	79.1	77.9	75.4	75.3

A major event in the secondary education cycle, the Cambridge School Certificate (SC) examinations, has seen the participation of 15,632 candidates in 2014, with girls representing a fairer percentage than boys. The pass rate for SC examinations in 2014 was 73.4 percent with 11,475 successful candidates. This represents a decrease from 75 percent in 2013.

The other major landmark in the secondary cycle is the Cambridge Higher School Certificate (HSC) examinations which mark the end of this education cycle. 10,429 students took part in the 2014 HSC examinations, with 59 percent of the candidates being females. The overall pass rate for 2014 was 75.4 percent, the pass rate among males was 70percent and that of females was 79.1 percent.

1.6 Special Education Needs (SEN)

This branch of education deals with providing educational opportunities to those students who experience physical or mental incapacities. Due to such impairment the students are unable to follow the regular education program. As at March 2015, there were 70 Special Education Needs schools in Mauritius, 13 of which were run by the Government while the majority (57) was

managed by Non-Governmental Organizations. 2,301 students were enrolled to these schools in 2015, compared to 2,291 in 2014, out of which 64 percent were boys. The students under Special Education Needs were affected by mostly two types of impairment; Intellectual Impairment (41 percent) and Physical Disability (9 percent). The number of students enrolled under this program had increased from 2013 to 2014 and nearly stabilized in 2015. This increase is the result of sensitization of parents concerned with incentives that invite them to have their kids admitted to schools. The concept of inclusive education is slowly but surely being accepted.

1.7 Tertiary Education

Tertiary education was formerly under the responsibility of the Ministry of Tertiary Education, Science, Research and Technology until end 2014, when it was merged with the Ministry of Education and Human Resources to form the Ministry of Education and Human Resources, Tertiary Education and Scientific Research, which is responsible for the whole education sector, ranging from Pre-primary to Tertiary level. There were 50,608 students enrolled in tertiary-level programs as at December 2014, including full-time, part-time and distance-education students. This represents an increase of 0.1 percent compared to 50,579 students registered as at December 2013.

The Majority of students, i.e. 80 percent, attended local tertiary institutions, with 45 percent of them attending public-funded institutions and 35 percent attending private institutions. The remaining 20 percent of students were registered in tertiary institutions abroad.

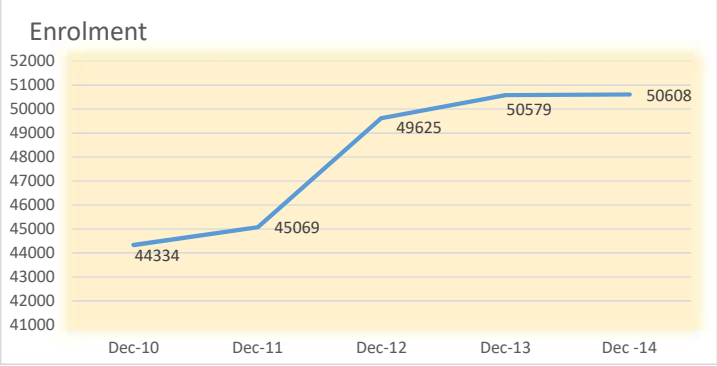


Diagram 2: Enrolment in Tertiary Education

1.8 Educational Zones

The educational institutions in the island of Mauritius, which were initially distributed in six educational zones, now occupy four educational zones. Rodrigues, through the Commission for Education, is *de facto* counted as a fifth zone. The zones encompass the following regions:

- Zone 1- Port Louis and North
- Zone 2- Beau Bassin, Rose Hill, Centre and East
- Zone 3- Curepipe and South
- Zone 4- Quatre Bornes, Vacoas-Phoenix and West
- Commission for Education - Rodrigues

Each zone is under the responsibility of a Director, who is supported by administrative and technical staff. A team of Primary School Inspectors present in each zone is responsible for the coordination and supervision of educational activities in primary schools.

1.9 Curriculum Development

The Mauritius Institute of Education (MIE) has been entrusted full responsibility to undertake activities in connection with Curriculum Development. The activities of the National Centre for Curriculum Research and Development (NCCRD) have been transferred to it since October 2011 in a bid to have better coordination and monitoring with regard to textbook design and development. The MIE is henceforth also responsible for the development of curriculum framework for Pre-primary to Secondary levels. It develops curriculum materials for students and educators as well as participates in the updating of the syllabus for the lower secondary level.

In 2016, the MIE has also contributed in the review of the pre-vocational programme in collaboration with the Mauritius Institute of Training and Development as well as in the development of teaching and learning materials for this sector.

Recently, the MIE has been involved in the development of new teaching and learning materials for the pupils of Grade 5, who would be the first batch to take part in the Primary School Achievement Certificate (PSAC) in 2017. Digital versions of the books have also been made available on the website of the Institute in view to helping parents in assisting their kids and also of being in the know of what is taking place regarding teaching and learning of their wards.

1.10 Teacher Training

The MIE is also responsible for the training of Primary School Educators (teachers) who make their debut in the profession. A pre-service training program is provided to them over a period of approximately 2 years and after completion of the course, they are awarded a Teacher's Diploma Primary (TDP).

In addition, in-service programs are also offered to practicing Educators including the Advanced Certificate in Education (ACE) for holders of Teacher's Certificate Primary. Special Education

Needs teachers also benefit from training offered at the MIE, such as Special Education Needs-Remedial Education which is offered to practicing teachers over a period of 3 years on a part-time basis. A Post Graduate Diploma in Inclusion and Special Needs Education (PGDISE) is also offered to teachers as well as to Educational Psychologists and Educational Social Workers. A Certificate in Special Education is also being offered since July 2011.

The Teacher's Certificate (Pre-primary) and Teacher's Diploma (Pre-primary) are being offered for practising Pre-primary teachers.

1.11 Innovative Practices in the Primary Sector

Resit Remedial Classes/ CPE Resit Examinations

It was agreed at the 'Assises de l'Education' in October 2013 that pupils who did not succeed in one subject in the October examination in order to pass the CPE examinations to be allowed to participate in a re-sit examination in December to attempt that subject again instead of repeating one year.

Those pupils needed to attend remedial classes not exceeding 12 pupils in each class. The remedial classes were carried out by CPE teachers for half day basis for approximately a week before the day of the examinations. There were a total of 41 schools chosen to carry out remedial classes, with 36 in Mauritius, 4 in Rodrigues and 1 in Agalega. Headmasters were given guidelines on the implementation of the Re-sit Remedial Classes. Primary school Inspectors acted as facilitators and supported the Educators during this exercise.

Spare General Purpose Educators were present in each school to prepare for model examination questions and to replace classes in case of absence.

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The pass rate for re-sit examinations candidates only was as follows:

Table 1.4: Pass Rate for Re-sit Candidates Only

	2013	2014	2015
No. of candidates examined	993	996	996
No. of passes	718	737	792
Pass Rate (percent)	72.3	74.0	79.5

1.12 Remedial Education Project

The project aimed at giving special attention to learners requiring particular consideration in core subjects; English, French and Mathematics. The programme started in 2009 with about 16 schools in Grade 3.

Winter/Summer School Programme

This project was initiated in December 2011 to address the high percentage of failure at CPE level. It involved providing additional classes in reading, writing and in arithmetic, especially to those pupils in schools where there were less than 50 percent pass rate at CPE level. The admission to winter/summer schools remained optional and the programme was carried out during 3 days in first 3 weeks of the winter holidays. In 2014, pupils were to be offered a daily meal and an educational tour was scheduled on the last day of the program. Two sessions for extra- curricular activities and for teaching of Asian languages or Kreol Morisien were included in the schedule. The curriculum materials used during this exercise were prepared by the Mauritius Institute of Education.

'Silence on lit'

This project aimed at inculcating and encouraging the reading habit among pupils. two periods of 25 minutes each were assigned for carrying out this activity.

Bridging the gap

This is a measure implemented in the first year of primary education to facilitate the transition of pupils from Pre-primary to Primary level. It serves also as an enriching initial learning experience for those pupils who did not attend pre-primary schools.

Early Support Programme

This program consists of a unit of '*Early Support Teachers*' to accompany pupils having difficulties in learning as from the early stages of their education. It is also considered to give rise to a level playing field whereby each pupil will feel encouraged in learning.

Road Safety Education

Road Safety Education has been introduced for classes of Grades 3 and 4 in 2013 with the aim of sensitizing pupils on the importance of safety for all road users, especially the younger ones. The project involved the collaboration of other relevant authorities such as the Police Force as well as actors from the private sector.

Structure of Education System (2015)

Pathways of the Education and Training System in Mauritius

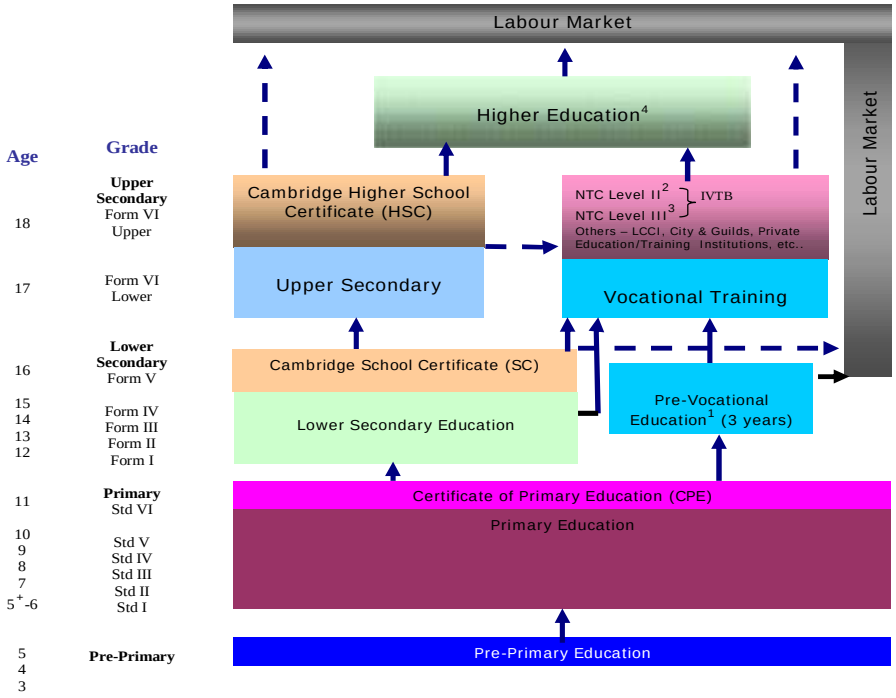


Diagram 3: Education Structure (2015)

The diagram above shows the structure of the education system in operation till year 2015. This system has certainly contributed towards moulding our youngsters. Nonetheless, the need was felt to have it reviewed in the light of changes in the education sector, thus occulting the holistic dimension of education. There was a lack of extra-curricular activities in the school curriculum. Their integration would no doubt promote the holistic development of students and contribute also towards helping them better in their academic studies.

It has also been noted that the system does not include the teaching of moral values in the curriculum. There was also a not too pleasant perception of pre-vocational education, mainly due

to it being considered as a less important segment than mainstream education and not being valorized equally. Also, all students did not end up with the same opportunities at the end of their education cycle. A structure geared towards intense competition among students resulted in showing significant discrepancies in their individual performances. This elitist system divided students into two distinct categories: one in which there were highly performing students and the other one with students failing to perform to the level as noted in the Education and Human Resources Strategy Plan 2008-2020. This was in contrast with the expected normal distribution of knowledge which projected a scenario where a majority of students would be obtaining the intermediate grades instead of being clustered in the two extremes as it was the case in the current system. A new structure was therefore devised and which came into operation as from the year 2016: the Nine Year Continuous Basic Education (NYCBE).

The New Education Structure

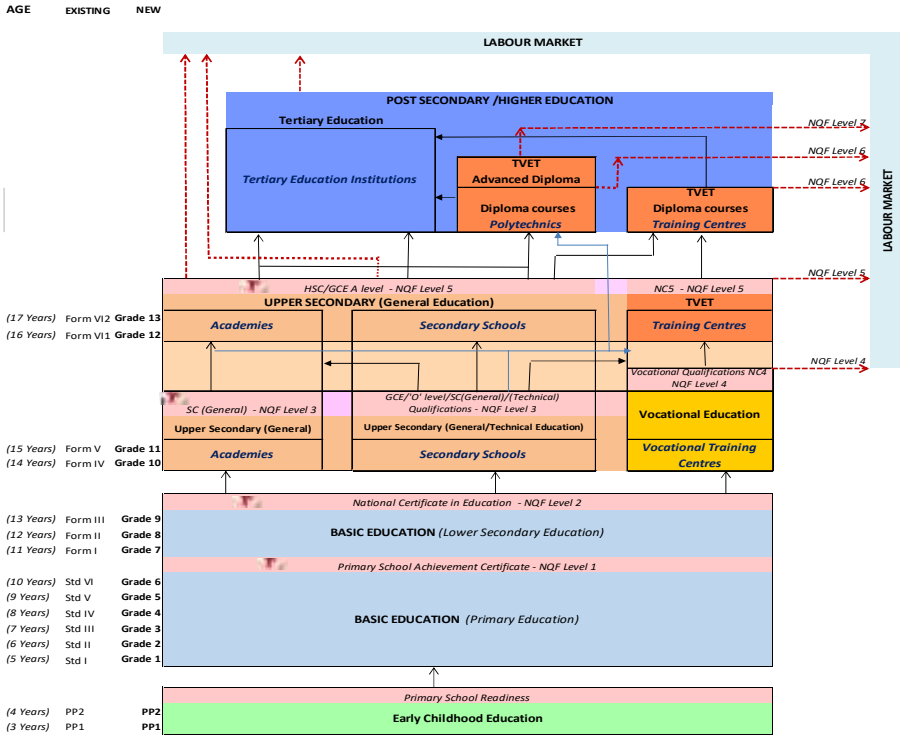


Diagram 4: Education Structure (as from 2016)

The new system aims at bringing a new lifeblood in the field of education in Mauritius by, for instance, integrating the notion of values in the education of students so as to help them shoulder responsibilities from a young age. Promoting holistic development is also a major objective as it helps students to achieve the best of themselves, in both academic and non-academic fields. This provides for better opportunities for the success of students as they are more likely to develop a diverse set of skills. The Primary School Achievement Certificate (PSAC), which replaces the CPE, fulfills this goal by assessing pupils in both core subjects and non-core subjects. IT and communication skills are now included in the education of primary school pupils.

A number of non-core subjects has been introduced and will be assessed in the new system. Physical education, IT skills or Civic and Values Education and The Arts are examples of those new subjects. They are to be evaluated by school-based assessments which will be moderated by the Mauritius Examinations Syndicate.

The PSAC will adopt a new approach towards the evaluation of pupils at primary level with the introduction of modular assessments during Grades 5 and 6. These assessments will be carried out for two subjects: Science, History and Geography, while English, French, Mathematics and Asian Languages/Arabic/Kreol Morisien will be evaluated during a written assessment at the end of Grade 6. The marks earned in the assessments by pupils will be carried forward as a proportion of the final results for the obtention of the Primary School Achievement Certificate.

The allocation of seats in secondary schools will differ, admission to Grade 7 being carried out on a regional basis only. The criteria for this allocation include: parental choice, overall marks obtained in the Primary School Achievement Certificate and proximity of the student's place of residence to the secondary school.

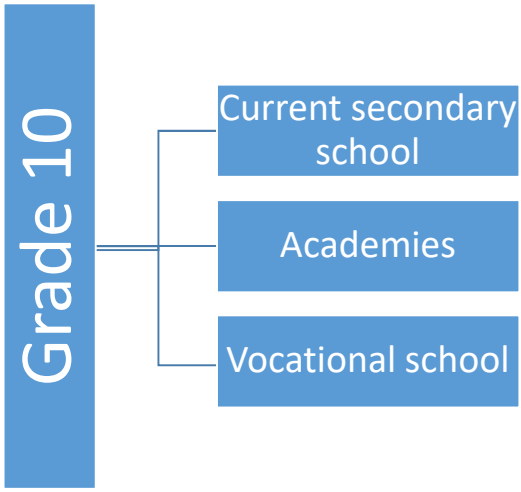
For those students who do not make the Grade, special classes will be reserved in every secondary school, with reduced number of students, where they will be directed. They will follow an extended four-year cycle to allow smooth development and acquisition of skills and competencies till Grade 9. They will follow the same programme as those in the normal three-year cycle, but it will be adapted to suit their requirements. Moreover, there will be the possibility for the students of the

extended cycle to join the regular stream. The National Certificate in Education examinations will be taken by students at the end of Grade 9. It will assess 3 compulsory subjects: English, French and Mathematics and 4 elective subjects from the following strands:

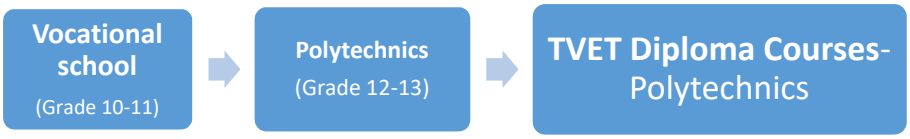
- Humanities: Arabic, Hindi, Marathi, Modern Chinese, Tamil, Telugu, Urdu
- Science: Chemistry, Biology, Physics
- Technical Studies: Home Economics, Communication, Design and Technology, Visual Arts, Computer Studies
- Social Sciences: Social studies, Accounts, Economics, Entrepreneurship Education.

The evaluation will be based on written and school-based assessments. Admission to the academies will be done as from Grade 10, following the National Certificate in Education. The examination will serve as a means of promoting students to Grade 10 as well as to orientate them towards either General, Technical or Vocational streams. It will also serve as a means for admission of students to the Academies; this is also an option for students.

Students can also choose to remain in their current secondary school after sitting for the National Certificate in Education examination, to continue Grade 10, or they can alternatively join specialized Vocational schools where they will follow specific programmes.



