unicef

ASSESSMENT OF LEARNING ACHIEVEMENT OF PRIMARY 4 PUPILS IN SAO TOME AND PRINCIPE

DR. J. GBENGA ADEWALE

2009

Project Team

Project Management Team

Alzira Rodrigues	President (Instituto Superior Politécnico)
Peregrino Costa	Staff (Instituto Superior Politécnico)
J. Gbenga Adewale	The International Consultant
Batilloi Warritay	Deputy Country Rep UNICEF
Alberto Neto	Education Specialist UNICEF
Louis Bom??	WASH UNICEF

Instrument Development Team

Alzira Rodrigues	President (Instituto Superior Politécnico)
Antónia Luísa B. de Sousa	Primary 4 Teacher
António Trigueiro	
Armanda Cunha	
Bartolomeu E. Santo	
Esperança das Neves	
Eugénio Vaz	
Gualberta Choi	
Hernâni do E. Santo	
Peregrino Costa	Staff (Instituto Superior Politécnico)
J. Gbenga Adewale	The International Consultant

Data Collection Team

Antónia Luísa B. de Sousa
António Trigueiro
Armanda Cunha
Bartolomeu E. Santo
Esperança das Neves
Eugénio Vaz
Gualberta Choi
Hernâni do E. Santo
Peregrino Costa

Data Management Team

Alzira Rodrigues	
Peregrino Costa	
J. Gbenga Adewale	The International Consultant

Translators

Lucy Tackounjou~
Silvério A. Pereira

Report Writing

J. Gbenga Adewale	The International Consultant

Acknowledgments

The conduct of the 2009 National Assessment of Learning Achievement of Primary 4 Pupils in Sao Tome and Principe as a part of Monitoring Learning Assessment (MLA) project in the country took place successfully with the help and cooperation of some individuals and bodies. Courtesy demands naturally that these individuals and groups should be formally appreciated using this medium.

Our special thanks go to the Government of Sao Tome through the Ministry of Education and Culture and the Instituto Superior Politécnico. The enabling environment to conduct this work was provided by the country office of the United Nations Children Fund (UNICEF). Many thanks go to the country representative (Abdel-Jelil Youssouf) who made sure that all necessary documents needed for the take off of the project were approved. The country Deputy Representative (Mr. Batilloi Warritay) travelled far and wide scouting for an International Consultant for the project. He made many telephone calls and numberless electronics correspondences before the start and during the process of the project. The Education Specialist – Mr. Albeto Neto (retired) placed a significant role in the implementation of the project. He participated in all the logistics, training and visiting schools. He made sure that the data collection and inputting of the data went on smoothly before he went on retirement. The Operation Manager (Mr Antonio Patricio) made sure that all logistics for the take off, implementation and conclusion of the project were methodically done. Mr Louis Bonfim took over from the retired education specialist monitored the later part of the project meticulously.

Owing to the enormity of the tasks involved in conducting the National Assessment exercise of this magnitude, the UNICEF decided to go into partnership with a Local Consulting Team (the Instituto Superior Politécnico) and an International Consultant from the Institute of Education, University of Ibadan Dr. J. Gbenga Adewale. On that note, we wish to express our appreciation to both the International Consultant from Dr. J. Gbenga and the local consultants under the able leadership of the President of the Instituto Superior Politécnico Dr. Alzira Rodrigues and her team for a job well done, in bringing their professional expertise to bear on the project.

A special thank you goes to the staff of Instituto Superior Politécnico and teachers in primary schools in Sao Tome: Alzira Rodrigues, Antónia Luísa B. de Sousa, António Trigueiro, Armanda Cunha, Bartolomeu E. Santo, Esperança das Neves, Eugénio Vaz, Gualberta Choi, Hernâni do E. Santo, Peregrino Costa who participated in the development of the seven instruments used in the project. The following also participated in data collection: Antónia Luísa B. de Sousa, António Trigueiro, Armanda Cunha, Bartolomeu E. Santo, Esperança das Neves, Eugénio Vaz, Gualberta Choi, Hernâni do E. Santo, Peregrino Costa. The following people also participated in key-in data into the computer ..... under the leadership of Peregrino Costa.

Finally, special thanks go to the translators: Lucy Tackounjou and Silvério A. Pereira, these people make the stay and the work of the International Consultant a worthy one. They interpreted conversations between the local consultants and the international consultants and interpreted Portuguese language into English language and vice-versa.

Foreword

Executive Summary

Although, the Saotomean educational system showed some progress, however, close to 25% of 1st to 4th graders are repeaters. The system's internal inefficiency continues to increase progressively from 4th grade onwards with repeating rates of about 43% for 6th graders, and reaching to levels higher than 60% for 9th graders. Between 2004 and 2005, STP had the second highest rate of repeaters in all of Africa, after Central African Republic. Thus, it is crucial to learn, if after four years of Primary Education, students possess the minimum level of knowledge necessary for life skills or to continue their education. Therefore Monitoring of Learning Achievement (MLA) process is adopted in order to check this out and discover why performances are the way they are and suggestions on how the low performance could be raised.

The objectives of the study include: to evaluate 4th grade learning levels, assist in the development of all research tools/instruments for the MLA survey, develop national competencies in monitoring of learning, provide decision-makers with updated information on the quality of the primary education programmes as it affects Grade 4 students, ensure a participatory and open validation process prior to finalisation of the survey and provide key recommendations that may inform upstream policy implementation.

The implementation of MLA is divided into two phases: Phase I - conception, planning and implementation of the study and Phase II - Data Processing and Production of Final Report. In phase I, the following activities were carried out: development of pilot test instruments, training of field workers and supervisors on data collection techniques, pilot the instrument and item analysis for selecting the best Items. The methodology adopted in achieving the set objectives includes agreement on the work-plan, presentation to facilitate common understanding of the task, development of table to specification, development of test items in the 3 subject areas (Portuguese, mathematica and meio fisico e social) and 4 questionnaires, one each for parents, pupils, teachers and head-teachers. Training manuals were also developed. The instruments were criticized and corrected then sufficient copies were produced in accordance with the number of samples selected methodically.

The data collectors were trained using the developed training manuals. The 3 tests and the 4 questionnaires were pilot tested and later on item analysis (determination of item difficult level, discrimination level, point biserial) and to establish the internal consistency of the test items using Kuder-Richardson formula 20. After validation, 37 items were good for mathemetica (Numeracy), 31 for Portuguese (Literacy) and 30 for meio fisico e social (Life Skills). These were revised and produced according to the number of samples.

The test instruments and questionnaires were administered in July 2009 on primary IV pupils in the same school at the same time. Instrument administration was completed in two days. The first day was devoted to the administration of literacy and life skills and the second day was for the numeracy and pupil questionnaire. Since the teacher and head-teachers used in the study were also parts of data collectors, they responded to their questionnaire during the data collectors training period.

Instruments administered for the assessment were centrally processed. The editing of questionnaires and background information on the MLA preceded the data entry. The screen for data entry was created using the MS-excel for both the tests and the questionnaires. These were converted to SPSS (Statistical Package for Social Sciences) Computer Software. Data verification was ensured by the International

Consultant. The data analysis were carried out using SCORBATT for the tests in order to determine the item analysis (item discrimination, difficulty and distraction) and test analysis (mean, S.D and reliability) component of the test. The demographic, responses from the questionnaires and achievement variables were analyzed using the SPSS software. Such statistical tools like descriptive (mean, S.D., frequency, percentage) and inferential statistics (multiple regression for variables linkage) were used in the analysis.

The results showed that 37.7 years was the average age of the parents and there were more single parents. Their average monthly wage was 897,695 dobras (5.65 USD). Although most parents can read, fathers were more qualified academically than mothers but mothers helped children with homework than anybody else. Children stay more with their mothers, and all the parents helped their children for 2 hours a day. Most parents lived in their own houses and most of the houses were small. Salary, sales of farm products and trade were principal source of income in the family. Although majority of the parents were interested in the academic development of their children, parents still confirmed that their children still had difficulties in learning due to poor learning condition.

Many of the primary 4 pupils were 11 years old. There were more boys than girls. Most of the children ate breakfast than other meals, many children repeated grades 2 and 3. Portuguese, língua de angola (dialect) and língua de moçambique (dialect) are languages that many children did not speak. Pupils had sufficient homework in literacy, numeracy and life skills. Pupils did not have access to the library. Many children could get to school without difficulty and there were dispensary / clinics close to the schools.

Information gathered from teacher questionnaire revealed that there are more male teachers than female teachers; most teachers were in their mid-age group, most teachers were singles and majority of the teachers completed the first cycle of secondary education (9th grade). The schools were within a trek-able distance from the teachers' houses and most teachers worked between 2 to 4 hours in their schools per day. Teachers indicated that none of the children in the classroom possessed a protractor, only one child had a compass and only six children had square. Inspectors were better at giving feedback than the directors and methodologists. Teachers devoted more time to correcting examination scripts and homework and they used the knowledge of individual differences of the student in teaching, however, many teachers were not satisfied with their job, so some of them wanted to quit teaching profession but they would stay if improvement of living conditions is made.

Information gathered from the head-teacher showed that one head-teacher oversees two schools in some instances; for every female head-teacher, there are approximately two male head-teachers. Head-teachers had 12th grade (pre-university) professional qualification; head-teachers received training before posting. Some children abandoned school because of conflicts between parents and head-teachers. Most schools had received the inspectors, methodologists and directors. Some facilities in the school were not evenly distributed (skewed). Most classrooms accommodated 30 to 40 pupils and the desks in the classrooms were designed for two pupils. Most classrooms were clean, illuminated and had good ventilation

Findings on pupils' performance in literacy test showed that the overall mean score in the literacy was 65.52% with standard deviation of 21.61. In the literacy subscales, pupils performed worst in the comprehension and oral and written expression aspect of the test and best in the aspect oral and written communication. In

the cognitive operation subscales, pupils' level of performance was worst in items that required thinking and best in the comprehension items.

Findings on pupils' performance in numeracy test showed that the overall mean score in the numeracy was 74.95% with standard deviation of 14.25. In the numeracy subscales, pupils performed worst in the mensuration aspect of the test and best in the number and numeration aspect. In the cognitive operation subscales, pupils' level of performance was worst in items that required thinking and best in the knowledge (recall) items.