A greater importance is to be given to vocational education. After completion of Grade 9, students can opt for the vocational side, where they will attend specialized institutions/schools with the adequate facilities and following special programs. Technical education will be taught in secondary schools in parallel with general education programmes. There will be the option of taking Cambridge School Certificate examinations for the Technical stream. This will provide students the opportunity to follow courses up to Diploma level in Polytechnics which will be set up in each Educational Zone and will open new vistas and access to higher education to students of this stream.



Academies will be secondary schools specialized in two to three areas of education, including Sciences, ICT, Business, Languages, The Arts or Physical Education. These institutions will provide education for classes ranging from Grade 10 to Grade 13. Academies will admit students from all regions of the country, i.e. on a national basis. They will be co-educational institutions. A new mode of management will be adopted in these institutions so as to allow a greater autonomy. The possibility of admission for students into Academies will depend on the following factors:

- Results obtained during the National Certificate in Education
- Students' preference for particular subject combinations.

Scholarships

It is envisaged to offer additional scholarships to the existing scheme. Sixteen new scholarships will be offered to the students of the general education stream. Four scholarships will be offered in each Education Zone for the following fields:

- Science
- Humanities
- Technical
- Business

Four scholarships are to be awarded to Diploma holders in Polytechnics, on a national basis. Five scholarships will be awarded to SEN students for further studies.

CHAPTER 2

THE CONDUCT OF THE STUDY

2.1 Pilot Study.

Selection of schools

Information about average achievement levels was obtained in terms of exam results or standardized test scores for the upper end of the primary school systems. This piece of information was acquired from the Mauritius Examination Syndicate, Statistics Mauritius and the Pre-primary and Primary Directorate of the Ministry. As a matter of fact, the mean score for each school and standard deviation variation among school means had been reported to the previous institutions, wherefrom ten schools were designated to demonstrate a reflection of the quality of education over the island.

In Mauritius, for the purpose of SACMEQ IV pilot study, ten schools were nominated from six of the seven regions. Rodrigues had not been engrossed in the pilot study due to the additional cost implications in the month of September of the year 2012 for all new test items. The ten schools are listed in the following table:

Zones	Primary Schools
1	R.Seeneevassen Government School
	Poudre D'or Hamlet Government School
	Raoul Rivet Government School
2	Bazerque Government School
	Mohunlall Mohit Government School
	Jules Koenig Government School
3	James Toolsy Government School
	Rose Belle South Government School
4	Beau Sejour Government School
	Highlands Government School

The selection criteria in Mauritius were based on high, middle and low performing schools. Certainly, these criteria were set taking into consideration the benchmark in the manual. These schools covered urban and rural areas in Mauritius.

Strata for the Target Population

Region number	Region Illustration	Zone	Zone Interpretation
1	Port Louis and the North	1	All Government Primary Schools
2	BeauBassin and the East	2	All Government Primary Schools
3	Curepipe and the South	3	All Government Primary Schools
4	Vacoas and the West	4	All Government Primary Schools excluding those in Black River
5	Rodrigues		All Primary Schools
6	Black River		All Government and Private Primary Schools
7	Private		All Private Schools across 4 Education Zones in Mauritius

Identification of Data Collectors and Training

The assistance of the four Directors of the Zones was solicited and the data collection exercise was scheduled for the 12th and 13th September 2012. In addition, background information on the UNESCO Project and annexed document qualified as "What is SACMEQ IV Project?" were produced. Information was shed on the 'SACMEQ IV Research Coordinators'. On a priority basis, the list of data collectors was identified and finalized.

Two training sessions were held to initiate participants were on data collection strategy through the Pupils' Booklet (Reading and Mathematics), the School Information Booklet, the School Head Booklet, the Pupil Name Form, the Teacher Booklet and the School Form and Checklist. A total of twenty-four data collectors were hereby locally trained.

Data Collection Exercise

The data collectors received the completed school forms with number and names of Educators teaching Reading, Mathematics and Health or Life Skills education in Grade 6 in their delegated schools. Hereafter, the latter filled in the identification numbers for the country, region and school on the top left corner on the front page of individual school form, Pupil Name Forms and booklets. The block of identification numbers linked pupils to teachers; schools, primary Educators and Headmasters to their schools and schools to their regions and districts.

Compiling Pilot Materials

Twenty four Data Collector Manuals, four hundred Pupil Booklets, ten School Head Booklets and twenty Teacher Booklets were printed locally.

The instruments received by the data collectors for each school visited comprised thirty six Pupil Booklets, nine of each of the four PBK #1, PBK #2, PBK #3 and PBK #4 referring to Part A: Reading Test, Part B: HIV and AIDS knowledge Test, Part C: Mathematics Test, Part D: Homework Form and Part E: Pupil Questionnaires along with Homework Forms, eight Teacher Booklets citing Parts A to D, one School Information Booklet, one School Head Booklet and one Pupil Name Form.

The data collectors ensured the confidentiality of the booklets. Before arriving at schools, they sealed Parts A, B and C separately with yellow stickers. Upon arrival at their respective educational institutions, the data collectors gave an overview to Headmasters on the conduct of data collection. Head Masters selected a sample of twenty five pupils from Grade 6 registers who would sit for the assessment. Teachers filled in the Teachers Booklet separately and Headmasters completed the School Form and the School Information Form one week before data collection. No cases of blank forms thus requiring completion on the data collection day were reported. As a component of the survey, School Heads were asked to fill in the School Booklet and a quick verification was performed by data collectors to avoid invalid or missing data or inconsistencies.

Sampling

The SACMEQ Coordinating Centre (SCC) stipulated in the manuals that all candidates should be chosen if less or equal to 28 pupils were enrolled in Grade 6 in a particular school. As far as teachers were concerned, Primary Educators (General Purpose) working in the largest classes were selected to complete the Teacher Booklet. One 3-digit identification number was assigned to each teacher. The complete teacher I.D number on the Teacher Booklet represented the school code and the teacher identification number.

Data Collection

Two sessions were held on two consecutive days to assess pupils. On the first day pupils sat for the Reading test followed by Introduction to Homework Form. The following day, pupils took the

Mathematics Test and filled in the Final Pupil Questionnaire. The booklets were distributed according to the Pupil Name Form after verifying that the identification number on the booklet agreed with the one next to each pupil's name on the Pupil Name Form. The data collectors elaborated on those questions on the pupil's questionnaire which required the assistance of a family member.

For the Reading tests, clear guidance was given to pupils and the data collectors demonstrated, through examples set in the questionnaires, the process of replying to questions. No ending time for the test was prescribed but some data collectors had to take the initiative of stopping the test in a situation when the remaining pupils had not made any meaningful progress.

The HIV/AIDS Knowledge Test was operated in a similar way. In this section, the pupils were required to answer Health Knowledge questions. A sufficient amount of time of around forty to sixty minutes was allocated to cover all questions.

The duration of the Mathematics test was approximately ninety minutes. Almost all the pupils had been reported to finish within this span of time. After a thirty minute break, the pupils were surveyed on Parts D and E of the Pupil Booklet: Homework and Pupil Questionnaire. A word of thanks was addressed to the pupils for completing the test.

Data Entry

The revised version of DEM software, popularly known as WINDEM, was used for data entry. Word Processing Operators entered data into three data files ('PUPIL. DBF', 'TEACHER. DBF' and 'SCHOOL DBF'). The complete cleansed data in the three copied data files were sent to SCC. The data was scaled, analyzed and interpreted by the SCC. Thereafter, tests, questionnaires and manuals were prepared for the main data collection.

2.2 THE MAIN STUDY

2.2.1 Target Population

The number of Grade 6 pupils sampled and surveyed in Mauritius was 3,825, a figure which was slightly less than 5 percent of the defined target population. Careful attention was paid to the regulation that a school could not refute to participate once selected. In order to maintain comparability with SACMEQ III, the target population for SACMEQ IV was the same as for SACMEQ III. Every effort was made to select either the same number of schools as in SACMEQ III i.e. 152 or a number not less than 150 schools. In fact 153 schools were selected comprising 138 in Mauritius and 15 in the island of Rodrigues. Moreover, 400 Grade 6 teachers and 150 Headmasters were surveyed.

2.2.2 Instrument Construction

Copies of all final materials were distributed to the NRCs in June 2013. Printing for the main survey consisted of 100 Data Collector Manuals and Questionnaires for selected schools with a total of 4,000 Pupil Booklets, 160 Headmaster and 410 Teacher Booklets. This task was completed in the first week of September 2013. The following are the different materials used for data collection: Pupil Booklet #1;Pupil Booklet #2;Pupil Booklet #3;Pupil Booklet #4;Part D: Homework Form; Teacher Booklet; School Information Booklet; School Head Booklet; Sample School's list; Pupil Name Form; School Form; Manual for NRCs and data collectors for improving data quality.

2.2.3 Data Collectors

Data Collectors were trained to be upskilled with the administration of different tools. Principal School Inspectors acted as Regional Coordinators and had the following responsibilities:

(i) To ensure that the School Form and the School Information Booklet were completed and returned at latest by 08 August 2013.

(ii) To check that all Grade 6 registers were up to date.

(iii) To arrange for space for the 25 selected pupils to administer the test.

(iv) To inform Grade 6 Teachers and Headmasters that they should complete their appropriate questionnaires.

For the island of Rodrigues, a training programme was conducted for data collectors. Transport arrangements were made by the NRC for the collection of survey instruments from the airport to an appropriate location for storage under safe custody. The Data Collectors were introduced to the SACMEQ IV Project and the instruments and procedures for data collection.

2.2.4 Collection of Data

The Heads of schools completed and returned the forms indicating list of Grade 6 classes, the total Grade 6 enrolment for these classes, the Mathematics, English and Health and life skill teachers on the class listing Form and list of names of all Grade 6 pupils and their characteristics with regard to gender, date of birth, Grade 6 class and biological parents. Labels for each school were used for packaging materials. The country code for Mauritius was 'MAU'. The data collection in Rodrigues took place from the 18th to 20th September 2013.

2.2.5 Data Entry

Markers and one team of scorers were trained to enter the data through DME programme. The resource persons worked on three computers and entered the data twice to eliminate typing errors. The School Forms and Pupil Name Forms were captured on computer as they contained necessary information to check consistency of data. The second entries were completed in September 2014. Nevertheless, a few errors had occurred but rectified; for instance, typists wrongly recorded data relevant to school codes, duplicated entries for both first and second entries, omitted entries, made wrong identification of pupils and schools in those schools where there were two groups of 25.

The first step of data cleaning was the merging of files initiated as early as October 2014. 3000 out of 3750 records were merged into one file.

The data cleaning steps composed of verification of returned instruments for completeness and correctness, file integrity, identification codes for internal consistency, data validation as per criteria specified in the codebook, data verification and validation for each respondent for internal consistency, cross- validation of related data between respondents and linkages between related data files especially for hierarchically structured data. The cleaned data files were integrated into a SACMEQ database system. The database was constructed to create a score file, create variables,

merge pupil data file with teacher, scores and Headmasters. Derived variables were constructed using the existing variables.

2.3 Conclusion

A methodical approach was adopted to conduct the survey in the best objective way possible. The first data and second data batches were submitted to the SCC for consistency checks and calculations of sampling weights at regular intervals. Moreover, the data archives were prepared to calculate sampling weights, check scaling and scoring tests. The batches were analyzed at regular intervals within SACMEQ countries and at the SCC. The final merged data are interpreted in succeeding chapters.

CHAPTER 3

CHARACTERISTICS OF PUPILS AND THEIR LEARNING ENVIRONMENT

3.1 Introduction

To be able to measure objectively and rightly educational performance, different resources must be considered together with the types of students admitted in each school – previous educational background of the pupils, their socio-economic status, teacher qualification and training, material and financial resources available at school, class size, school leadership and motivation of all stakeholders. In this chapter detailed information on characteristics of Grade 6 pupils and their learning environment are presented with the objective to find:

(i) What are the main pupils' characteristics impacting on their performance?

(ii) What are the most important characteristics of pupils' learning environment that may have an influence on their performance?

(iii) What are the factors among pupils' characteristics and their learning environment that impact predominantly on pupils' and overall school performance?

3.2 Distribution of Pupils by Sex

Table 3.1 below summarises the distribution of pupils by sex.

Table 3.1: Distribution of pupils by sex

	REGION	MALE		FEMALE	
		Proportion (%)	SE*	Proportion (%)	SE
Government & Government Aided Schools	Port Louis & the North	50.1	1.72	49.9	1.72
	Beau Bassin & the East	51.9	1.30	48.1	1.30
	Curepipe & the South	47.9	2.43	52.1	2.43
	Vacoas & the West	52.2	1.41	47.8	1.41
	Rodrigues	52.2	2.32	47.8	2.32
	Black River	52.8	1.87	47.2	1.87
Private Schools (All Regions)		53.3	1.91	46.7	1.91
TOTAL		**51.3**	**0.80**	**48.7**	**0.80**

*The standard error of the mean (SE) quantifies the precision of the mean. It is a measure of how far a sample mean is likely to be from the true population mean. It is expressed in the same units as the data

Findings:

The proportion of male pupils in Grade 6 in primary schools in all regions (including Private Schools), with the exception of Curepipe & South, was slightly higher than that of female pupils. The overall percentage of male pupils in Grade 6 was 51.3 percent as compared to 48.7 percent for females.

3.3 Pupils' Mean Age

Table 3.2 summarizes pupils' mean age in months as well as a comparison with SACMEQ I, II and III data.

Table 3.2: Pupils' Mean Age in months

REGION	MALE		FEMALE		OVERALL	
	Mean Age	SE	Mean Age	SE	Mean Age	SE
Port Louis & the North	128.6	0.40	128.7	0.38	128.6	0.31
Beau Bassin & the East	128.5	0.32	128.0	0.39	128.3	0.23
Curepipe & the South	128.2	0.36	127.7	0.29	128	0.26
Vacoas & the West	128.6	0.43	129.5	0.90	129	0.38
Black River	130.5	0.45	130.7	0.84	130.6	0.38
Rodrigues	130.2	0.82	128.8	0.54	129.5	0.49
Private Schools	130	0.74	128.4	0.45	129.3	0.57
Mauritius SACMEQ IV	**129.1**	**0.23**	**128.6**	**0.20**	**128.8**	**0.18**
Mauritius SACMEQ III					**136.5**	**0.14**
Mauritius SACMEQ II					**135.8**	**0.12**
Mauritius SACMEQ I					**136.5**	**0.25**

Findings:

(i) There is no significant difference in the mean age of Grade 6 pupils across regions.

(ii) The overall mean age was 128.8 months (10.73 years) which is lower than previous SACMECQ records. The considerable decrease in Grade 6 repeaters over the past years through the implementation of major Government projects such as the

"Enhancement Programme", the Certificate of Primary Education "Re-sit Programme" and continuous training of teachers in the primary sector may account for this.

(iii) There was no significant variation in the mean age of male and female pupils in Grade 6.

(iv) With the implementation of the Nine Year Continuous Basic Education the mean age of Grade 6 pupils should stabilise around the figure given by SACMEQ IV Study since **all** pupils of Grade 6 will transit to Lower Secondary as from 2018.

3.4 Pupils Place of Stay during School Week

A home is a place where pupils live with their parents or guardian and it is the place where they are groomed. It is a place where pupils begin to learn the norms and values of the society in which they find themselves. *The family is a social unit in any society and it is the source of early stimulation and experience in children* (Collins, 2007). The home influences the child at the most earliest possible time of his life at a time when his mind is most receptive. It provides the first impression which may last through the whole life of the child. *The child often sees the parents, siblings and things in their immediate environment to be most significant and they are capable of promoting or diminishing him in self-worth and academic performance* (Ekanem, 2004). The family, being a powerful influence on the child and its importance as a primary agent of socialization could in no doubt enhance or hinder the academic achievement of the child depending on the social climate in the family. The home environment means the family background of the pupils; this includes all the human and material resources present at the home that affect the child's education and living, such as the parents' level of education, their occupation, socio-economic status and socializing facilities available in the house. Thus, the home is the basic institution for providing the child's primary socialization and laying the educational foundation for him/her upon which the other agents of socialization are built. The education received by a child from parents and significant others at home is most likely to have a highly significant and dominant effect on the behaviours of the child later in life. What the child learns at home and how the family motivates him/her towards education contributes to his/her success or failure at school.

To his end, one of the objectives of SACMEQ IV study was to explore the pupils' home environment in order to find out to what extent the home environment is correlated to pupils' performance. *Table 3.3* shows the distribution of pupils' place of stay during school week.

Table 3.3: Distribution of pupils' place of stay during school week (%)

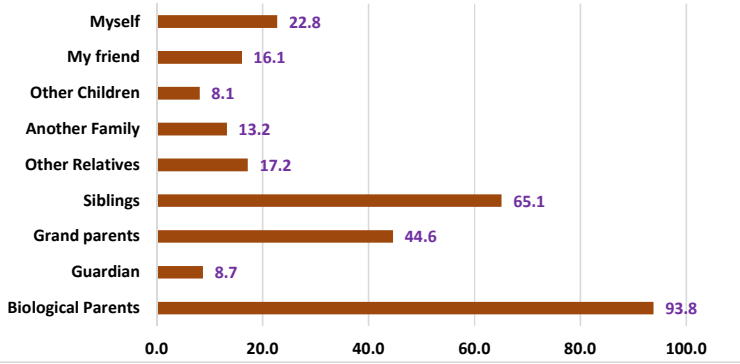
	PLACE OF STAY DURING SCHOOL WEEK									
REGION	**Home with Family**	**SE**	**Home with Other People (Not Family)**	**SE**	**Hostel / Boarding School**	**SE**	**Orphanage or Children's Home**	**SE**	**Other**	**SE**
Port Louis & the North	93.5	1.90	2.0	.91	2.1	.60	0.7	.42	1.7	.89
Beau Bassin & the East	97.4	.76	0.6	.33	0.8	.37	0.7	.42	0.6	.31
Curepipe & the South	96.5	1.05	1.4	.68	1.2	.56	0.9	.68	0.0	.00
Vacoas & the West	96.4	2.20	2.3	1.95	1.0	.54	0.0	.00	0.3	.27
Rodrigues	84.8	4.41	4.9	1.50	5.1	2.27	4.8	2.33	0.4	.39
Black River	93.5	2.12	2.6	1.21	1.8	1.31	1.6	.87	0.5	.45
Private Schools	97.0	.71	1.2	.43	0.5	.30	0.3	.21	1.0	.41
Total	**95.2**	**.69**	**1.7**	**.35**	**1.4**	**.27**	**0.8**	**.25**	**0.8**	**.25**

Findings:

The vast majority of children that is 95.2 percent live at home with family; 1.7 percent live with other people; 1.4 percent live in hostel/ boarding school and a minority of 0.8 percent live in children's home or orphanage.