Findings on pupils' performance in life skills test showed that the overall mean score in the life skills was 73.72% with standard deviation of 14.17. In the life skills subscales, pupils performed worst in the settlements and economic activities aspect of the test and best in the cultural and national heritage aspect of the test. In the cognitive operation subscales, pupils' level of performance was best in items that require thinking and worst in the understanding items.

Findings on the correlates of parent, pupil, teacher, head-teacher and school variables on achievement in literacy showed that out of 88 independent variables, 23 are significant to the prediction. The 88 independent variables jointly account for 69.3% of the total variance in primary 4 pupils' achievement in Literacy. Out of the 88 independent variables, 35 are related to pupil; 20 are teacher-related; 11 are for head-teacher; and the remaining 22 are parent related. Out of the 23 significant variables, 5 are for pupils; 2 for parents; 1 for head-teacher; and 15 for teachers. Out of the 23 variables reported to have contributed significantly to pupils' achievement in 'Literacy, record keeping (number of weeks / hours for documentation of professional and other activities) is the most potent (β = -0.811); followed by teacher effectiveness in planning lesson (β = -0.519); followed by teacher's frequency of use of documentation centres (β = 0.369). The least among the significant predictor variables is the number of week hours tutorial for weak pupils.(β = - 0.095).

Findings on the correlates of parent, pupil, teacher, head-teacher and school variables on achievement in numeracy showed that out of 87 independent variables, 16 are significant to the prediction. The 87 independent variables jointly account for 52.0% of the total variance in primary 4 pupils' achievement in numeracy. Out of the 87 independent variables, 34 are related to pupil; 20 are teacher-related; 11 are for head-teacher; and the remaining 20 are parent related. Out of the 16 significant variables, 3 are for pupils; none for parents; 2 for head-teachers and 11 for teachers. Out of the 16 variables reported to have contributed significantly to pupils' achievement in numeracy, class observations support received from colleague; (β = 0. 535); followed number of hours for documentation of professional and other activities (β = - 0.535); followed by tolerating indiscipline in class (β = 0.410). The least among the significant predictor variables is the availability of functional computer and printer (β = 0.106).

Findings on the correlates of parent, pupil, teacher, head-teacher and school variables on achievement in life skills showed that out of 88 independent variables, 18 are significant to the prediction. The 88 independent variables jointly account for 48.8% of the total variance in primary 4 pupils' achievement in life skills. Out of the 88 independent variables, 35 are related to pupil; 20 are teacher-related; 11 are for head-teacher; and the remaining 22 are parent related. Out of the 18 variables that significantly contributed to pupils' achievement in Life skills, 5 are for pupils; 2 for parents; none for head-teachers and 11 for teachers. Out of the 18 variables reported to have contributed significantly to pupils' achievement in life skills, effectiveness in

planning lesson is the most potent (β = - 0.719); followed by class observations as a professional support (β = 0.621); followed by number of weeks / hours for documentation of professional and other activities (β = 0.492). The least among the significant predictor variables is the parental involvement in helping children to study (β = -0.078).

Conclusion, Implications and Recommendations

- Since children still have difficulties in learning, parents are encouraged to do more in helping children overcome the difficulties they (children) have in their learning.
- Fathers are more qualified academically than mothers, but the mothers always help the children in their homework. It is recommended that women should update themselves through adult literacy centres.
- Pupils do not have access to the library. Library as a resource centre is important in developing pupils' reading culture. Efforts should be made to have library in the schools. Where it is not possible to situate a library in each school, community library could be of assistance.
- There are less female folks in teaching profession than male folks. More females should be encouraged to update themselves and take up teaching appointment.
- Majority of the teachers are in their mid-age, and in the next ten years they will exit teaching service. It is therefore recommended that young and fresh blood should be injected into the teaching profession for continuity.
- Few teachers completed 1st. Year Pre- university course and the 4th year of university course. It is therefore recommended that teaches should develop themselves and acquire more qualifications.
- Inspectors never visited some schools in a whole year; inspectors are encouraged to visit each school at least once a term and if they can do more the better.
- The directors and the methodologists should therefore not be enthusiastic about visiting schools if they will not discuss with teachers about their findings and write reports to support their discussion. The methodologists and the directors may need training in developing format for inspection and writing reports after visitation.
- Large proportion of teachers were not satisfied with their jobs and are willing to change anytime there is opportunity but they will stay if there is an improvement in their living and working conditions. Government should address this issue before teacher drift from classrooms to banks and oil industries.
- The analysis of the literacy, numeracy and life skills tests are quite revealing. The findings tend to be at variance with the general belief that pupils' level of performance in literacy, numeracy and life skills tests at primary 4 in Sao Tome and Principe is generally low. We have explained the possible reasons for this. It is therefore, recommended that in the next MLA study, teachers or data collectors should not be allowed to explain any item to pupils either as an individual or in group. This will give us an objective assessment of the pupils' ability in literacy, numeracy and life skills tests.
- The young immature pupils performed better than young and matured pupils. It is recommended that the bench mark age of 6 years for children enrolling

into primary schools should be respected. Head-teachers are encouraged to enforce the legislation. Teaching also should reveal mastery, such that there would not be much difference between the ages of children in a class.

- As fathers' educational attainment is higher, their children's results tend to be poor. Educated parents are encouraged to find time to go through their children's work.
- The more teachers gave and assessed home work, the more pupils performed in Literacy test. Teachers are encouraged to give more homework, and the home work should be assessed by the teachers.
- The higher the professional support a teacher receives, the higher the pupils' achievement in Literacy. Teachers should take note of challenges and best practices in their classes and share with their colleagues.
- The more teachers share their teaching time with the head teacher to do some administrative work, the lower the pupils' performance, therefore, teachers should be allowed to face teaching most of the time and less of administrative activities.
- The more parents are involved in getting information on the child, the higher the pupils' achievement. Parents should not wait until teachers initiate meetings with them, they too should initiate meetings with the teachers.
- The more parents check their children's books after school, the more the children perform in schools. Parents should endeavour to check their children's work after school.
- The more head-teachers visit classrooms, the more pupils perform well in Literacy. Head-teacher should find time to do unscheduled visits to the classrooms.
- The more the length of training teachers have the more the pupils' performance. This implies that teachers should update their qualification by acquiring more training.
- As the number of hours for remedial teaching increases, a corresponding increase in pupils' achievement was recorded. Teachers are encouraged to identify weak pupils and arrange remedial teaching for them.
- The more feedbacks given to pupils after examinations or homework, the more pupils perform; teachers should provide more feedbacks on pupils' examinations and homework.
- The more we have male head-teachers the lower the performance of pupils. Therefore, more females should be encouraged to develop themselves academically and they should be encouraged to take leadership positions in primary schools.
- Pupils who speak other languages (language of the immediate environment) at home apart from Portuguese performed less in life skills than pupils who shift from speaking the language of the immediate environment to Portuguese. Parents are encouraged to speak the official language of instruction at home to their children. Class teachers and head-teachers should also enforce speaking the official language at school.

Table of Content

List of Tables

List of Figures

Acronyms

NGOs	Non-Governmental Organizations
MEC	Ministry of Education and Culture
STP	Sao Tome and Principe
MLA	Monitoring Learning Achievement
UNICEF	United Nations Children Fund
MDGs	Millennium Development Goals
BLES	Base Law on Education System

CHAPTER ONE

INTRODUCTION

This chapter describes Sao Tome and Principe in terms of the geographical location, the political and administrative of the country, demographics, the socio-economic activities, and the description of the educational system in the country. Justification and objectives of MLA are also discussed in this chapter, finally, the research questions that guided this study were also presented.

Geographical Location

The Democratic Republic of São Tomé e Príncipe is composed of two islands. The two islands (islands of São Tomé and that of Príncipe) lend their names to the country. They are located west of the African continent, in the middle of the Gulf of Guinea.

Of its four islets, the largest one is that of Rolas, at the southern tip of the island of São Tomé.

The island of São Tomé is located at a distance of 360 km west of the African mainland, while Príncipe is nearer, at 269 km; Príncipe is approximately 160 km to the north of São Tomé.

The country has a total surface area of 1,001 km^2, of which 859 km^2 corresponds to São Tomé and 142 km^2 to Príncipe.

Government and Politics

After 5 centuries of Portuguese colonial domination, São Tomé e Príncipe became independent in 1975. During the first few years after independence, the country opted for development based on a central economy and single party politics. In 1990, a major change took place with a new constitution, based on multiparty democracy and power distributed among the four independent bodies: the President of the Republic, the National Assembly, the Government and the Judicial System.

From the beginning of the 1990s, although STP is the pathway of achieving good governance, STP has undertaken profound structural and democratic reforms.

From an administrative point of view, the country is divided into six districts on the island of São Tomé, these are: Água Grande, Mé-Zochi, Lobata, Lembá, Cantagalo and Caué and Autonomy region of Príncipe, with its own

political-administrative statute.

Population / The People

The Saotomean population increased from 117,504 in 1991, to 137,599 in 2001, which translates into an average growth rate of 1.5%, and signifies a decrease relative to the preceding decade (1981 to 1991), with an annual growth rate of 1.98%.

The weight of youth in the population structure is relatively important as the age group from 0 to 14 years is made up of 57,874 individuals, or 42% of the population, while the age group of those aged 0 to 25, with 89,742 individuals, represents 65.2% of the total population. Life expectancy is 63.9 years, with 61.3 for men and 66.5 years for women. Population density in São Tomé e Príncipe is 137.5 inhabitants per km^2, varying from 3,145/km^2 in Água Grande to 21/km^2 in Caué. Close to 54.5% of the population is urban while 45.5% are rural. The country's capital and its suburbs contain 49,957 people, representing close to 37% of the population.

With regard to district populations, Água Grande and Mé-Zochi represent close to 63% of the country's total population, with 51,886 (37,7%) for Água Grande District and 35,105 (25,5%) for Mé-Zochi District of. The migration phenomenon from rural setting to urban was strong during 1991 to 2001, in the Água Grande District (where the country's capital is located).