Out of all pupils under study it was positively observed that 93.8percent live with their Biological parents, 44.6percent live together with their grandparents and 65.1percent live with their siblings, as illustrated in *Diagram 5*. This is an important point to consider during this period of child development since among family factors of greatest influence are social class variables and the educational and family environment.

Diagram 5: WHOM DO YOU STAY WITH DURING SCHOOL WEEK?



3.5 School Context Factors

School location, distance of pupils' residence from school, level of absenteeism, access to school library, homework, and repetition rate are major determinants of the effectiveness and efficiency of teaching and learning and overall school performance. The following paragraphs give a detailed quantitative as well as qualitative analysis of these factors.

3.5.1 School Location

Schools were classified as either as 'Rural' or 'Urban'. 'Rural' implied that the school was located either in a village or in an isolated region. 'Urban' implied that the school was located in a town or city.

Table 3.4 shows that 50.1percent of schools were located in urban areas and 49.9percent in rural areas. However, in the Vacoas & West region there was no school classified as 'Rural'. The Black River region had the highest percentage of schools classified as 'rural', where pupils had the lowest achievement scores both in Reading and in Mathematics (chapter 7).

Table 3.4: School Location

REGION	School location	
	Rural	Urban
Port Louis & the North	39.0 %	61.0%
Beau Bassin the & East	66.4%	33.6%
Curepipe & the South	66.7%	33.3%
Vacoas & the West		100.0%
Rodrigues	67.5%	32.5%
Black River	94.6%	5.4%
Private Schools	47.5%	52.5%
Total	**49.9%**	**50.1%**

3.5.2 Distance of Home from School

Although a policy of catchment area exists for admission to Standard I in a large portion of primary schools, quite a considerable number of parents opt for performing schools irrespective of the distance from their place of residence.

Table 3.5 summarises data on average distance travelled by pupils from home to school.

Table 3.5: Distance away from school (% of pupils)

	DISTANCE AWAY FROM SCHOOL						
REGION	**0 - 0.5 km**	**0.5 - 1 km**	**1 - 2 km**	**2 - 3 km**	**3 - 4 km**	**4 - 5 km**	**> 5 km**
Port Louis & the North	35.8	16.4	20.7	9.3	5.1	5.4	7.3
Beau Bassin & the East	35.7	24.3	19.5	6.7	3.9	3.3	6.5
Curepipe & the South	45.7	21.5	17.6	6.4	2.9	2.0	3.9
Vacoas & the West	35.8	22.5	15.6	7.9	6.0	4.3	7.9
Rodrigues	34.4	15.3	20.0	12.1	6.0	6.5	5.6
Black River	40.3	18.4	12.8	6.9	11.6	6.6	3.4
Private Schools	21.5	14.1	17.7	10.9	6.8	7.5	21.5
Total	**34.9**	**18.9**	**18.1**	**8.5**	**5.7**	**5.0**	**8.8**

Findings:

(i) More than half of pupils (53.8percent) travel 1 km or less to get to school, 26.6percent
between 1 km and 3 k and 19.5percent more than 3 km.

(ii) The highest percentage of pupils travelling more than 5 km comes from private schools (21.5percent). This is evident for reasons mentioned above.

3.5.3 Level of Absenteeism

Attendance is an important factor in school success among children and youth. Studies show that better attendance is related to higher academic achievement for pupils of all backgrounds. This attendance issue is highly important for pupils coming from low lower socio-economic backgrounds as they rely solely on education received at school.

Table 3.6: Level of Absenteeism

	Days Absent at School	
REGION	**Estimate**	**Std Error**
Port Louis & the North	1.8	.15
Beau Bassin & the East	1.6	.14
Curepipe & the South	1.1	.21
Vacoas & the West	1.2	.14
Rodrigues	2.0	.49
Black River	1.8	.18
Private Schools	1.2	.11
Total	**1.5**	**.07**

Figures in *table 3.6* show that pupils of Grade 6 were absent on 1.5 days on average, with the highest average of 2 days in the island of Rodrigues. It is to be noted that the primary school calendar comprises around 185 working days and the overall average of 1.5 days in one academic year is very promising. Competition at Grade 6 level in order to obtain the best secondary schools may account for the low level of absenteeism.

3.5.4 Pupils' Access to School Library

The school library is central to learning and plays a key role as a place for encouraging innovation, curiosity, and problem solving. It is a catalyst for literacy and reading and for teaching and scaffolding inquiry learning. School libraries make a difference to students' understanding and achievement and provide support for teaching and learning throughout the school. The school library is an important part of the school community and reflects and welcomes this community. It plays an interesting part in the cultural and social life of a school. It can be a central point for engagement with all kinds of reading, cultural activities, access to information, knowledge building, deep thinking and lively discussion.

A school library is therefore a fundamental resource for supporting pupils' learning, and an important support for teaching staff. It reflects and encourages collaborative learning and sharing of ideas and is pivotal to developing the aptitudes of 21st century learners.

Pupils were asked to respond to whether they have access to their school library to borrow books and results obtained were tabulated as illustrated in *Table 3.7*.

Table 3.7: Pupils access to school library

REGION	PUPIL ACCESS TO SCHOOL LIBRARY (%)							
	No School Library	Std Error	Not Allowed to Borrow Books	Std Error	Allowed to Borrow Books	Std Error	Do not Know	Std Error
Port Louis & the North	12.4	4.60	17.3	3.93	61.5	5.61	8.8	1.42
Beau Bassin & the East	2.2	0.69	7.5	2.05	73.8	5.23	16.4	4.80
Curepipe & the South	0.2	0.23	6.3	1.46	83.0	2.65	10.5	2.43
Vacoas & the West	6.8	4.66	8.6	2.71	71.9	6.22	12.8	3.76
Rodrigues	9.9	8.64	10.3	3.52	69.0	7.52	10.7	2.89
Black River	6.2	6.26	4.4	1.72	79.3	7.13	10.1	3.25
Private Schools	8.0	5.07	10.0	3.37	74.6	6.11	7.4	1.72
Total	**6.9**	**1.79**	**10.5**	**1.37**	**72.0**	**2.36**	**10.6**	**1.14**

Findings:

(i) There are no library facilities in 6.9 percent of primary schools among which the majority (12.4 percent) is located in the Port Louis and North region.

(ii) Among the schools with libraries, 72 percent of pupils are allowed to borrow books whereas 10.5 percent are not allowed to do so.

(iii) A cause of concern is that 10.6 percent of students are not aware of the existence of a library in their schools.

3.5.5 Correction of Homework by Teacher

One important aspect of teaching and learning is homework given to pupils, which consolidates what has been taught at school and at the same time gives an opportunity to parents to monitor their wards. The frequency of homework corrected by the class teacher is shown in Table *3.8*.

Table 3.8: Frequency of homework corrected by teacher

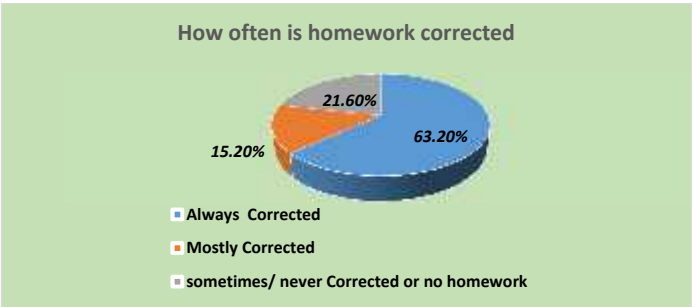
REGION	HOW OFTEN THE HOMEWORK IS CORRECTED BY THE TEACHER									
	No H.work	SE	Never Corrected	SE	Sometimes Corrected	SE	Mostly Corrected	SE	Always Corrected	SE
Port Louis & the North	0.4	0.25	1.6	0.70	23.8	4.43	16.9	3.09	57.3	5.37
Beau Bassin & the East	0.0	0.00	1.1	0.70	9.1	2.03	17.9	3.90	71.9	4.99
Curepipe & the South	0.0	0.00	1.3	0.60	13.3	2.99	9.1	1.87	76.3	4.57
Vacoas & the West	0.0	0.00	2.9	1.92	19.2	5.28	19.1	4.46	58.8	7.59
Rodrigues	0.0	0.00	5.7	1.21	24.3	10.03	13.3	4.55	56.8	11.74
Black River	0.0	0.00	2.8	1.67	22.0	6.99	9.4	3.82	65.9	8.93
Private Schools	0.0	0.00	2.5	0.82	24.4	4.33	15.0	1.85	58.1	5.08
Total	**0.1**	**0.06**	**2.1**	**0.37**	**19.4**	**1.79**	**15.2**	**1.26**	**63.2**	**2.34**

Findings:

(i) 78.4 percent of pupils affirmed that the homework given is either always corrected (63.2 percent) or mostly corrected (15.2 percent).

(ii) 19.4 percent of pupils stated that their homework is sometimes corrected and 2.1 percent affirmed that homework is never corrected. The pie chart below (*Diagram 6*) shows that this is alarming since more than 21 percent of teachers were unable to keep track of pupil progress and were consequently unable to provide for remedial action.

Diagram 6: Pie chart to show frequency of homework corrected by teacher



3.5.6 Repetition of Grade 6

Table 3.9 shows that 4.6 percent of pupils in Mauritius repeated Grade 6. A number of reasons might account for this:

Table 3.9: % of Repeaters Grade 9

REGION	Repeat Grade 6	
	Estimate	Std Error
Port Louis & North	3.9	0.81
Beau Bassin & East	2.4	0.69
Curepipe & South	0.9	0.52
Vacoas & West	9.4	2.16
Rodrigues	9.5	1.20
Black River	13.0	2.43
Private Schools	4.8	1.57
Total	**4.6**	**0.52**

(i) A number of pupils passed the Certificate of Primary Education (CPE) examinations but wanted to improve the quality of their results in the eventuality of obtaining a better admission in Form I secondary.

(ii) Pupils failed the CPE examinations.

(iii) Pupils did not sit for the CPE examinations due to illness or other reasons.

3.6 Non-School Context Factors

In the sub-paragraphs which follow, data gathered on two non-school factors, namely on the use of English at home and private tuition, are summarised.

3.6.1 Do pupils speak English at home?

The educational background of the parents can be expressed in their frequent use of English Language as a medium of communication at home. This will help in laying a good foundation for self-expression, confidence in speaking good English in the public and good understanding of basic English concepts in the school since English Language is used as a medium of instruction in Mauritian schools. *Table 3.10* illustrates how far pupils communicate in English at home.

Table 3.10: Speak English at home (%)

REGION	Never	Std Error	Sometimes	Std Error	Most of the Time	Std Error	All the Time	Std Error
Port Louis & the North	29.6	2.59	65.6	2.93	2.6	.656	2.2	.74
Beau Bassin & the East	29.6	4.24	65.6	4.28	3.5	.83	1.3	.41
Curepipe & the South	30.6	3.04	64.6	2.98	3.9	1.10	0.9	.43
Vacoas & the West	27.4	5.27	69.3	5.30	2.0	.99	1.2	.72
Rodrigues	33.5	5.90	54.9	6.91	7.7	1.97	3.9	.80
Black River	51.1	5.04	40.6	4.43	5.3	1.61	3.0	.88
Private Schools	34.4	3.95	57.8	3.15	5.7	1.52	2.0	.72
Total	**31.7**	**1.58**	**62.3**	**1.55**	**4.1**	**.49**	**1.9**	**.28**

Findings:

(i) 37.1 percent of pupils never speak English at home. However and alarmingly, 51.1 percent of pupils in the district of Black River never speak English at home. It is to be noted that Black River is not an urban area and most pupils enrolled in Government and aided primary schools come from limited (not to say poor) family background. Children from more well off families go either to private schools or to schools in urban areas.

(ii) 62.3 percent of pupils sometimes or occasionally speak English at home. There is no big variation across regions among those who speak English 'sometimes' at home with the exception of Black River again where only 40.6 percent do so.

(iii) Only 6 percent speak English most of the time or always at home. And the highest percentage is in the island of Rodrigues.

3.6.2 Private Tuition

Private tuition is legally prohibited during the first four years of primary schooling in Mauritius. However, as from Standard V and given the stern competition or the 'rat race' in Grade 6, private tuition during the last two years of primary education is well embedded in the Mauritian education system. Parents find in private tuition a complement to the work done at school and the impetus to

improved performance at the CPE examinations. *Table 3.11* clearly illustrates the importance given to private tuition in Grade 6.

Table 3.11: % of Pupils taking Private Tuition

	EXTRA TUITION			
REGION	**NO**	**Std Error**	**YES**	**Std Error**
Port Louis & the North	18.9	2.94	81.1	2.94
Beau Bassin & the East	13.9	2.42	86.1	2.42
Curepipe & the South	13.8	2.46	86.2	2.46
Vacoas & the West	13.3	3.36	86.7	3.36
Rodrigues	40.9	7.70	59.1	7.70
Black River	27.9	3.23	72.1	3.23
Private Schools	19.9	4.56	80.1	4.56
Total	**18.6**	**1.60**	**81.4**	**1.60**
SACMEQ III	**16.2**	**1.23**	**83.8**	**1.23**
SACMEQ II	**13.5**	**1.10**	**86.5**	**1.10**
SACMEQ I	**22.5**	**1.43**	**77.5**	**1.34**

Findings:

(i) 81.4 percent of Grade 6 students had have recourse to private tuition.

(ii) The lowest percentage, that is 59.1 percent, is in the island of Rodrigues followed by Black River with 72.1 percent. It is to be noted that most schools in these two regions are located in rural areas.

(iii) The high percentage of Grade 6 pupils having recourse to private tuitions has been maintained during the past 12 years as illustrated by and testified by SACMEQ I, II and III results.

Private tuition has become a sort of side business and the acquisition of education is becoming an individual-centric number-game. Yet education is a social process, it involves discussions between teachers and pupils about ideas, values and ways of life, along with reading, writing and learning mathematics. To make private tuition unnecessary at the upper primary levels, we must direct our attention to schools and classrooms – experiment with teaching and learning and the processes of education with particular attention to alternative and innovative pedagogies, remedial education and adapted curriculum for slow learners.

3.7 Conclusion

With the implementation of Nine Year Continuous Basic Education it is expected that the mean age of pupils attending Grade 6 will show a decline as all pupils will transit to secondary. A decrease in the number of parents opting for distant schools for their children is also envisaged.

It is also important for pupils to be able to read at home if they are to develop their reading skills. Given that the school library provides a model for inquiry learning and building knowledge, school heads and teachers should create awareness and inculcate a reading habit among all pupils at school.

CHAPTER 4

TEACHERS AND THEIR LEARNING ENVIRONMENT

4.1 Introduction

Research shows that the most important factor determining pupil attainment is the teacher. As a matter of fact, the personal characteristics of teachers, their leadership role, classroom management, qualification, use of innovative pedagogies in teaching and learning and continuous professional development have major influence on their performance which is directly correlated to pupil performance and ultimately overall school performance.

In Mauritius, Grade 6 teachers are responsible for a particular class. They are General Purpose teachers who teach English, French, Mathematics, Science and History & Geography. Asian Languages (Hindi, Marathi, Modern Chinese, Tamil, Telugu and Urdu) and Arabic are taught by Asian Language/ Arabic primary school teachers.

This chapter gives an insight of:

- Personal characteristics of Grade 6 teachers
- Distribution of teachers by age and gender
- Academic qualifications of Grade 6 teachers
- Continuous professional development
- Lesson planning
- Communication with parents

4.2 Distribution of Grade 6 Teachers by Gender, Region and Subject

Table 4.1 summarizes the distribution of Grade 6 teachers by gender, region and subject in 2013.

Table 4.1: Grade 6 Teachers by Gender, Region and Subject (%)

Gender of Grade 6 Teachers by Region and Subject									
	READING			MATHEMATICS			HEALTH		
REGION	MALE	FEMALE	std error	MALE	FEMALE	std error	MALE	FEMALE	std error
Port Louis & the North	44.4	55.6	5.59	44.4	55.6	5.59	44.4	55.6	5.59
Beau Bassin & the East	43.4	56.6	6.87	43.4	56.6	6.87	43.4	56.6	6.87
Curepipe & the South	47.0	53.0	9.80	47.0	53.0	9.80	47.0	53.0	9.80
Vacoas & the West	51.3	48.7	10.60	51.3	48.7	10.60	51.3	48.7	10.60
Rodrigues	71.2	28.8	9.42	71.2	28.8	9.42	71.2	28.8	9.42
Black River	57.2	42.8	11.54	57.2	42.8	11.54	57.2	42.8	11.54
Private Schools	37.5	62.5	8.86	37.5	62.5	8.86	37.5	62.5	8.86
Total	**45.9**	**54.1**	**3.41**	**45.9**	**54.1**	**3.41**	**45.9**	**54.1**	**3.41**

Findings:

(i) There were more female Grade 6 teachers than male in three regions namely, Port Louis & North, Beau Bassin & East, Curepipe & South and in private primary schools. In two regions, Rodrigues and Black River, there were more male teachers than female with a marked difference in the island of Rodrigues (71.2percent males and 28.8percent females). It is to be noted that the trend in gender distribution of teachers has changed since in 2007 in all the regions with the exception of Beau Bassin & East and private schools, there were more male teachers than female ones (SACMEQ III Report).

(ii) More and more females are probably joining the teaching profession in the primary sector.

4.3 Age Distribution of Grade 6 Teachers by Region and Subject

Table 4.2: Age Distribution of Grade 6 Teachers

Average age (in years) of Grade 6 Teachers by Region and Subject						
	READING		MATHEMATICS		HEALTH	
REGION	Mean Age	Std Error	Mean Age	Std Error	Mean Age	Std Error
Port Louis & the North	42.6	.96	42.6	.96	42.6	.96
Beau Bassin & the East	42.4	1.27	42.4	1.27	42.4	1.27
Curepipe & the South	41.1	1.38	41.1	1.38	41.1	1.38
Vacoas & the West	45.6	1.93	45.6	1.93	45.6	1.93
Rodrigues	39.8	1.60	39.8	1.60	39.8	1.60
Black River	37.7	1.45	37.7	1.45	37.7	1.45
Private Schools	43.7	1.95	43.7	1.95	43.7	1.95
Overall Average SACMEQ IV	**42.6**	**.65**	**42.6**	**.65**	**42.6**	**.65**
SACMEQ III	**43.8**	**.59**	**43.8**	**.59**	**43.8**	**0.59**
SACMEQ II	**44.9**	**.50**	**44.9**	**.50**	**44.9**	**.50**
SACMEQ I	**43.2**	**.51**	**43.2**	**.51**	**43.2**	**.51**

The average ages of Grade 6 teachers in the various regions and in Mauritius as a whole are illustrated in *table 4.2*.

Findings:

(i) The average age of Grade 6 teachers was 42.6 years with Rodrigues and Black River with the youngest age group of teachers, 39.8 years and 37.7 years respectively.

(ii) One possible explanation for the low average age of Grade 6 teachers in Black River is the lack of teachers residing in the district of Black River and young teachers living in the adjoining area of Vacoas & West are normally posted in schools situated in Black River.

4.4 Qualification of Grade 6 Teachers by Region and Subject

Previously primary school teachers were recruited from among holders of Cambridge School Certificate and possessing five credits including English, French and Mathematics, or alternative acceptable qualification. The scheme of service has been amended and now recruitment is done from among those having the Higher School Certificate or alternative acceptable qualification. *Table 4.3* shows the qualifications of Grade 6 teachers by region and gender.

Table 4.3: Qualification of Grade 6 Teachers by Region and Subject (% of Teachers)

Qualification of Grade 6 Teachers by Region and Subject						
	HIGHEST LEVEL OF QUALIFICATION					
REGION	Subject	Primary	Junior Secondary	Senior Secondary	A-level or further study	Tertiary
Port Louis & the North	Reading	3.3	1.4	6.4	65.9	23.0
	Mathematics	3.3	1.4	6.4	65.9	23.0
	Health	3.3	1.4	6.4	65.9	23.0
Beau Bassin & the East	Reading	0.0	0.0	10.7	65.7	23.6
	Mathematics	0.0	0.0	10.7	65.7	23.6
	Health	0.0	0.0	10.7	65.7	23.6
Curepipe & the South	Reading	0.0	0.0	0.0	95.4	4.6
	Mathematics	0.0	0.0	0.0	95.4	4.6
	Health	0.0	0.0	0.0	95.4	4.6
Vacoas & the West	Reading	1.9	0.0	21.3	66.1	10.7
	Mathematics	1.9	0.0	21.3	66.1	10.7
	Health	1.9	0.0	21.3	66.1	10.7
Rodrigues	Reading	0.0	1.7	41.5	53.9	2.9
	Mathematics	0.0	1.7	41.5	53.9	2.9
	Health	0.0	1.7	41.5	53.9	2.9
Black River	Reading	0.0	0.0	3.3	67.5	29.2
	Mathematics	0.0	0.0	3.3	67.5	29.2
	Health	0.0	0.0	3.3	67.5	29.2
Private Schools	Reading	1.3	3.3	13.0	73.8	8.5
	Mathematics	1.3	3.3	13.0	73.8	8.5
	Health	1.3	3.3	13.0	73.8	8.5
Total	**Reading**	**1.3**	**1.2**	**11.3**	**71.5**	**14.7**
	Mathematics	**1.3**	**1.2**	**11.3**	**71.5**	**14.7**
	Health	**1.3**	**1.2**	**11.3**	**71.5**	**14.7**

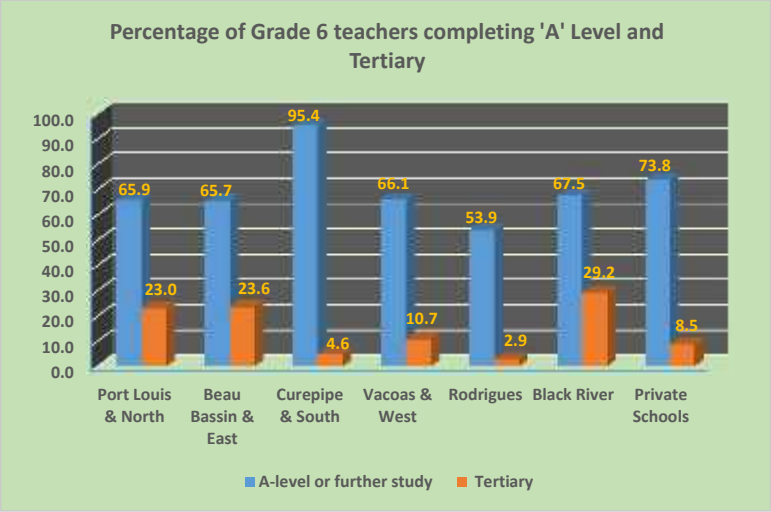
Findings:

(i) Teachers who completed only primary education or Junior Secondary are not eligible to apply for the post of Educator Primary. Consequently data was wrongly entered by the teachers for these categories.

(ii) The number of Grade 6 teachers who completed Senior Secondary was highest in Rodrigues (41.5 percent) followed by Vacoas & the West (21.3 percent) and lowest for Black River (3.3 percent). It is to be noted that primary school teachers are recruited as Trainee Teachers and after successfully completing at least two years teacher training at the Mauritius Institute of Education, they are awarded a Diploma in Education.

In line with the Government's policy to promote Continuous Professional Development, financial incentives in the form of additional increment or one-off lump sum is given to teachers to upgrade their professional qualifications. *Diagram 7* makes a comparison Grade 6 teachers by region who had completed 'A' Level or equivalent and tertiary.

Diagram 7: Highest Level of Teacher Qualification



Curepipe & the South region had the highest percentage of Grade 6 teachers (95.4 percent) who had completed 'A' level or equivalent and Rodrigues the least (53.9 percent). Black River region had the highest percentage of teachers who completed tertiary (29.2 percent) and Curepipe & the South the least (4.6 percent).

4.5 Teaching Experience and In-Service Training

Teachers were asked about the number of years of teaching experience they had and the results are displayed in *table 4.4* below.

Table 4.4: Teaching Experience of Grade 6 Teachers (% of Teachers)

Average Teaching Experience (in years) of Grade 6 Teachers by Region and Subject						
	READING		MATHEMATICS		HEALTH	
REGION	Experience	Std Error	Experience	Std Error	Experience	Std Error
Port Louis & the North	18.0	.99	18.0	.99	18.0	.99
Beau Bassin & the East	18.7	1.31	18.7	1.31	18.7	1.31
Curepipe & the South	17.3	1.57	17.3	1.57	17.3	1.57
Vacoas & the West	22.0	2.15	22.0	2.15	22.0	2.15
Rodrigues	17.5	1.26	17.5	1.26	17.5	1.26
Black River	12.0	1.94	12.0	1.94	12.0	1.94
Private Schools	20.1	2.02	20.1	2.02	20.1	2.02
SACMEQ IV	**18.6**	**.69**	**18.6**	**.69**	**18.6**	**.69**
SACMEQ III	**20.7**	**0.64**	**20.7**	**0.64**	**20.7**	**.64**
SACMEQ II	**21.7**	**0.52**	**21.7**	**0.52**	**21.7**	**0.52**
SACMEQ I	**20.1**	**0.50**	**20.1**	**0.50**	**20.1**	**0.50**

Findings:

The average teaching experience Grade 6 teachers for the whole country was 18.6 years. As expected from the earlier information presented on age, teachers of the Black River region had fewer years of experience. In fact, Grade 6 pupils in Black River were taught by a teacher with, on average, 12 years of teaching experience. The highest percentage was in Vacoas & West at 22.0 percent, which was the case for SACMEQ III.

Teachers were also asked to state the number of days of in-service training they followed and the results are summarized in *table 4.5.*

Table 4.5: In- Service Training (No. of Days)

REGION	READING		MATHEMATICS		HEALTH	
	In-service training	Std Error	In-service training	Std Error	In-service training	Std Error
Port Louis & theNorth	12.1	1.30	12.1	1.30	12.1	1.30
Beau Bassin & the East	12.3	1.47	12.3	1.47	12.3	1.47
Curepipe & the South	12.2	1.90	12.2	1.90	12.2	1.90
Vacoas & the West	11.1	2.41	11.1	2.41	11.1	2.41
Rodrigues	10.3	2.37	10.3	2.37	10.3	2.37
Black River	14.3	3.54	14.3	3.54	14.3	3.54
Private Schools	9.5	1.50	9.5	1.50	9.5	1.50
Total	**11.4**	**0.69**	**11.4**	**0.69**	**11.4**	**0.69**

Findings:

(i) The average number of days of in-service training followed by Grade 6 teachers over the last three years was 11.4.

(ii) Teachers from private schools had the least number of days of in-service training, that is 9.5.

(iii) It is again evident that teachers from the Black River region had more in-service training than other regions due to the age factor and the number of years of teaching experience.

It is to be noted that all Grade 6 teachers have to attend at least three days in-service courses each year to discuss the school results of the Certificate of Primary Education (CPE) examination of the previous year. In- service courses are also scheduled whenever new textbooks and teachers' guides are produced. In view of the responses obtained on the number of days attended, it can be assumed that the in-service courses provided to Grade 6 teachers were generally restricted to these two areas – analysis of the CPE results and introduction of new textbooks and teachers' guides.

4.6 Teaching Periods and Hours of Marking & Lesson Plan Preparation

All the primary schools with the exception of Private schools were either Government Primary or Government Aided and, as such, the number of teaching periods is the same throughout all regions. This is illustrated in *table 4.6*.

Table 4.6: Teaching Periods

Total number of Teaching periods per week						
	READING		MATHEMATICS		HEALTH	
REGION	Mean	Std Error	Mean	Std Error	Mean	Std Error
Port Louis & North	55.0	.00	55.0	.00	55.0	.00
Beau Bassin & East	55.0	.00	55.0	.00	55.0	.00
Curepipe & South	55.0	.00	55.0	.00	55.0	.00
Vacoas & West	55.0	.00	55.0	.00	55.0	.00
Rodrigues	55.0	.00	55.0	.00	55.0	.00
Black River	55.0	.00	55.0	.00	55.0	.00
Private Schools	57.5	.88	57.5	.88	57.5	.88
Total	**55.6**	**.20**	**55.6**	**.20**	**55.6**	**.20**

In all government or aided primary schools teachers worked 55 periods of 35 minutes per week. In private schools the average number of teaching periods was 57.5 per week.

Teachers spend a considerable amount of time preparing lessons and marking both class and home work. On average, Grade 6 teachers spent 6.8 hours in 2013 for lesson planning and marking of class/ home work. This is illustrated below in table 4.7.

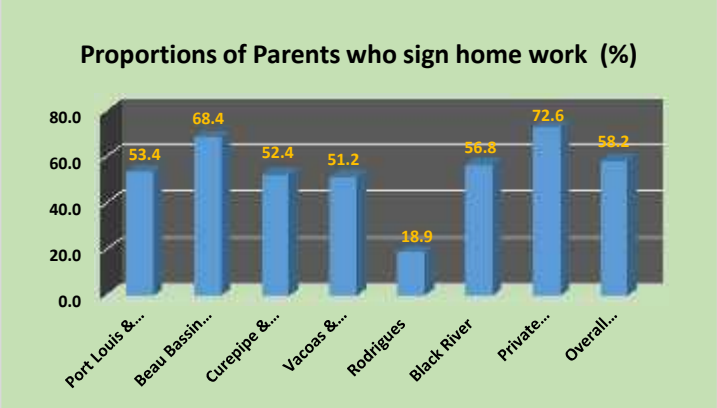
Table 4.7: Lesson Planning and Marking

Total Hours Marking & Lesson Plan Preparations						
	READING		MATHEMATICS		HEALTH	
REGION	Mean	Std Error	Mean	Std Error	Mean	Std Error
Port Louis & North	6.5	.51	6.5	.51	6.5	.51
Beau Bassin & East	6.2	.68	6.2	.68	6.2	.68
Curepipe & South	6.8	.72	6.8	.72	6.8	.72
Vacoas & West	5.7	.65	5.7	.65	5.7	.65
Rodrigues	6.0	.93	6.0	.93	6.0	.93
Black River	6.8	.59	6.8	.59	6.8	.59
Private Schools	8.4	1.46	8.4	1.46	8.4	1.46
Total	**6.8**	**.42**	**6.8**	**.42**	**6.8**	**.42**

It is to be noted, however, that teachers in private schools spend more time than in government and aided schools for lesson preparation including marking of class/ home work.

Parents obtain feedback from teachers through school reports on how their wards are performing at school. Data collected on this particular aspect are given in *Diagram 8.*

Diagram 8: Proportion of Parents who sign Home Work



Findings:

(i) On average, 58.2 percent of parents sign homework corrected by the class teacher.

(ii) It seems that parents whose wards attend private schools are more conscious about the homework of their wards since they constitute the highest percentage (72.6 percent).

(iii) Among Government and Aided schools, Beau Bassin & the East has the highest percentage (68.4 percent) of parents signing the homework of their wards.

4.7 Conclusion

With the implementation of the Nine Year Continuous Basic Education Reform, the teaching and learning environment in schools will undergo fundamental changes. A new grade of teacher known as Educator Holistic Development will enter the service to teach examinable subjects such as 'The Arts', 'ICT Skills', 'Citizenship Education' and 'Health & Physical Education and Road Safety' at Grade 6 level. The introduction of these subjects will cater for the holistic development of the child. Consequently, recruitment of these teachers will have the effect of lowering the average age of overall Grade 6 teachers. Furthermore, emphasis will be laid on the professional development of teachers of all grades with regard to curriculum materials, new modes of assessment, ICT mediated learning and innovative pedagogies.

CHAPTER 5

CHARACTERISTICS OF SCHOOL HEADS AND THEIR VIEWS ON EDUCATIONAL INFRASTRUCTURE, SCHOOL OPERATION AND PROBLEMS

5.1 Introduction

Over the years, one of the main challenges of the Mauritian education has been to ensure quality education for all. The current Nine Year Schooling Reform focuses on improving teacher competency and school management, infrastructure and equipment, *inter alia*. The School Head drives the implementation of national education policies as well as the national curriculum and thus influences the strategic direction of a school.

Furthermore, Heads of schools are the instructional leaders and school effectiveness depends greatly on their leadership as well as on their managerial qualities. A school head with well-developed management skills creates a stimulating teaching and learning environment. The fact that School Heads are role models and are experienced Educators helps them to perform further duties effectively. School heads have the overall responsibility for the smooth and effective running of the school. The quality of leadership and the personal characteristics of the heads of schools often have a positive impact on the achievement of pupils.

"Effective school leaders are key to large-scale, sustainable education reform." Fullan (2002)

5.2 Personal characteristics of School Heads

This chapter provides information about the main characteristics of school heads as well as their views on school infrastructure and problems experienced with both pupils and teachers. The analysis on the gender distribution of school heads is meant to provide information on career progression of males and females in schools. The academic and professional qualifications of school heads contribute towards influencing the effective management of schools. School heads have to guide, mentor and coach teachers. Management courses for school heads are important as these would enhance their performance and day to day running of the school. In addition, the

school infrastructure should also be in good condition and equipped with all essential resources for the school to operate smoothly and effectively.

Table 5.1: Means, percentages and sampling errors for school heads' gender and age in years

Region	GENDER			MEAN AGE	
	Male	Female	Std Error	Estimate	Std Error
Port Louis & the North	51.2	48.8	9.5	60.4	0.20
Beau Bassin & the East	43.4	56.6	10.8	59.9	0.26
Curepipe & the South	56.0	44.0	12.2	60.0	0.24
Vacoas & the West	36.4	63.6	13.6	59.0	0.47
Rodrigues	71.1	28.9	15.7	58.4	0.43
Black River	57.9	42.1	13.5	59.8	0.47
Private Schools	30.9	69.1	10.2	58.4	1.22
SACMEQ IV	**45.8**	**54.2**	**4.6**	**59.5**	**0.32**
SACMEQ III	**59.9**	**40.1**	**4.4**	**56.0**	**0.25**
SACMEQ II	**66.2**	**33.8**	**3.8**	**53.5**	**0.27**
SACMEQ I	**69.3**	**30.7**	**3.9**	**54.0**	**0.23**

Table 5.1 provides data on the age and gender of the school heads.