The Economy

Socio-economic development policy orientation is based on the following essential aspects :

- Economic growth
- Poverty reduction
- State reform
- Promotion of good governance
- Strengthening of democracy
- Human development and solidarity

STP has participated in all international and global forums relative to the development issues. Thus, the country ratified the recommendations of the Global Social Development Conference and participated in the Millennium

Summit of 2000. It has undertaken to achieve the MDG objectives with the aim of ensuring the country's development.

THE EDUCATIONAL SYSTEM SCHOOL EDUCATION

The education system in São Tomé e Príncipe has suffered various changes throughout the years. Currently, its structure is based on the Base Law on Education System (BLES; Law no. 2/2003) covering pre-school, school education and ex-school education.

Pre-school education, in terms of teaching, is complementary and/or supplementary to family education, in which its coordination is dependent on family.
School education is basically primary, secondary and higher education, integrating special modalities and includes after-school occupation.
Ex-school education comprises literacy, scientific and professional initiation, re-conversion and improvement, and is undertaken within an open framework of multiple initiatives, both formal and informal.
Pre-school education
Pre-school education is for children under 7 years. Attendance is voluntary, in recognition that the family must have a role in the educative process. It is the State's responsibility to support initiatives toward the development of pre-school education.
The pre-school network is formed by pre-schools founded either from central, regional, local or other initiatives, individual or through groups, such as parents' and residents' associations, civic and religious organisations, syndicates and social solidarity institutions.
It is the MEC's responsibility to co-ordinate the education policy and define pre-school education standards, such as its pedagogic and technical aspects as well as inspectional aspects and compliance and application.
Primary Level(1^{st} to 6^{th} grades)
Based on the principle of universal free and compulsory schooling, primary education covers six years.
Primary education has two cycles, the first covering 1^{st} to 4^{th} grades while the second covers 5^{th} and 6^{th} grades. These are organised as follows :
The first cycle, from1^{st} to 4^{th} grades, teaching/learning is under a single teacher, with perhaps some assistance for special subjects
The second cycle, from 5^{th} to 6^{th} grades, the teaching/learning is organised by basic subject matter areas.

Special school education modalities

The special school education modalities are :

a) - Special education
b) - Adult education
c) - Professional training
d) - Distance learning

Special Education
This modality's objective is the social-educative integration of and assistance to individuals with special education needs.

Adult education
This learning modality is destined to individuals beyond school age (primary or secondary), in an effort to eliminate illiteracy.

Professional training
Professional training is based on preparation for an active life and integration into the job market, through the acquisition of specific professional knowledge and competencies tailored to national development needs and the evolution of technology.

However, its organisation and operation are still awaiting legislative inclusion into the Base Law. What is the situation now? Has the legislature included Professional training into its organisation and operation?

Distance learning
In accordance with the Base Law, the distance learning modality constitutes a complement to regular learning, or an alternative modality to school education based on information and communication technology through multi-media use. This learning modality should be incentives in particular for the continued training of teachers.

Secondary Education
Secondary education is composed of two cycles of three years each. It is organised around courses that will promote an integrated active life or for continued education into the second cycle. Each therefore contains technological and professional elements, together with Saotomean culture and the Portuguese language, relative to the nature of the various courses.

Higher Education

Higher education is composed of university education and polytechnic education. University education strives to ensure solid scientific and cultural learning together with technical training for professional and cultural activities and promoting capacity development of conception, innovation and critical analysis.

Polytechnic education aims for a solid upper level cultural and technical education, developing innovative and critical analysis capacities, and providing scientific knowledge of a technical and practical nature to facilitate professional activities.

Access to higher education is reserved to individuals having completed secondary education or its equivalent, while also taking into account the country's education needs.

It is the State's responsibility to create conditions permitting access to all its citizens, to avoid discriminatory effects or inequalities arising from regional asymmetries.

Ex-school Activities

Ex-school activities are part of the permanent education perspective and aims for continued holistic education. Ex-school education aims at increasing in each individual knowledge and potential which is complementary to school education. It also complement active life preparation initiated in primary education and integrated to job market dynamics.

Informal Education

Informal education varied characteristics, initiatives and approaches. The most predominant is developed by the civil society organisations (in particular NGOs) with most of their activities in rural areas, in particular having to do with community development. These educational initiatives, in the main literacy initiatives, serve to reach rural development objectives. These initiatives have been partly developed with external co-operation support and resources. The organs responsible for Informal Education are quite diffuse and poorly defined. From an institutional point of view, the following Ministries support this programme: Education & Culture, Agriculture, Rural Development & Fisheries, Labour & Solidarity, and Youth & Sports.

Monitoring of Learning Achievement

The assessment of learning achievement within the school system is expected to generate baseline data on pupil's performance in core subject areas - Portuguese language [literacy], Mathematics [numeracy], and Life Skills [general knowledge, health and personal hygiene, primary science and agriculture]. The level of performance would serve as a baseline for monitoring effectiveness of policy measures primary education delivery. Secondly, the

present assessment is also in fulfillment of requirement of article 6 of the Dakar 2000 framework for action of 'Education for All', which enjoins governments to enhance education quality at all levels.

Why MLA in São Tomé e Príncipe?

Student evaluation is an integral part of the teaching-learning process, and the MLA Project seems an extremely useful tool in the improvement of the quality of education. By supplying substantive information on factors affecting the students' school performances, the MLA is concerned with the final impact of the teaching-learning process.