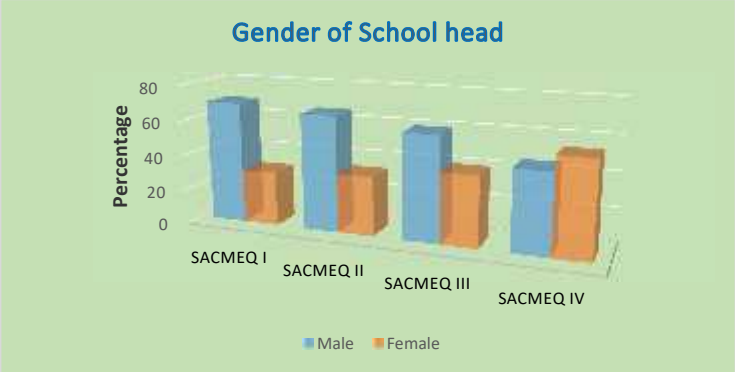
Findings:

The percentage shown for female Heads of schools in the Port Louis & the North region in SACMEQ IV means that 48.8 percent of pupils were in schools with headmasters who were female. The mean age suggests that the average Grade 6 pupil in that region was in a school whose headmaster was 60.4 years old. For the Republic of Mauritius, the average pupil had a school head who was 59.5 years old. There was not much variation among the Zones. The mean age of school heads for 2013 showed a slight increase from 56.0 to 59.5 years. This is mostly due to the rise in the retirement age from 60 to 65 years.

From the analysis of the SACMEQ III and SACMEQ IV data, it can be observed that the percentage of pupils with female school heads increased from 40.1 percent in 2007 to 54.2 percent in 2013. Vacoas & the West and private schools had the highest percentage of pupils with female

Headmasters, 63.6 and 69.1 respectively. It was also noted that Black River and Rodrigues had the highest percentages of pupils with male school heads. With the increase of female teachers entering the profession, the gender balance in all regions has been slowly improving, and this is a good sign as far as gender equality is concerned. This is illustrated in *Diagram 9*.

Diagram 9: Gender of School Heads



5.3 Professional characteristics of School Heads

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It is known from research on effective schools across the world that the most successful School Heads both lead and manage the people in their schools and that School Heads are responsible for establishing a school wide vision of commitment to high standards and the success of all students.

In this study, the academic education, the teaching experience and the specialised training of school heads in school management were used to analyse their professional characteristics.

For the SACMEQ IV study, school heads were invited to indicate the highest level of academic education they had reached. Data collected are presented in *Table 5.2*.

Findings:

It is to be noted that there still existed pupils who had Heads of schools with less than senior secondary education, that is, they had only junior secondary or primary education. Only Vacoas & the West and private schools reported school heads with this level of education. On a national level only 0.7 percent of pupils

had school heads who had not reached senior secondary level. Most probably these Heads of schools were appointed on a seniority basis from the grade of teachers, irrespective of academic qualifications at the time of promotion. On the other hand, there was an increase in the percentage of those pupils in schools where the heads had A-Level / Higher Studies from 36.6 percent in 2007 to 50.4 percent in 2013.

Table 5.2: Percentages for different levels of academic education of school heads

REGION	QUALIFICATION			
	Primary /Junior Secondary	Senior Secondary	A-Level/Higher Studies	Tertiary
Port Louis & the North	0.0	39.3	46.1	14.7
Beau Bassin & the East	0.0	43.3	52.9	3.8
Curepipe & the South	0.0	43.3	56.7	0.0
Vacoas & the West	7.9	27.9	64.2	0.0
Rodrigues	0.0	52.9	47.1	0.0
Black River	0.0	60.6	39.4	0.0
Private Schools	0.0	42.0	46.2	11.9
SACMEQ IV	**0.7**	**42.0**	**50.4**	**6.9**
SACMEQ III	**2.2**	**52.5**	**36.6**	**8.7**
SACMEQ II	**0.0**	**55.0**	**40.4**	**4.7**

5.3.1 Number of years of teacher training

Data collected showed that in 2013 about 98.4 percent of pupils were in schools where the School Head had benefited from at least one year pre-service teacher training. This can be explained by the fact that considering the age group of the school heads, most of them had followed the two year pre-service teacher training course as this was a pre-requisite for teaching in a primary school until 2003.

It is to be noted that the duration of the pre-service teacher training course presently delivered by the Mauritius Institute of Education (MIE) to trainee teachers is 2 years and 3 months. Only about 1.6 percent of pupils were in schools with School Heads who had followed teacher training for less than or equal to one year. It is considered that school heads with more experience as teachers are better equipped to manage their schools than those with less teaching experience.

Table 5.3 shows the means and sampling errors for the years of teaching experience of the school heads, by region.

Table 5.3: Means and sampling errors for the teaching experience of the school heads (yrs)

REGION	EXPERIENCE	
	Estimate	Std Error
Port Louis & the North	38.2	0.27
Beau Bassin & the East	38.0	0.20
Curepipe & the South	38.1	0.39
Vacoas & the West	37.3	0.51
Rodrigues	36.0	0.41
Black River	36.3	1.01
Private Schools	34.9	1.38
SACMEQ IV	**37.1**	**0.37**
SACMEQ III	**33.9**	**0.37**
SACMEQ II	**31.1**	**0.35**
SACMEQ I	**23.1**	**0.53**

Findings:

It was interesting to find that the average Standard 6 pupil in Mauritius had a head of school who had 37.1 years of teaching experience compared to the 33.9 years in 2007, representing an improvement by 3.2 years. This was viewed positively as it was expected to impact on the quality of management and its effect on the quality of teaching and learning. This is expected to improve further after government's decision to raise the legal retirement age from 60 to 65 years.

5.3.2 Specialised training in school management

A specialised course in school management will train newly appointed school heads with the legislation, regulations and personnel administration measures and will thus ensure that the school is managed satisfactorily and in compliance with current legislations

Table 5.4 shows the distribution of School Heads in 2013 who received specialised training in school management after promotion to that position.

Table 5.4: Percentages for Management Course and Academic Qualification

Region	Academic Qualification	Management Course
Port Louis & the North	100.0	89.6
Beau Bassin & the East	100.0	95.8
Curepipe & the South	100.0	88.7
Vacoas & the West	92.1	94.4
Rodrigues	100.0	76.2
Black River	100.0	92.9
Private Schools	100.0	83.0
Total	**99.3**	**88.7**

Findings:

(i) There was a significant increase in the percentage of pupils who had school heads having received specialised training in school management after they became School Heads. It increased from 75.5 percent in 2007 to 88.7 percent in 2013. All heads of schools are presently required to follow a distance diploma course in educational management at the Mauritius Institute of Education.

(ii) The Table also highlights that 99.3 percent pupils had school heads who had academic Qualifications and only 88.7 percent followed training in school management.

5.3.3 Distribution of headmasters who had attended an HIV and AIDS course

Table 5.5: Percentages for heads of schools having attended an HIV and AIDS course

Region	Attended HIV and AIDS Course	
	SACMEQ III	**SACMEQ IV**
Port Louis & the North	4.5	0.0
Beau Bassin & the East	4.2	0.0
Curepipe & the South	12.5	0.0
Vacoas & the West	5.1	7.4
Rodrigues	30.6	0.0
Black River	25.7	0.0
Private Schools	9.4	4.4
Total	**8.7**	**1.8**

The percentage of school heads who had followed training on HIV-AIDS has decreased from 8.7 percent in 2007 to 1.8 percent in 2014. For SACMEQ IV, only 7.4 percent of School Heads in Vacoas & the West and 4.4 percent in Private Schools had followed training on HIV-AIDS. In all other regions school heads had not followed any course on HIV-AIDS.

5.4 Behavioural problems in schools

In most countries, the problems of behaviour in schools have been increasing at an alarming rate in recent years. Indiscipline and bad behaviour continue to be ywo of the most challenging issues that schools face today. Even one disruptive pupil can threaten teaching and learning for the rest of the class. The behaviours exhibited by teachers as well determine to a great extent their effectiveness in the classroom and, ultimately, the impact they have on pupil achievement.

5.4.1 Pupils' behavioural problems

School heads were requested to provide information regarding the frequency of occurrence of behavioural problems in schools. The results for SACMEQ II, SACMEQ III and SACMEQ IV are displayed in *Table 5.6.*

Table 5.6: Occurrence of Behavioural Problems: Percentage of Schools

Behaviour	SACMEQ II	SACMEQ III	SACMEQ IV
Vandalism	41.3	54.8	11.6
Intimidation or verbal abuse of teachers	23.4	10.2	10.3
Sexual Harassment of Pupils	8.7	14.7	14.4
Sexual Harassment of Teachers	0.0	1.8	0
Drug Abuse	0.07	4.1	1.8
Alcohol Abuse or Possession	2.8	8.0	2.2
Pupil Health	97.6	97.4	97.9

Findings:

(i) The most frequently cited problem was health, which was the main reason for pupils' absences.

(ii) It should be noted that for SACMEQ IV, 1.8 percent and 2.2 percent of pupils were in schools where the problem of drug abuse and alcohol abuse respectively occurred sometimes or often.

5.4.2 Teachers' behavioural problems

Table 5.7 shows the results for teacher behavioural problems for SACMEQ II, SACMEQ III and SACMEQ IV.

Table 5.7: Percentages of Schools for teacher behavioural problems

Frequency of teacher behavioural problem	SACMEQ II	SACMEQ III	SACMEQ IV
Late arrivals	96.5	94.6	95.6
Absenteeism	44.6	54.5	51.1
Skipping classes	8.4	10.2	8.9
Intimidation or bullying of pupils	23.3	22.6	27.5
Sexual harassment of teachers	0.0	0.09	1.1
Sexual harassment of pupils	0.0	3.1	0.0
Use of abusive language	8.2	20.0	21.2
Drug abuse	0.0	1.4	0.0
Alcohol abuse	2.1	2.0	3.6
Health problems	8.7	83.8	71.3

Findings:

The major problems for teachers were the late arrivals of teachers at school, absenteeism and teachers' health. Some 4.4 percent of Grade 6 pupils were in schools where the heads reported that teachers never arrived late. Furthermore 51.1 percent of Grade 6 pupils were in schools where there was a problem of teachers' absenteeism. In 71.3 percent of schools the Heads of Schools reported that teachers had health problems.

5.5 Physical School Resources

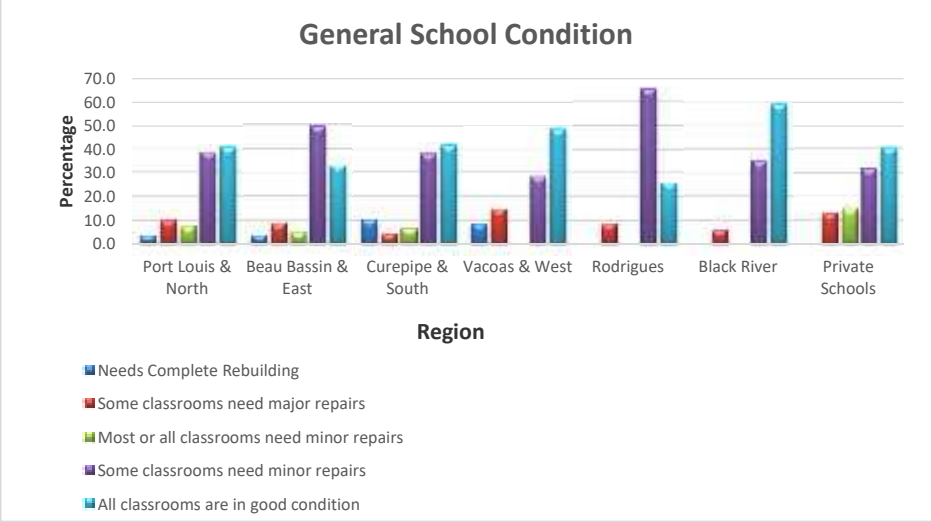
School building in good condition, school fence, staffroom, school head office contribute to the enhancement of the quality of the general conditions of schooling. Availability of adequate physical facilities for pupils, teachers and school heads provides a conducive school environment which boosts the quality of teaching and learning.

A school fence can reduce arson, breaking and entering, vandalism and trespass. Also, as the safety of pupils is of paramount importance, a school fencing creates a safe learning environment for pupils protecting them from trespassers and sexual predators.

5.5.1 General school condition

Regarding the general school condition in 2013, it is to be noted that 79.0 percent of pupils were in schools with either all classrooms are in good condition or some classrooms needing minor repairs. 3.9 percent of pupils were in schools which needed complete rebuilding and 9.9 percent of pupils were in schools where some classrooms needed major repairs. *Diagram 10* illustrates the general school condition in 2013 which prevailed in 2013 in all Regions.

Diagram 10: General school condition



5.5.2 The level of provision of school buildings in good condition and school fence.

Results displayed in *Table 5.8* below show that in 2013, 79.0 npercent of pupils were in schools with buildings in good condition. There was some variation between regions. The highest percentage of 93.9 percent was noted in Black River and the lowest percentage of 76.7 percent was noted in Vacoas & the West. From 81.4 percent in 2007 to 79.0 percent in 2014, there was not much change in the percentage of pupils in schools with good building conditions.

From *Table 5.8*, it can be seen that in 2013, there was a high percentage of pupils, 98.1 percent of pupils were in schools with a school fence. In Port Louis & North, Beau Bassin & the East, Curepipe & the South and Rodrigues all pupils were in schools which had a fence. Less than two percent of pupils were in schools with no fencing in the three regions of Black River, Curepipe & the South and Private Schools. Overall, there had been some progress from 2007.

Table 5.8: Percentages for schools with good building conditions and school fence.

REGION	Good Building Conditions	School Fence
Port Louis & North	78.9	100.0
Beau Bassin & East	82.3	100.0
Curepipe & South	79.1	100.0
Vacoas & West	76.7	92.4
Rodrigues	91.3	100.0
Black River	93.9	92.3
Private Schools	72.0	96.1
SACMEQ IV	**79.0**	**98.1**
SACMEQ III	**81.4**	**97.4**
SACMEQ II	**82.4**	**96.7**

5.5.3 The availability of school head office and staffroom in schools in different regions

To be able to perform effectively, a school head needs an office where he can attend to all administrative matters and meet staff, parents and other stakeholders. An office also enables the school head to have confidential conversations with those concerned.

The lack of a staffroom may limit any fruitful exchange and sharing of classroom experiences which may impact positively on teaching and learning. Also, the absence of a staffroom facility

may impact negatively on the morale of teachers who are forced to stay in the same classroom environment throughout the day.

Table 5.9: Percentages of pupils in schools with a school head office and a staff room.

	SACMEQ II		SACMEQ III		SACMEQ IV	
REGION	**School head office**	**Staffroom**	**School head office**	**Staffroom**	**School head office**	**Staffroom**
Port Louis & thev North	86.5	65.1	91.6	57.2	85.6	76.5
Beau Bassin & the East	83.8	47.5	81.0	47.3	71.2	85.7
Curepipe & the South	84.1	23.6	71.8	31.5	69.8	60.5
Vacoas & the West	58.7	41.7	67.1	55.2	81.6	70.0
Rodrigues	100.0	77.6	88.8	81.6	100.0	91.3
Black River	92.6	33.4	86.3	21.1	86.1	70.8
Private Schools	82.9	89.6	92.8	92.2	95.9	83.9
Mauritius	**82.6**	**56.8**	**83.8**	**57.6**	**83.8**	**77.5**

Findings:

From the results shown in *Table 5.9* above, it is seen that the percentage of pupils in schools where the school head had an office was 83.8 percent in 2013. There was some variation among Regions ranging from 100 percent in Rodrigues to 58.7 percent in Vacoas & the West. At the national level, there has been no change from 2007 when the percentage was 83.8. The percentage of pupils in schools where there was a staffroom for teachers has improved from 57.6 percent in 2007 to 77.5 percent in 2014. There was an increase in the percentages for all Regions except private schools in 2014 as compared to 2007.

Commented [u1]: Replace an by a separate office

5.6 Conclusion

In this chapter the following items have been analysed:

(i) the characteristics of heads of primary schools pertaining to the age, gender, teaching experience, teacher training specialised training in management

(ii) pupil and teacher behavioural problems and also

(iii) the availability of desirable physical resources such as school building, school fence, staffroom, school head office.

It has been observed that for SACMEQ IV 54.2 percent of standard 6 pupils in Mauritius were in schools where school heads were females aged 53.5 – 60.4 years. However, for SACMEQ III 59.9 percent of Grade 6 pupils in Mauritius were in schools where school heads were males, with an average age 56 years. Almost all SACMEQ IV school heads had one year or more teacher training qualification, with 99.3 percent of them having completed senior secondary or more. To enable their performance and ensure quality in their day to day running of the school, 88.7 percent of the school heads had attended management courses. In 2013, School heads were long service teachers with an average of 37.1 years of teaching experience.

Overall, there has been an improvement regarding gender, teaching experience, teacher training and specialised training in management. On the other hand, given the importance of HIV/ AIDS, it is to be noted that only 1.8 percent of pupils were in schools where school heads had followed training on HIV-AIDS. Regarding pupil and teacher behavioural problems, pupil and teacher lateness and health were found to be the major concerns. Compared to 2007, the findings show that there was an improvement regarding the availability of desirable physical resources.

CHAPTER 6
ESSENTIAL AND DESIRABLE SCHOOL PHYSICAL RESOURCES

6.1 Introduction

This chapter deals with the allocation of Essential and Desirable School Physical Resources by region and by location. It inspects the extent to which these resources were equitably allocated among regions. Physical resources play a key role in the attainment of the intended objectives of the schools and contribute to the establishment of a climate in which effective learning can occur.

6.1.1 Essential Resources

For effective teaching and learning to take place, essential resources such as Teaching and learning materials and Equipment and facilities need to be available in all classrooms. Teacher's Guide (English), Teacher's Guide (Mathematic)s, English Dictionary, Exercise Book, Pen/Pencil, Ruler, Reading Textbooks, Math Textbooks, Writing Board, Library (Class, School), Radio, Water and facilities of toilets are believed to be essential for a conducive learning environment. The minimum requirement for each pupil is an exercise book and a textbook for each subject, a pencil, a pen, a ruler. Also, provision should be made in the classroom for an appropriate chair and desk for each pupil and chair and table for the teacher. In addition, to teach effectively, teachers need Teacher's Guides for each subject, a writing board and a radio in their classrooms. Besides, Water is an essential commodity and all schools must have access to it.

As the main function of a class library is to support reading and writing instruction, it is essential that a class library be set up in each classroom, though it must be noted that in many schools there are class libraries.

6.1.2 Desirable Physical Resources

In addition to the essential resources, the availability of certain physical resources is desirable as they have the possibility of enhancing further the quality of the school environment and providing a positive learning experience. In this study the availability of Good School Buildings Condition,

School Head Office, Staff Room, School-Hall, Cupboard, Bookshelf, School-Fence, TV, Photocopier, Sports Ground, Telephone, Electricity, Computer and Fax Machine has been analysed.

6.2 Availability of Essential Resources

For the SACMEQ IV study, pupils were asked about their basic classroom materials such as an exercise book, a pen or pencil and a ruler, pupil sitting and writing place, own reading textbook, own Maths textbook and English dictionary.

Table *6.1* below shows the percentages of Grade 6 pupils who had a pupil sitting and writing place and access to their own textbooks for Mathematics and English and a dictionary. The table also displays the percentages of Grade 6 pupils who had access to the most elementary of pupil requirements such as an exercise book, a pen or a pencil and a ruler. *Diagram 11* compares figures for 2001, 2007 and 2013.

Table 6.1: Percentage of pupils per region with access to essential learning materials and facilities

	Exercise Book, Pen/Pencil& Ruler		Own Reading Textbook		Own Math Textbook		Pupil Sitting And Writing Place	
Region/ Location	**%**	**SE**	**percent**	**SE**	**%**	**SE**	**%**	**SE**
Port Louis & the North	92.6	1.1	71.0	5.2	78.9	4.8	99.6	0.3
Beau Bassin & the East	93.2	1.5	83.0	4.1	83.1	5.0	100.0	0.0
Curepipe & the South	92.4	2.6	79.7	6.5	92.3	3.4	100.0	0.0
Vacoas & the West	94.2	1.7	78.8	6.6	89.0	4.1	100.0	0.0
Rodrigues	96.0	1.9	54.8	4.7	62.5	6.7	99.6	0.4
Black River	96.0	1.6	76.6	8.7	86.3	6.3	100.0	0.0
Private Schools	94.9	0.8	74.2	4.9	89.8	2.5	100.0	0.0
Mauritius	**93.7**	**0.6**	**75.2**	**2.2**	**84.5**	**1.8**	**99.9**	**0.1**
Rural	92.6	1.0	78.3	2.9	89.4	1.5	99.9	0.1
Urban	94.8	0.7	72.1	3.4	79.7	3.0	99.8	0.1

Findings:

It is observed that in the 2013 more than 93.7 percent of pupils in all Regions had at least an exercise book, a pen or pencil and a ruler whereas in year 2007 only 85.9 percent of pupils had the same basic materials. Rodrigues and Black River had the highest percentage while Curepipe & the South had the lowest. It can also be seen that the percentage of pupils having an exercise book or a pen or pencil or a ruler was 92.6 percent for rural schools and 94.8 percent for urban schools.

Diagram 11: Comparison of Availability of Essential Resources (2001, 2007, 2013)

The SACMEQ IV study also indicates that 83percent of pupils in Beau Bassin & the East had reading text books, followed by 79.7 percent of pupils in Curepipe & the South, 78.8 percent pupils in Vacoas & the West, 76.6 percent pupils in Black River, 74.2 percent pupils in Private Schools, 71.0 percent pupils in Port Louis & the North and only 54.8 percent of pupils in Rodrigues. The percentage of pupils who reported to have mathematics text books ranged from 62.5 percent to 92.3 percent across the Regions. Rodrigues reported the lowest percentage of pupils who had mathematics text books (62.5 percent), followed by Port Louis & the North (78.9 percent). In general there was a shortage of reading text books in the whole country in 2013. This is indicated by the fact that only 75.2 percent of Grade 6 pupils reported to own a reading text book and 84.5 percent reported to have mathematics textbooks country wide. This also shows a regression compared to percentages in 2007 which showed 87.7 percent of Grade 6 pupils had access to their own English textbook and 89.7 percent had access to a Mathematics textbook. As in 2007,

Rodrigues had a much lower level of textbook access: Mathematics textbook at 62.5 percent and English textbook at 54.8 percent.

However, regarding the access of pupils to textbooks, it is noted that the percentage decreased from 2001 to 2007 and from 2007 to 2013. Also, schools in rural region had a higher percentage than those in schools in urban areas In schools in rural region, 78.3 percent of Grade 6 pupils had their own English textbook and 89.4 percent had their own Mathematics textbook while the percentages were72.1 and 79.7 for schools in urban areas.

Finally, according to this study, almost all pupils in Mauritius had a pupil chair and pupil desk in 2013.

6.3 Availability of water in schools

Water is a very essential commodity in schools and therefore a water supply is available in all schools. However, for Curepipe & the South the percentage of pupils in schools having access to water was 96.1 percent. There was most probably an interruption in the water supply in a school in that region at the time the study was conducted. *Table 6.3* shows that in all other regions except Curepipe & thev South the percentage of pupils in schools having access to water was 100 percent.

Commented [u2]: The percentage of standard 6 pupils in schools in Rodrigues having access to water was 100percent.

Table 6.3: Percentages and sampling errors for availability of water

	2001		2007		2013	
Region/ Location	percent	SE	percent	SE	percent	SE
Port Louis & the North	100.0	0.0	92.1	4.47	100.0	0.0
Beau Bassin & the East	100.0	0.0	95.1	4.85	100.0	0.0
Curepipe & the South	100.0	0.0	93.8	6.10	96.1	4.2
Vacoas & the West	100.0	0.0	100.0	0.00	100.0	0.0
Rodrigues	100.0	0.0	85.5	0.00	100.0	0.0
Black River	100.0	0.0	87.2	0.00	100.0	0.0
Private Schools	100.0	0.0	100.0	0.00	100.0	0.0
Mauritius	**100.0**	**0.0**	**94.9**	**1.80**	**99.4**	**0.6**
Rural	100.0	0.0	-	-	98.7	1.3
Urban	100.0	**0.0**	-	-	100.0	0.0

6.4 Access to essential teaching materials and equipment

The teaching resources in Table 6.3 are believed to be essential for teaching and learning. These resources represent the basic resources needed by teachers to enable them to teach effectively. Teachers were requested to answer questions about these facilities and the results are presented in this section. Information was sought from the teacher about the availability, in their classrooms, of a dictionary, a writing board, a classroom library, a teacher table and a teacher chair as well as a radio. The information obtained has been presented in *Table 6.4.*

In general, the results show that in Mauritius the availability of these essential resources was good as 100 percent of pupils were from classes where teachers had dictionaries, 99.6 percent of the pupils in all the regions were taught in class rooms which had a writing board. 99 percent in classes where teachers had a table and a chair for the teacher, 100 percent of the pupils were taught in a class where there was either a classroom library or a school library, 100 percent of the pupils were in a class where a dictionary was available and 82.3 percent of 100 percent of pupils had access to the radio. The analysis further indicates that 99 percent and above of the pupils across the regions were taught in a class where there were resources such as teacher' tables and chairs, classroom and or school library, radio for the purpose of educational radio lessons, teacher's dictionary'

Table 6.4: Percentage of pupils taught by teachers with access to essential teaching materials and equipment

	Writing Board		Teacher Table and Chair		Library Class, school or both		Radio		English Dictionary	
Region	**%**	**SE**	**%**	**SE**	**%**	**SE**	**%**	**SE**	**%**	**SE**
Port Louis & North	98.4	1.6	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
Beau Bassin & East	100.0	0.0	97.3	2.7	100.0	0.0	100.0	0.0	100.0	0.0
Curepipe & South	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
Vacoas & West	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
Rodrigues	100.0	0.0	96.5	2.8	100.0	0.0	100.0	0.0	100.0	0.0
Black River	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
Private Schools	100.0	0.0	98.6	1.3	96.3	3.5	100.0	0.0	100.0	0.0
Mauritius	**99.6**	**0.4**	**99.0**	**0.6**	**99.1**	**0.9**	**100.0**	**0.0**	100.0	0.0
Rural	100.0	0.0	98.0	1.1	98.3	1.7	100.0	0.0	**100.0**	**0.0**
Urban	99.2	0.8	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0

6.5 Availability of Teachers' guides

Data in *Table 6.5* show that in 2013, more than 99 percent pupils were taught by teachers who had English teachers' guides. More than 98 percent of pupils were taught by teachers who had Mathematics teachers' guides. There was some variation between regions with the lowest percentages in Beau Bassin & the East with 94.6 percent for English and 92.5 percent for Mathematics.

It is also noted that there was an improvement in the availability of teachers' guides from 2007 to 2013. The percentage of pupils taught by teachers who had access to a teacher's guide for English in their school had increased considerably from 78.4 percent to 98.9 percent whereas for Mathematics it had increased from 69.1 percent to 98.0 percent.

Moreover, it is to be noted from findings that the percentages for urban and rural location are nearly the same. It is to be highlighted that in Mauritius, every teacher is given the relevant teacher's guides.

Table 6.5: Percentages and sampling errors for pupils having teachers with teacher guides

	2013				2007			
Region ID	**Teacher's Guide English**	**SE**	**Teacher's Guide Mathematics**	**SE**	**Teacher's Guide English**	**SE**	**Teacher's Guide Mathematics**	**SE**
Port Louis & the North	100.0	0.0	100.0	0.0	70.6	5.02	56.8	5.51
Beau Bassin & the East	94.6	2.9	92.5	4.5	86.6	5.63	80.7	6.41
Curepipe & the South	100.0	0.0	100.0	0.0	85.0	4.41	78.3	4.95
Vacoas & the West	100.0	0.0	100.0	0.0	70.8	9.38	65.1	9.29
Rodrigues	100.0	0.0	100.0	0.0	78.3	1.90	64.5	1.19
Black River	100.0	0.0	100.0	0.0	71.7	2.72	57.1	2.77
Private Schools	99.1	0.9	96.8	3.1	81.5	4.96	73.2	5.86
Mauritius	**98.9**	**0.5**	**98.0**	**1.0**	**78.4**	**2.33**	**69.1**	**2.61**
Rural	**98.2**	**1.0**	**97.5**	**1.5**				
Urban	**99.6**	**0.4**	**98.6**	**1.4**				

6.6 Desirable Resource Distribution by Region and by Urban/Rural Location

From *Table 6.6* it can be seen that in 2013 the percentage of pupils in schools with buildings in good condition was 82.6 percent, an office for the School Head was 83.8 percent, Staffroom was 77.5 percent, Hall was 14.4 percent, Fence was 98.1 percent, Sports ground was 75.4 percent.

There was only a slight variation in the percentages between urban and rural schools regarding most of these resources. It is to be noted that the availability of a school hall was 17.3 percent for schools in rural areas and 30.1 percent for schools in urban areas.

Table 6.6 :Percentages and sampling errors for schools with Desirable Resources such as good building conditions, a Head office, a staffroom, a school Hall, a school fence and a sports playground

Region	Good Building Condition	SE	Head Office	SE	Staff Room	SE	Hall	SE	Fence	SE	School Sports Ground	SE
Port Louis & North	86.4	6.5	85.6	6.9	76.5	8.6	14.4	6.9	100.0	0.0	65.9	9.4
Beau Bassin & East	87.4	7.1	71.2	10.4	85.7	7.8	17.4	8.2	100.0	0.0	83.6	7.8
Curepipe & South	85.6	8.1	69.8	11.0	60.5	12.1	11.1	7.6	100.0	0.0	82.1	9.8
Vacoas & West	76.7	12.2	81.6	10.2	70.0	13.1	22.8	12.3	92.4	7.6	85.2	10.1
Rodrigues	91.3	9.1	100.0	0.0	91.3	9.1	65.2	19.3	100.0	0.0	66.2	21.5
Black River	93.9	6.2	86.1	9.5	70.8	13.0	14.9	10.3	92.3	7.7	79.3	11.2
Private Schools	87.0	9.3	95.9	4.1	83.9	8.8	35.9	10.6	96.1	3.9	72.9	9.3
Mauritius	**86.2**	**3.5**	**83.8**	**3.3**	**77.5**	**4.0**	**23.7**	**4.1**	**98.1**	**1.2**	**75.4**	**4.2**
Rural	**84.9**	**5.5**	**80.6**	**5.2**	**75.3**	**5.7**	**17.3**	**4.9**	99.4	0.6	78.9	5.5
Urban	**87.5**	**4.3**	**86.9**	**4.2**	**79.7**	**5.7**	**30.1**	**6.4**	96.7	2.3	72.0	6.2

6.7 Provision of Cupboard, Bookshelf & Electricity

Data in *Table 6.7* below show that in 2013, electricity was available in all schools. It also indicates that nearly 95percent of pupils were in classrooms with a cupboard and a bookshelf. Apart from Rodrigues, there was little variation across regions in the percentages for both cupboards and bookshelves. For Rodrigues the availability was 78.0 percent for cupboard and 77.1 percent for bookshelf.

Table 6.7: Percentages and sampling errors for schools having Cupboard, Bookshelf & Electricity.

	Cupboard		Bookshelf		Electricity	
Region	**%**	**SE**	**%**	**SE**	**%**	**SE**
Port Louis & the North	94.3	3.3	100	0	100	0
Beau Bassin & the East	100	0	93.4	4.1	100	0
Curepipe & the South	100	0	97.7	2.3	100	0
Vacoas & the West	100	0	93.7	5.4	100	0
Rodrigues	78	12.9	77.1	12.7	100	0
Black River	100	0	100	0	100	0
Private Schools	92.8	4.1	91.4	4.4	100	0
Mauritius	**95.5**	**1.6**	**94.5**	**1.7**	100	0
Rural	97.9	1.1	97	1.4	100	0
Urban	**93.2**	**3**	**92**	**3**	100	0

6.8 Provision of TV, Photocopier, Telephone, Fax Machine & Computer in Schools

Table 6.8 highlights that in 2013, all Grade 6 pupils were in schools where a computer, a photocopier and a TV set were available. Also, above 98 percent Grade 6 pupils were in schools having a Telephone and a Fax Machine.

Table 6.8: Percentages and sampling errors for schools having TV, Photocopier, Electricity and Computer.

	TV		Photocopier		Computer		Telephone		Fax Machine	
Region	**%**	**SE**	**%**	**SE**	**%**	**SE**	**%**	**SE**	**%**	**SE**
Port Louis & North	100	0	100	0	100	0	100	0	100	0
Beau Bassin & East	100	0	100	0	100	0	100	0	100	0
Curepipe & South	100	0	100	0	100	0	100	0	89.1	7.5
Vacoas & West	100	0	100	0	100	0	92.6	7.4	100	0
Rodrigues	100	0	100	0	100	0	100	0	100	0
Black River	100	0	100	0	100	0	100	0	100	0
Private Schools	100	0	100	0	100	0	100	0	90.6	6.5
Mauritius	**100**	**0**	**100**	**0**	**100**	**0**	**99.3**	**0.7**	**96.1**	**2**
Rural	100	0	100	0	100	0	100	0	94.1	3.4
Urban	**100**	**0**	**100**	**0**	100	0	98.5	1.5	98	2

6.9 Conclusion

This chapter examined the extent to which resources were equitably allocated among regions and among schools in urban and in rural locations. On the whole, from the findings it can be seen that most of the resources have been allocated equitably among the regions. However, in order to address observed inequities, Directors of Educational Zones should ensure that all educational resources are made available in toto in all schools, as these resources are distributed centrally to all zones for serving all schools indistinctly.

CHAPTER 7

ACHIEVEMENT LEVELS OF GRADE 6 PUPILS IN READING AND MATHEMATICS

7.1 Overview of Chapter

This chapter gives detailed data on the achievement of Grade 6 pupils in Reading and Mathematics, disaggregated by regions. Pupils' scores were scaled to a standardised mean of 500 and a standard deviation of 10 to enable comparison with SACMEQ II and III data as well as comparison across SACMEQ countries. Emphasis is also made on pupil achievement/ competency levels for both Reading and Mathematics. Achievement/ competency levels range from 1 (lowest) to 8 (highest) and the mean achievement level is given in percentage. The achievement levels describe the skills pupils had acquired at the eight levels of competency measured by the scaled scores and the skills required for pupils to move from one level of competence to a higher level.

Among the factors which determine pupils' performance are: teacher qualification and experience, school leadership, socio-economic status of students, parent involvement, facilities available at school such as library, IT equipment, Health and safety of pupils and the school ethos and climate in general. In this chapter, an attempt has been made to find the level of correlation between pupils' achievement and teacher qualification and experience since it is considered that the main factor affecting pupils' performance is the teacher.

7.2 Pupils Reading Achievement Scores by Region

The overall score for Mauritius in Reading and regional scores are given in *table 7.1* below.

Table 7.1: Pupil Reading Scores

Pupil Reading Achievement Scores by Region				
Region ID			**Estimate**	**Standard Error**
Port Louis & the North	Mean	Standardized score	591.7	9.64
Beau Bassin & the East	Mean	Standardized score	506.8	6.41
Curepipe & the South	Mean	Standardized score	604.3	10.41
Vacoas & the West	Mean	Standardized score	583.8	10.28
Rodrigues	Mean	Standardized score	594.2	15.44
Black River	Mean	Standardized score	540.0	7.77
Private Schools	Mean	Standardized score	613.7	11.39
Mauritius	**Mean**	**Standardized score**	**587.8**	**5.14**
SACMEQ III	**Mean**	**Standardized score**	**573.5**	
SACMEQ II	**Mean**	**Standardized score**	**536.4**	

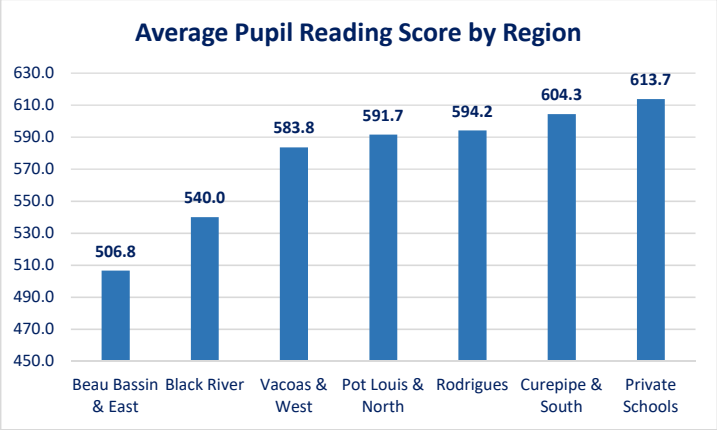
Findings:

(i) The standardized mean scores for the pupils of all Regions are above the standard mean of 500 set for all the fifteen Member States by SACMEQ. The average standardized mean score for Mauritius was 587.8 with a standard error of 5.14.