In São Tomé e Príncipe, where effective primary schooling is up to 4th grade, contrary to what is foreseen in the Base Law, there is no information with regard to the efficacy of the system, and no general or systematic evaluation mechanisms exist to appreciate teaching results. It is therefore not easy to know if students have the required minimum knowledge necessary to confront daily life or to continue with their studies after the four years of Primary Education.

This study will give São Tomé e Príncipe a wide range of pertinent and indispensable information to facilitate a qualitative improvement in teaching. Hence, the following are the objectives of the present study:

- evaluate the level of school knowledge acquired by fourth grade students;
- collect complementary information necessary to the Primary Education Directorate, the Education Planning Directorate and the Ministry of Education and Culture.
- Provide current information relative to the quality of primary 4 education programme to decision makers.

Research Questions

The study sought to provide answers to the following questions:

- What are the levels of competency attainment of pupils in Primary IV in terms of curricular expectations in numeracy, literacy, and Life Skills?
- Is there any difference in the competency attainment of boys and girls in Primary IV *in terms of curricular expectations in numeracy, literacy and Life Skills?*
- Is there any difference in the level of competency attainment of pupils in Primary IV in fishing, rural, sub-urban and urban schools, *on curricular expectations in literacy, numeracy and Life Skills?*
- Is there any difference in the levels of competency attainment by Primary IV pupils in the various districts *on curricular expectations in literacy, numeracy and Life Skills?*
- What pupil related variables might there be in the learning environment of

the schools?

- What are the home-related variables that appear to affect pupils' level of learning acquisition?
- What are the teacher related variables that bring to bear on the pupils' level of learning acquisition?
- What are the school related variables that bring to bear on the pupils' level of learning acquisition?

CHAPTER TWO

METHODOLOGY

Introduction

This chapter provides a description of the procedures employed in executing the Monitoring of Learning Assessment of Educational (MLA) in Sao Tome and Principe 2009 study. The chapter is organized around three important decisions made in the study: first, decision on the target population and representative sample. Second, on the type of instruments used and the descriptions of variables included; and finally, on the modality on data collection in terms of number of data collectors and the duration of data collection and data analysis.

Target Population

The target population comprised all primary pupils in Sao Tome and Principe, specifically, those in Primary 4, parents of the pupils, teachers of this class and their head-teachers. Since assessment of pupils' achievement is a major component of the study, it was ensured that the primary 4 pupils had finished their syllabus in the three core school subjects (Meio Fisico Social, Lingua Portuguesa and matematica). These pupils, their parents and teachers and head-teachers formed the target population of the study.

Sample

The sampling techniques utilised for the project were the stratified and multistage. The sampling took care of the schools in all the districts and the zones in terms of the urban, sub-urban, rural, and fishing areas. The determination of the number of schools, pupils, school heads, teachers and parents or guardians were done proportionally to size (that is, more schools

were selected from districts that have larger number of schools). The project adopts 25% of the primary schools in the country as the definition of the sample in determining that the number of schools sampled to be 20. A total of 500 fourth graders, representing 10% of the total of fourth graders were sampled, 20 school heads, 20 teachers with regard to pre-defined shifts, and 500 parents or caretakers were also selected for the study. This is presented in the following table.

Table 2.1 Sample Distribution by District

	Districts	Schools	Pupils	Heads of school	Teachers
1	Água grande	4	180	4	4
2	Mé-zochi	5	120	5	5
3	Cantagalo	2	40	2	2
4	Caué	2	20	2	2
5	Lembá	2	35	2	2
6	Lobata	2	45	2	2
7	Príncipe	3	60	3	3
	Total	20	500	20	20

Instrumentation

Six practicing teacher in primary 4 were trained by the International consultant to develop the three tests used in this study (two teachers per test). Four senior lecturers in ISP constructed the four questionnaires used in the study with some amendments from the consultant. The seven instruments used in this study are:

i. Literacy Test
ii. Numeracy Test
iii. Life Skills
iv. Pupil Questionnaire
v. Parent Questionnaire
vi. Teacher Questionnaire
vii. School Questionnaire

The Tests

The items in the three tests were generated on the basis of a table of specification covering different content areas of specific subjects and three levels of cognitive operations namely; knowledge, understanding, and application based on Bloom's hierarchies of cognitive operation.

Literacy Test

This is a fifty-item test with four-option format A, B, C and D. The items used

in the test were developed from the Primary 4 Portuguese language syllabus (the items were curriculum- referenced) to ensure good content coverage. The contents represented a wide range of topics which tested knowledge, comprehension and thinking skill expected of pupils of this age range as recommended by Bloom. Distribution of items by content and cognitive behaviours is presented in Table 2.2.

Table 2.2 Table of Specification for Literacy Test

Content	Level of Cognitive Operation			Total
	Knowledge	Comprehension	Thinking Skills	
Comprehension and oral and written expression	19	8	8	35
Functions of language - analysis and thinking	8	3	4	15
Total	29	11	12	50

For an item to be good in the literacy test; the difficulty level should be between 0.3 and 0.7 as suggested by Thorndike (1997); and the discrimination level should be 0.2 or more than 0.2. So, if an item has difficulty level between 0.3 and 0.7 but the discrimination is less than 0.2 the item is not good. On the other hand, if the discrimination level of an item is more than 0.2 but does not have difficulty level ranging between 0.3 and 0.7, such item is not good. Only items with difficulty level between 0.3 and 0.7 and the discrimination level of 0.2 or more were selected. Only 31 items met the criteria set, so they were revised and used for the national survey. The items were trial tested on a similar group of pupils in four schools not selected for national survey. Comments obtained from the pupils were used to improve the quality of the test.

Numeracy Test

This is a fifty-item test with four-option format A, B, C and D. The items used in the test were developed from the Primary 4 mathematics syllabus (the items were curriculum- referenced) to ensure good content coverage. The contents represented a wide range of topics which tested knowledge, comprehension and thinking skill expected of pupils of this age range as recommended by Bloom. Distribution of items by content and cognitive behaviours is presented in Table 2.3.

Table 2.3 Table of Specification for Numeracy

Content	Level of Cognitive Operation			Total
	Knowledge	Comprehension	Thinking Skills	

Number and numeration	12	7	9	28
Geometry	4	2	2	8
Mensuration	6	4	4	14
Total	22	13	15	50

For an item to be good in the numeracy test; the difficulty level should be between 0.3 and 0.7 as suggested by Thorndike (1997); and the discrimination level should be 0.2 or more than 0.2. So, if an item has difficulty level between 0.3 and 0.7 but the discrimination is less than 0.2 the item is not good. On the other hand, if the discrimination level of an item is more than 0.2 but does not have difficulty level ranging between 0.3 and 0.7, such item is not good. Only items with difficulty level between 0.3 and 0.7 and the discrimination level of 0.2 or more were selected. Only 37 items met the criteria set, so they were revised and used for the national survey. The items were trial tested on a similar group of pupils in four schools not selected for national survey. Comments obtained from the pupils were used to improve the quality of the test.

Life Skills Test

This is a fifty-item test with four-option format A, B, C and D. The items used in the test were developed from the Primary 4 science, health, hygiene, nutrition, environment, etc. syllabus (the items were curriculum- referenced) to ensure good content coverage. The contents represented a wide range of topics which tested knowledge, comprehension and thinking skill expected of pupils of this age range as recommended by Bloom. Distribution of items by content and cognitive behaviours is presented in Table 2.4.

Table 2.4 Table of Specification for Life Skills Test

Content	Level of Cognitive Operation			Total
	Knowledge	Comprehension	Thinking Skills	
Living things and the Environment	1	1	1	3
Human being and Health	5	3	1	9
The Planet Earth	7	4	2	13
Settlements and Economic Activities	5	2	1	8
Organisation of the society	4	3	2	8
Cultural and National Heritage	4	3	1	8
Total	26	16	8	50

For an item to be good in the life skills test; the difficulty level should be between 0.3 and 0.7 as suggested by Thorndike (1997); and the discrimination level should be 0.2 or more than 0.2. So, if an item has difficulty level between 0.3 and 0.7 but the discrimination is less than 0.2 the item is not good. On the other hand, if the discrimination level of an item is more than 0.2 but does not have difficulty level ranging between 0.3 and 0.7, such item is not good. Only items with difficulty level between 0.3 and 0.7 and the discrimination level of 0.2 or more were selected. Only 30 items met the criteria set, so they were revised and used for the national survey. The items were trial tested on a similar group of pupils in four schools not selected for national survey. Comments obtained from the pupils were used to improve the quality of the test.

Pupil's Questionnaire

Pupil questionnaire was designed to collect information on specific variables relative to their learning. The questionnaire was developed to collect information on five broad areas such as: pupils' characteristics, family background, accessibility to school, instructional support and studying conditions.

Pupil's Characteristics

This section dealt with age, sex, meals normally have, number of years 2nd and 3rd grades of the pupils.

Family background

This section dealt with number of children (boys and girls) below 14 in the family, number of people in the family, who pupil live with (both parents, with your father only, with your mother only, with any member of the family, or a guardian, in the orphanage/bordering school); language spoken at home and the frequency; parent/guardian age group, father or guardian and mother qualification, principal source of income in the family, type of house possess, availability of domestic appliances or installations in the house.

Accessibility to School

This section dealt with the distance between the school and the pupil's house, pupils' mode of transportation

Instructional Support

This section dealt with frequency of homework by the teacher in numeracy, literacy and life skills, level of explanations in numeracy, literacy and life skills, availability of school's library, frequency of use library.

Studying Conditions
This section dealt with possession of the following school materials: books, pen, pencil, mathematical instruments, ruler, text books for numeracy, literacy and life skills, pupils' activities during the long breaks.

Parent's Questionnaire
The objective of this instrument is to collect information on the characteristics of the subject's family, in terms of its socio-economic status, its attitudes and aspirations, the direct participation of parents in their children's home educative process. The instrument was also used to examine the existence of parents' and teachers' associations.

Characteristics on the child's home: the number of brothers and sisters and other house occupants, with whom the child is living and the marital status of the parents

The family's socio-economic situation, parental profession(s) or occupation (s), type and size of the house, its comfort level, and the child's contribution to the family economy, the literacy level, the language spoken at home, the use and respective frequency of other languages, the level of proficiency of each language spoken. Other factors in the family's socio-economic factors include the home's educational environment: the parents' level of education, as well as that of other children, and reading material available in the home.