(ii) The overall reading achievement of pupils had increased as compared to SACMEQ II and SACMEQ III studies, for which the mean scores were 536.4 and 573.5 respectively. This can be explained by the fact that Grade 6 pupils had access to more school resources and were coached by better trained teachers.

Diagram 12 illustrates the reading achievement of pupils by region and in ascending order. The average pupil score for Private Schools (613.7) was the highest whereas the lowest score was in the Black River region (540.0). The score obtained by private schools was very promising; it was above that of all regions comprising public schools.

Diagram 12: Average Pupils Reading Scores



7.3 Reading Achievement Levels by Region

The achievement scores in reading by regions were divided into the eight levels of reading from level 1 (the lowest) to level 8 (the highest). Levels 4 to 8 were considered as acceptable achievement levels and their aggregate for each region is the 'Acceptable Reading skills' for that region. The qualitative classification is produced in *Table 7.2*.

Table 7.2: Reading Achievement Levels by Region (% of Pupils)

Region ID	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Acceptable Reading Skills	
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	SE
Port Louis & the North	1.9	5.7	3.2	11.1	16.8	19.4	27.5	14.4	**89.3**	**1.76**
Beau Bassin & the East	5.3	9.8	13.3	24.8	20.4	16.9	7.1	2.4	**71.6**	**2.99**
Curepipe & the South	1.2	2.7	3.9	10.4	15.9	19.2	32.8	14	**92.3**	**1.89**
Vacoas & the West	1.8	4.2	6.9	14.2	16.6	18.7	23.3	14.3	**87.2**	**1.74**
Rodrigues	1	2	6.2	14.1	17.9	17.2	25.9	15.8	**90.8**	**2.08**
Black River	2.5	11.5	8.2	14.2	25.8	14.6	17.8	5.4	**77.8**	**3.77**
Private Schools	0.5	3.4	6.3	7.5	13.2	17.4	32.5	19.2	**89.8**	**2.71**
MAURITIUS	**1.6**	**4.3**	**5.9**	**12.9**	**17.2**	**18.1**	**26**	**14.1**	**88.2**	**0.89**

Findings:

(i) Curepipe & the South region showed the highest acceptable reading skills (92.83 percent) followed by Rodrigues (90.8 percent). The Beau Bassin & the East region had the lowest acceptable reading skill of 71.6.

(ii) The modal reading achievement level of pupils in all geographical locations, except Beau Bassin & the East, was level 7. Above 56 percent pupils in all regions with the exception of Beau Bassin& the East and Black River achieved at least level 6. Only 2.84 percent and 5.4 percent pupils in Beau Bassin & the East and Black River respectively achieved level 8. Social factors such as poverty, less availability of resources and low involvement of parents in their wards' education may account for low achievement in those two regions.

7.4 Pupils Mathematics Achievement Scores by Region

The overall score for Mauritius in Mathematics and regional scores are given in *table 7.3* below.

Table 7.3: Pupil Mathematics Scores

Pupil Mathematics Achievement Scores by Region				
Region ID			**Estimate**	**Standard Error**
Port Louis & the North	Mean	Standardized score	652.2	13.68
Beau Bassin & the East	Mean	Standardized score	555.4	9.81
Curepipe & the South	Mean	Standardized score	670.6	14.96
Vacoas & the West	Mean	Standardized score	634.4	13.05
Rodrigues	Mean	Standardized score	651.3	18.73
Black River	Mean	Standardized score	591.3	6.35
Private Schools	Mean	Standardized score	665.2	17.01
Mauritius	**Mean**	**Standardized score**	**644.1**	**6.62**
SACMEQ III	**Mean**	**Standardized score**	**584**	
SACMEQ II	**Mean**	**Standardized score**	**623**	

Findings:

(i) The standardized mean scores for the pupils of all regions are above the standard mean of 500 set for all the fifteen Member States by SACMEQ. The average standardized mean score for Mauritius was 644.1 with a standard error of 6.62

(ii) The overall achievement of pupils in mathematics had increased as compared to SACMEQ II and SACMEQ III studies, for which the mean scores were 536.4 and 573.5 respectively.

(iii) The average pupil score in Curepipe & the South region (670.6) was the highest whereas the lowest score was in the Beau Bassin & the East region (555.4). The score obtained by private schools (665.2) was the second highest score. Low involvement of parents in their wards' education and social factors may explain the lowest scores obtained by pupils in Black River and Beau Bassin & the East.

7.5 Mathematics Achievement Levels by Region

The achievement scores in mathematics by regions were divided into the eight levels as was the case for reading achievement scores. Levels 4 to 8 were considered as acceptable achievement levels and their aggregate for each region is the 'Acceptable Mathematics Skills' for that region. The qualitative classification is produced in *Table 7.4.*

Table 7.4: Mathematics Achievement Levels by Region (percent of Pupils)

Region ID	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	**Acceptable Numeracy Skills**
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	**Mean**
Port Louis & the North	0.6	5.2	14.8	19.1	11.2	20.1	12.6	16.3	**79.3**
Beau Bassin % the East	2.2	10.2	32	28.4	7.6	12.3	5.6	1.8	**55.7**
Curepipe & the South	0.6	4	10.1	14.3	14.1	21.9	17.7	17.3	**85.3**
Vacoas & the West	0.6	7.1	19.1	18.8	11.8	15.9	12.6	14	**73.1**
Rodrigues	0	4.2	15.2	18.1	15.1	18.8	12.7	15.7	**80.4**
Black River	2.7	12.9	15.5	23.5	13.5	16.4	11	4.5	**68.9**
Private Schools	0	5.5	9.4	22.1	13.7	17.1	11.3	20.9	**85.1**
MAURITIUS	**1.6**	**4.3**	15.5	**19**	**13**	**18.2**	**12.9**	**14.9**	**78**

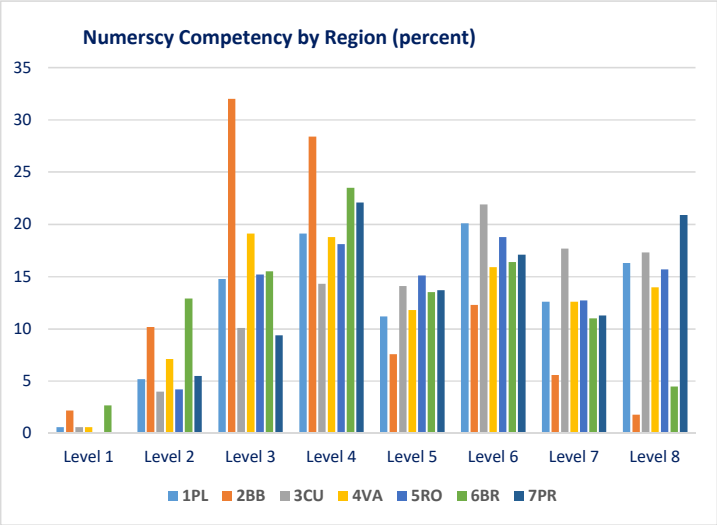
Findings:

(i) Curepipe & the South region showed the highest acceptable mathematics skills (85.3) followed by Private Schools (85.1). The Beau Bassin & the East region had the lowest acceptable mathematics skill of 55.7.

(ii) The modal achievement level in mathematics of pupils in all geographical locations, except Beau Bassin & the East and Black River, was level 8, meaning that Grade 6 pupils' performance in mathematics in those regions was excellent. For Beau Bassin & the East and Black River, the modal achievement levels were 3 and 4 respectively. Only 1.8 percent of pupils in Beau Bassin& the East and 4.5 percent in Black River respectively attained level 8.

Figures from *table 7.5* are diagrammatically represented in the following bar chart illustrating clearly the competency levels in mathematics by regions.

Diagram 13: Bar Chart to represent Competency Levels in Maths

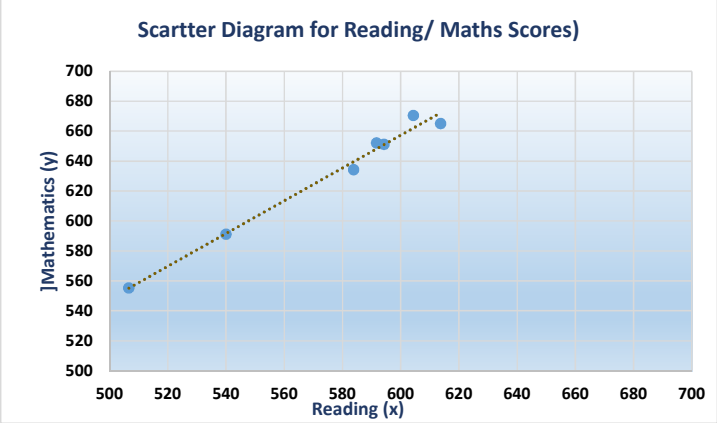


The percentage of pupils who attained level 8 was highest in Private Schools and lowest in Beau Bassin & the East. The majority of pupils in all regions reached at least level 5 inferring that the rate of numeracy of Grade 6 pupils in Mauritius was high. However, the low achievement of pupils in Beau Bassin & the East and Black River is yet to be investigated and remedial action to be taken to redress this situation.

7.6 Comparison between Literacy and Numeracy Levels

An attempt was made to investigate whether there was a correlation between reading and mathematics achievement levels of Grade 6 pupils. Pupils' achievement scores in reading and mathematics from *Tables 7.2* and *7.4* were represented in the scatter diagram below (*Diagram 14*) which led to the deduction that a linear relationship existed between reading and mathematics scores. The dotted line is the regression line which confirms that a positive linear relationship exists between the two variables.

Diagram 14: Scatter Diagram between Reading and Maths Achievement Scores



To confirm whether a strong positive relationship exists between Mathematics and reading achievement scores, the Pearson's product moment correlation coefficient, *r*, was calculated from figures in *table 7.5*. The product moment correlation coefficient is a numerical value between -1 and 1 inclusive which indicates the linear degree of scatter. If r =1, there is perfect positive linear correlation; if r = -1, there is perfect negative linear correlation; r = 0 indicates no correlation. The nearer the value of r is to -1 or 1, the closer the points in the scatter diagram are to the regression line.

Table 7.5: Relationship between Reading and Math Achievement Scores

	Reading Achievement Score *(y)*	Mathematics Achievement Score (*x*)
Port Louis & North	591.7	652.2
Beau Bassin & East	506.8	555,4
Curepipe & South	604.3	670.6
Vacoas & West	583.8	634.5
Rodrigues	594.2	651.3
Black River	540.0	591.3
Private Schools	613.7	665.2

r = 0.980

The Pearson's product moment correlation coefficient, *r*, was calculated using Microsoft Excel and yielded the value of 0.980. Since *r* is very close to 1, it was concluded that there was a high positive linear relationship between reading and mathematics achievement scores.

The next step was to establish the mathematical equation of the least squares regression line of reading score (*y*) on mathematics score (*x*) in the form of $y = a + b\,x$. Since both variables *x* and *y* are not controlled, this line can be used to estimate *y* for a given value of *x* (or vice versa since there was a strong linear relationship between *x* and *y*).

Using the least squares regression line method, the values of *a* and *b* were 57.278 and 0.777 respectively. The established positive linear relationship between reading and mathematics achievement scores was: $\boldsymbol{y = 8.71 + 0.777x}$.

7.7 Reading and Mathematics Achievement Scores by Region, Gender, SES and Location

Reading and Mathematics achievement scores were analysed with respect to gender, location and socio-economic status and results are displayed in *Tables 7.6 & 7.7* respectively.

Table 7.6: Reading Achievement Scores by Region, Gender and SES

	READING ACHIEVEMENT SCORES											
	Transformed Scores by Region and Gender				Transformed Scores by Region and SES				Transformed Scores by Region and Loation			
	Boys		Girls		Low SES		High SES		Rural		Urban	
Region	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Pot Louis & the North	563.7	11.2	604.1	9.7	569.1	9.5	617.2	12.2	597.7	17.2	575.0	12.5
Beau Bassin & the East	578.3	11.1	606.1	10.1	560.1	8.8	634.1	10.2	603.0	11.5	569.2	15.0
Curepipe & the South	591.4	10.9	618.8	12.2	588.2	12.5	626.2	9.7	612.8	10.9	590.0	21.1
Vacoas & the West	598.1	14.9	630.7	13.4	584.8	12.6	639.7	10.3	x	x	613.7	11.4
Rodrigues	536.1	13.3	544.3	7.5	545.2	10.	584.1	18.3	531.1	7.8	558.7	8.4
Black River	482.3	7.0	534.2	8.4	513.0	8.84	518.0	11.8	508.0	6.7	486.2	0.0
Private Schools	586.6	16.2	602.8	15.7	572.6	15.4	618.5	15.4	565.7	21.4	621.9	17.2
Mauritius	**573.9**	**5.6**	**602.7**	**5.4**	**568.5**	**4.9**	**621.7**	**5.7**	**582.3**	**7.1**	**593.4**	**6.9**

Table 7.7: Maths Achievement Scores by Region, Gender and SES

			MATHEMATICS ACHIEVEMENT SCORES									
	Transformed Scores by Region and Gender				Transformed Scores by Region and SES				Transformed Scores by Region and Loation			
	Boys		Girls		Low SES		High SES		Rural		Urban	
Region	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Pot Louis & the North	623.7	14.6	645.2	12.5	610.8	13.1	680.0	16.0	647.2	22.0	626.3	16.2
Beau Bassin & the East	640.3	15.7	665.2	14.1	611.5	13.2	699.9	15.4	662.6	18.4	631.5	16.9
Curepipe & the South	667.3	14.2	677.3	19.4	645.1	16.3	702.1	14.4	682.6	17.6	650.0	27.3
Vacoas & the West	667.0	19.5	663.4	20.5	644.1	15.8	697.0	20.8	x	x	665.2	17.0
Rodrigues	587.0	9.6	596.0	9.9	601.2	11.8	644.1	11.4	589.9	6.8	594.2	19.2
Black River	544.1	11.8	567.8	10.9	562.7	10.6	570.7	13.8	557.2	10.3	527.4	0.00
Private Schools	653.9	21.8	648.3	18.3	621.8	15.7	687.1	21.7	608.1	24.3	693.7	20.1
Mauritius	**638.6**	**7.5**	**650.1**	**6.9**	**619.1**	**6.1**	**687.6**	**8.1**	**637.2**	**9.2**	**650.9**	**8.8**

Findings:

(i) Girls, on average, performed much better than boys in all regions both in Reading and Mathematics. Gender equality with a parity index of 1, equity of access to education and free primary and secondary schooling are the lead factors influencing this trend over the past years.

(ii) There is a marked difference in pupils' attainment in all regions with regard to socio-economic status (SES), those with high SES doing much better than those with low SES.

(iii) Pupils in rural areas, with the exception of Rodrigues and Private Schools, did better than those in urban areas. Reasons for this are yet to be investigated.

7.8 Conclusion

Comparison of SACMEQ III and SACMEQ IV Reading and Mathematics Achievement Scores of Grade 6 pupils shows an increase in performance by 2.5 percent and 12.3 percent respectively. However, girls continue to perform better in both subject areas and further investigation is required to explain this tendency.

One major factor influencing the performance of pupils both in Reading and Mathematics is their socio-economic status. Teachers, Heads of schools and Administrators should work collaboratively in order to find ways to reduce the marked difference in pupils' attainment with regard to their socio-economic status.

The low achievement of pupils in Black River and Beau Bassin & the East regions is another important issue to be considered by educational administrators. Involvement of parents in their wards' schooling, remedial education, peer learning, reduced class size, student behavior and attitude towards learning and social background are areas to be explored further to address this issue.

CHAPTER 8

PUPILS' AND TEACHERS' KNOWLEDGE ABOUT HIV & AIDS

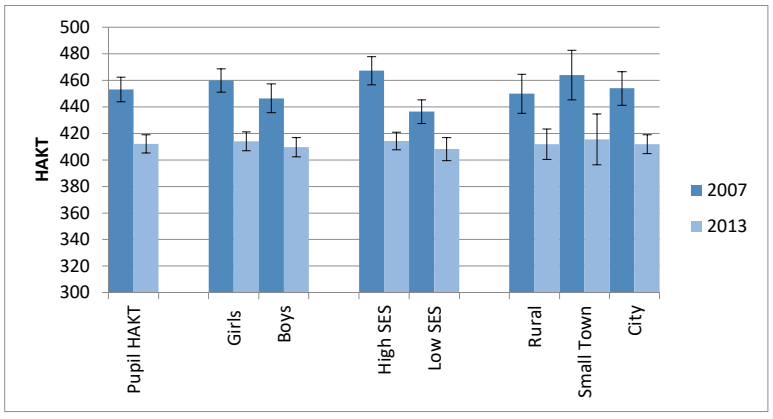
8.1 Introduction

Prior to undertaking the survey, given that they had limited knowledge on HIV and AIDS, pupils were briefed on this disease so that they could at least recognize HIV as human immunodeficiency virus causing AIDS which is the last stage of this infection and triggers other various diseases. During the survey, there was a large number of pupils who had the misconception that they could be contaminated if the infected peers or teachers were near to them. The results of SACMEQ IV Project have been sorted into knowledge levels of pupils and teachers, availability of textbooks in relation to this virus and comfort levels of pupils discussing about this substance to teachers.

8.2 Pupils Knowledge

In the pilot study and the main study held in 2012 and 2013 correspondingly, an HIV and AIDS Knowledge Test (HAKT) was undertaken and a questionnaire was set to find out the behavior and attitudes of pupils towards this spreading disease and whether they have attended HIV and AIDS classes. *Diagram 15* shows the level of their knowledge into this health issue.

Diagram 15: Bar Chart on Assessment of the HAKT



Findings:

(i) It is to be noted that the bars denote 95 percent confidence interval for the sample. In other words, the range of values presented in the above chart are so defined that it is highly probable that the individual figures lie within this parameter and are to a great extent (95 percent) true plus correct.

(ii) The rate of HIV and AIDS was and is much lower in contrast to other African countries. Subsequently, pupils in Mauritius had lower levels of knowledge about HIV and AIDS. The measure of awareness of Grade 6 pupils in SACMEQ III Project amounted to a mean number of 453. This number declined by a difference of about 40.9 and reached an average of 412 for SACMEQ IV. This fall is critical since the mean numbers are beneath the SACMEQ regional average of 500.

(iii) With regard to the levels aggregated to gender, inequality is perceived as boys and girls had uneven apprehension of the virus. However, because girls do better in academic studies in Mauritius, it is not surprising that girls were more knowledgeable about HIV and AIDS.

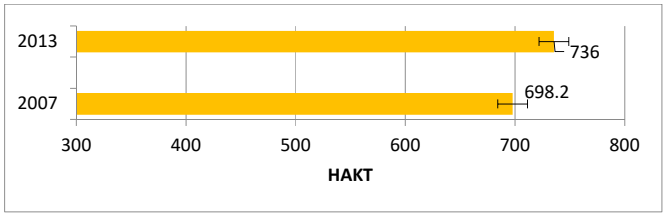
(iv) The Socio-Economic Status (SES) is measured as a combination of education, occupation and income. Low SES and its curtailment such as poor education and poverty eventually have a negative impact on health in terms of HIV and AIDS. Pupils from high SES had more knowledge than the children coming from low SES backgrounds. It is a well-known fact that HIV and AIDS affect especially those with lower SES at a highly disproportionate rate. To create awareness, resources like pamphlets and protective tools are often distributed freely in public gatherings to avoid this disease and informative posters in nearby medical health centres and hospitals are displayed.

8.3 HIV and AIDS Knowledge Levels of Educators

Clearly, teachers being more educated, trained and mature have better knowledge about this virus than pupils. The problem therefore lies in the delivery of this cognizance from teachers to pupils. The question raised is why pupils did not score high knowledge levels. Pupils may not assimilate teachers' lessons or simply teachers do not stress on HIV and AIDS. Still, it is requisite that the

teachers impart their knowledge to their pupils. The knowledge of the teachers were tested in the Teacher's questionnaire and the results are summarized in Diagram *16*.

Diagram 16: Levels of knowledge of Primary Educators

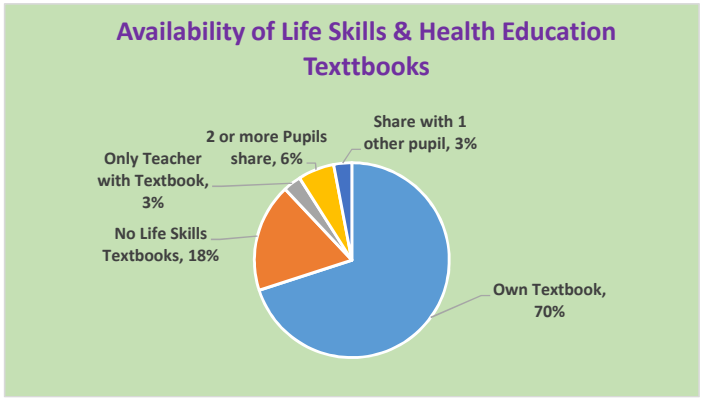


Comments:

An increase in the average by 37.8 points had been spotted from the year 2007 to 2013. A score of 736 contributed to high knowledge levels as it exceeded the standardized mean of 500. The Primary School Educators had benefited from training at the Mauritius Examination Syndicate (MIE) before taking up classes. Furthermore, during school holidays, they were convened to attend workshops on HIV and AIDS. Further awareness campaigns were carried out mostly devised by African countries, on the prevention and diagnosis of HIV and AIDS through the various media of communication (television, radio, social websites and notice board in schools amongst others).

8.4 Availability of Life Skills and Health Education Textbooks

Diagram 17: Availability of Life Skills and Health Education Textbook



It was discussed in Chapter six that school resources in the shape of textbooks are essential for expanding the learning and skills of pupils. *Diagram 17* illustrates the accessibility to textbooks on life skills and health education.

Observations:

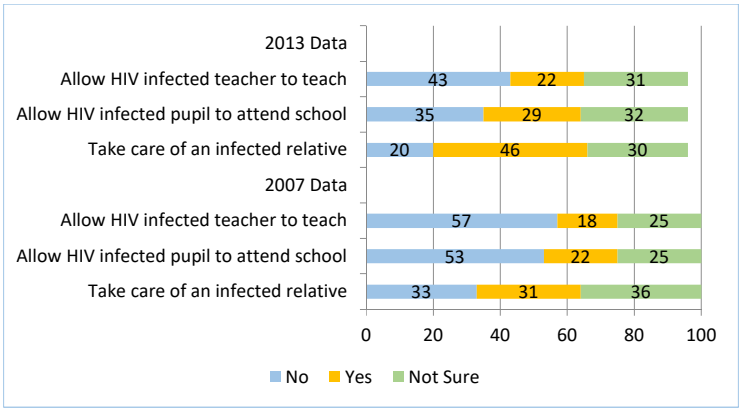
(i) It is observed that 70.7 percent of the Grade 6 pupils reported that they owned textbooks. This means that 29.3 percent of the pupils did not possess textbooks and were not exposed to further reading at home.

(ii) Attention is to be drawn to the fact that 18 percent of Grade 6 pupils were not in possession of the textbooks on life skills and health education which probably explains the low awareness of pupils and teachers on HIV and AIDs.

8.5 Attitudes of Pupils towards HIV and AIDS infected individuals

It is interesting to look at the points achieved by the pupils following the survey on their behavioral manners towards those suffering from HIV and AIDS. The reactions of pupils to questions on this theme are statistically represented in *Diagram 18.*.

Diagram 18: Attitudes of pupils towards HIV and AIDS infected individuals



As a matter of fact, three types of questions were set. Firstly, it queried about whether the pupils would take care of an infected relative. In the second place, pupils were asked as to whether they would allow their infected peers to attend classes, sit along with them and play with them. The final question inquired whether they would accept infected teachers to deliver lessons.

Findings:

(i) With regard to the responses of the first question 46 percent of pupils in 2013 responded positively (ready to take care of an infected relative) as compared to 31 percent in 2007.

(ii) With regard to the responses of the second and third questions, there were more positive responses in 2013 compared to 2007. Consequently, it could be attested that changes are taking place in the mindset of pupils and the latter have started to hold positive attitudes towards infected people.

8.6 Comfort Levels in Discussing HIV and AIDS with Teacher

Teachers should make pupils feel at ease and free to discuss and ask any question about HIV and AIDS. The subsequent table sets forth the levels of comfort with which pupils talk about HIV and AIDS.

Table 8.2: Comfort levels in exchanging views on HIV and AIDS with teachers

Views	Percentage	Average Pupil HAKT
Very comfortable talking about HIV AIDS with teacher	17	410
Somewhat comfortable talking about HIV AIDS with teacher	16	412
Somewhat uncomfortable talking about HIV AIDS with teacher	16	418
Very uncomfortable talking about HIV AIDS with teacher	51	412

Comments:

(i) The mean values of HAKT had not been influenced by the percentages of comfort levels.

(ii) Regarding the freedom of speech about HIV and AIDS, only 17 percent of the pupils fell into this category. This percentage is a matter of worry since it is indicative of the lack of communication channel between pupils and teachers on this issue. The idea should be underpinned by teachers to permit and make the

pupils feel at ease when addressing the subject to them. Actually, Grade 6 pupils are aged around eleven years and in the fifteen member countries of SACMEQ, there exists a high number of children of this age range to have been affected by this disease. Hence, it is of vital importance for Mauritians of the aforesaid age group to have a deepened knowledge on this matter.

(iii) An alarming 50 percent of pupils were uncomfortable to speak about HIV and AIDS in classroom. Pupils might have viewed and inculcated that HIV and AIDS is solely related to unprotected sexual activities, hence making them reluctant and embarrassed to talk about it.

8.7 Conclusion

In light of the above, the knowledge levels of pupils are desirable whilst teachers are claimed to have achieved high levels of awareness on HIV and AIDS. Still, much effort must be put to raise the awareness levels of pupils and even teachers. Although the degree of HIV and AIDS in Mauritius is the lowest among all the participating countries of SACMEQ, teachers and especially pupils should be aware of the preventive measures.

Meanwhile, the output of this research can be utilized as a source for other research projects on the domestic and international plane and can help in implementing educational programmes in primary schools together with other methods to prevent the spread of HIV and AIDS. Among the measures, it has been proposed to establish a new curriculum for Health Education, Life Skills and on the betterment of quality of life along with health. In view of pupils' physical development into adolescence to adulthood, it is necessary to sensitize pupils prior to their involvement in sexual activities

CHAPTER 9

CONCLUSION AND THE WAY FORWARD

9.1 Introduction

This is the fourth SACMEQ national report on the conditions of schooling and the quality of primary education in the Republic of Mauritius. This chapter summarises suggestions that have been made throughout this report. This will benefit each member country individually and the Southern and Eastern Africa region as a whole by developing an information base that can be used for decision-making purposes aimed at improving the quality of education. Thoughtful analyses were performed in the following domains: characteristics of Grade 6 students; teaching and learning; school leadership; school ethos; conditions of physical infrastructure and the learning environment.

According to this study, Mauritius scored favourably in the provision of basic teaching and learning materials/facilities such as textbooks, ICT equipment, library, classroom furniture and other amenities. However, for further improving the effectiveness of our primary education system, and the Mauritian education system at large, we must move from the traditional frontal top-down teaching which enhances undesired dependent behavior only and kills creativity, toward one which promotes self-learning, alternative pedagogies, skills development and holistic development of our children.

9.2 The Way Forward

The Government of Mauritius is presently engaged on a process to align the Mauritian education system to the new UN SDGs, specifically the stand-alone Education 2030 Goal. Mauritius has embarked on a major transformation of its education and training system, from pre-primary through to the primary, secondary, post-secondary and tertiary levels. The *Nine Year Continuous Basic Education (NYCBE)* reform programme translates Government's commitment to bring fundamental reforms in education. The NYCBE will in fact address the major shortcomings outlined in this study through enhancing the quality of basic education. The Minister of Education and Human Resources, Tertiary Education and Scientific Research rightly pointed out that "*while*

*literacy and numeracy skills remain important, these will be no longer sufficient. Our education system needs to develop a generation of young adults equipped with the right knowledge, skills, attitude and values and with the following core competencies: critical thinking skills, adaptability and creativity, ability to work collaboratively, good communication skills and fluency in IC*T" [Inspiring Every Child, August 2016].

In fact the main objectives of the NYCBE are to:

- Equip all students with knowledge, foundation skills and attitudes leading to self-empowerment
- Promote the holistic development of all students
- Inculcate in all students a sense of moral responsibility, a set of values and a strong identity for the country
- Provide equitable learning opportunities for ALL to attain high levels of achievement
- Smooth transition to and completion of secondary education
- Give more value and recognition to TVET in building human capital and for sustainable development

Thus, the NYCBE reform agenda rests on a careful alignment of 6 fundamental pillars, namely:

- Curricular Change
- Innovative Pedagogies
- Assessment
- Continuous Professional Development
- Learning Environment
- System Governance and Accountability

9.3 Improve Reading and Communication Skills of Pupils at Primary Level

The new curriculum for primary ensures that learners acquire a foundation of knowledge in the following learning areas: Mathematics; Languages; Science; History & Geography; Health and Physical Education; Civic & Values Education, IT Skills; Communication Skills and the Arts. Communication Skills has been integrated in all languages taught in Grades 1 to 6 and pupils' performance in this learning area will be assessed through a school-based assessment

mode. School-based assessment has the potential of not only reducing examination pressure but also helping towards the development of the whole person. Introduction of Communication Skills in the new primary curriculum will undoubtedly improve individual as well as overall pupils' attainment.

9.4 Improve Numeracy, Problem Solving and Critical Thinking Skills of Primary School Pupils

The new National Curriculum Framework Grades 1 to 6 is inclusive, dynamic, flexible and adaptable to the different needs of children and schools. To facilitate the attainment of learning outcomes for all, the whole range of learners with different abilities, needs, interests and learning styles is catered for by providing needs-based learning support and appropriate remedial measures. Individual learning needs and other barriers in all areas of learning will be identified, constantly re-assessed and re- evaluated. Slow learners and those with special educational needs, including the gifted and talented, are given particular attention through differentiation of methods and materials, as needed.

There is a certain sequence and progression to follow in learning. A spiral design of the primary curriculum, starting with what learners already know and can do, followed by the acquisition of new knowledge and the active construction of new meanings, is proposed. Well-defined hierarchies and links are established whereby concepts are introduced and revisited from one year to the next. A spiral curriculum, based on consolidation and continuous reinforcement, helps every learner achieve mastery of the content and development of skills and competencies at his/her own pace.

ICT-Enabled Technology impacts on the way teachers teach and students learn. The primary curriculum encourages the use of state-of-the-art technology in the study of all subjects and the use of ICT tools to enhance teaching and learning in an inclusive classroom. The curriculum encourages teachers to use technology to broaden and deepen pupils' learning. Digital resources and e-learning materials will be developed to support teachers and learners.

The choice of specific concepts and skills to be taught must take into consideration new applications and new ways of doing mathematics. The development of sophisticated yet easy-to-use calculators and computers is changing the role of procedure and technique in mathematics. Operations that were an essential part of a procedures-focused curriculum for decades can now be accomplished quickly and effectively using technology, so that students can now solve problems that were previously too time-consuming to attempt, and can focus on underlying concepts. Technology should influence the mathematics content taught and how it is taught.

Mathematical knowledge becomes meaningful and powerful in application. The curriculum should embed the learning of mathematics in the solving of problems based on real-life situations. Other disciplines are a ready source of effective contexts for the study of mathematics. Rich problem-solving situations can be drawn from closely related disciplines, such as computer science, business, recreation, tourism, science, or technology, as well as from subjects historically thought of as distant from mathematics, such as geography or art. It is important that these links between disciplines be carefully explored, analysed, and discussed to emphasize for students the pervasiveness of mathematical knowledge and mathematical thinking in all subject areas.

To conclude emphasis should be laid on the following mathematical processes that support effective learning in mathematics:

- Problem solving
- Reasoning and proving
- Reflecting
- Selecting tools and computational strategies
- Connecting
- Representing
- Communicating

9.5 Professional Development

The 21st century saw the role of the teacher move from one who is all-knowing and unquestionable to one who is continually learning, self-aware and reflective. Further, teachers are now expected to encourage their students to engage in thoughtful reflection, critical thinking and increased self-

awareness and responsibility. The environs of a classroom are enlivened by the inspiring, dynamic, enthusiastic, encouraging, skilful and dedicated teacher. Professional preparation and professional development of teachers is a continuous process. It begins with the selection of an aspirant teacher and includes his initial preparation induction into the profession and his continuous development throughout his teaching carrier. The formulation of policy and design of teacher preparation and continuing professional development should optimally take into account the whole spectrum of teacher learning and the profile of the modern learner in the context of new emerging global issues.

Vast in-service teacher professional development programmes for the period 2016-2020 and beyond are being planned for teachers at all levels comprising of face to face sessions, school based training and online learning platform. Teachers will thus be prepared to "*deliver the new curriculum effectively and will be empowered to cope with students' different learning demands, step into digital learning environment with confidence, embed 21st century knowledge and skills in their practice, adopt new assessment strategies and respond to their changing role and responsibilities as society evolves*"[Inspiring Every Child, August 2016].

Moreover, continuous professional development programmes will be devised for Administrators, School Inspectors and School Heads to ensure good governance and increased accountability at all levels. Greater autonomy will be granted to schools to deliver on positive and improved learning outcomes. Schools will be encouraged to identify training needs at their level and facilitate school based in-service training.

9.6 Promote HIV and AIDS Education in Schools

Education plays a crucial role in fight against HIV and AIDS. Many adolescents living with AIDS do not receive adequate support and care – and many others are not aware of how to protect themselves from AIDS. Education also reduces the discrimination against HIV-positive children and adolescents that can lead them to drop out of school.

Although the proportion of HIV positive population in Mauritius is not alarming it is yet important to prevent further infection through increased awareness of HIV and AIDS among the young population. In fact, Health and Physical Education, as a none-core subject, has been included in

the New Curriculum for primary and sexuality education is one component of this curriculum. A new category of Educators (Holistic Education) have been recruited and are presently following intensive pre-service training and will have the responsibility to teach and promote health education, among other subjects, leading to the holistic development of the child.

9.7 Conclusion

The SACMEQ IV report has provided meaningful information for teachers and school Heads to develop strategies and processes that facilitate learning and help students achieve the curriculum expectations for their courses and also support them in developing reading, writing, and oral communication skills. The report also recognizes that students need a solid conceptual foundation in mathematics in order to further develop and apply their knowledge effectively.

The unprecedented changes that are taking place in today's world will profoundly affect the future of today's teaching and learning processes. The findings of this study may guide policy decisions on curriculum development and evaluation to prepare students for their future roles in society.

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