The family's commitment to educational activities: parent-teacher meetings, and parent-teacher associations.

Educational interaction: child-parent and homework stimulation and who assists with homework.

Family opinions on schooling: importance of school programme contents and quality of methods utilised and parents' and children's aspirations and how it could achieved by education.

Teacher's Questionnaire
This instrument is designed to collect information on specific characteristics with regard to teachers and factors relative to teaching that influence pupil learning. The questionnaire was developed to collect information on six broad areas such as: teacher characteristics; professional characteristics; learning conditions; monitoring and pedagogic follow-up; activities of the teacher and teacher's attitudes and opinions.

Teacher Characteristics
This section dealt with such teacher qualities as gender, age, marital status, district of birth, nationality, district of residence, highest qualification at the point of appointment, current educational level

Professional Characteristics of the Teacher
The section dealt with teaching experience, the last diploma received, professional training in primary education and length of duration, whether the teacher is contracted or full time and for how long. Finally, the section dealt with whether or not the teacher has participated in continuous trainings in the last 5 years within the country or abroad.

Learning Conditions
The section dealt with such factors are work load (number hours of work per week), training received for primary 4 and the length of duration, approximate length of time taken from house to the school, mode of transportation (on foot, by bike, by motorbike, by private car, by taxi, by bus or by canoe), availability of teaching materials in the classroom, number of pupils in the class with school materials like text book, note books, ruler, compass, pen and pencil, etc

Monitory and Pedagogic follow-up
Frequency of visitation of these supervisors: Inspector, Methodologist and Directors visit the classroom, type of professional support receive from colleagues, number of use of the following centres of professional support/aid: documentation centres for teachers, library, educational institute / training centre with the following response format: never, rarely, regularly or frequently.

Activities of the Teacher
Number of pupils classroom (boys and girls), number of classrooms (one or two), the sufficiency of didactic material available, number of hours dedicated to the following: reading and correction of the pupils' work, preparation of lessons, meetings the pupils outside the class, updating the pupils' register, re - explanations (support for the very weak pupils), corrections of examination scripts or homework, documentation of professional and other activities, administrative activities, meetings with parents, preparation of your lesson, individual support to the pupils in need.

Attitudes and opinions
Teaching being a first choice, society and pupils value on teaching job, discussing with colleagues pedagogic problems, opinion about primary 4

programme, methodologies and text books adopted in primary 4, suggestions on how to improve on literacy, numeracy and life skills. Other factors considered in this section include the level of educative know-how of the teacher in the following: effective planning of lesson, choice and preparation of teaching materials, motivation of pupils to participate in class, preparation of tests (questions), using the results of tests to teach and develop individual relationship with colleagues. Finally teachers were asked to rate themselves on a 5-point scale (low, below average, average, good and excellent) on the following: take into account the individual differences of the pupils, level of tolerance of indiscipline in class and identifying the difficulties of the pupils in learning.

School Head's Questionnaire:

Unlike the teacher questionnaire, school head questionnaire was not divided into sections, the instrument was treated a whole, so the description of the instrument will not follow sectional description. This questionnaire was developed to collect information on specific school characteristics/factors contributing to pupil learning. It contained information on school location, the nearness of the school to the school head, length of time to get to school, the school head's characteristics (sex, age, academic training, professional training, experience as school head, teaching experience, salary per month, number of people living with the school head, school head's number of children, means of communication in the house, means of transportation, etc.), school size (gross enrolment rate, relative enrolment rate, the number of teaching employees school first-aid services, school infrastructure (total school area, classroom area, building conditions), the number of teachers in the school and characteristics with regard to their curricula (number of teachers for each age group, academic and professional qualification and teaching experience), school administration and organisation (organise meeting with the parent/guardians, visit to homes, organise meeting with the teachers), methodological preparation and technical visits: frequency and evaluation of academic supervision (supervision of pedagogic-educative activities, visits from MEC authorities and from other entities, inspection visits like the inspectors, methodologists and directors). Other factors include the level of satisfaction on the light, ventilation and tidiness of the school environment, functional equipments in the school, availability and the state of a dispensary/clinic close to the school.

The four instruments (pupil, parent, teacher and school questionnaires) were subjected to series of critique sessions in order to eliminate all ambiguities from the instruments. The instruments were trial tested on a similar group of pupils, teachers and head-teachers in four schools not selected for the national survey. Comments obtained from the pupils, teachers and

head-teachers were used to improve the quality of the instruments.

Table 2.5 Length and Reliability Coefficients of the Tests

Instrument	Number of Items	Reliability Coefficient
Literacy Test	31	0.887
Numeracy Test	37	0.811
Life Skills Test	30	0.746

Table 2.6 Length and Reliability Coefficients of the Questionnaires

Instrument	Number of Items	Reliability Coefficient
Pupil Questionnaire*		
Language spoken at home and the frequency	7	0.442
Domestic appliances	13	0.857
Instructional support by teacher	6	0.624
Family support	13	0.981
Possession of school materials	8	0.939
Parent Questionnaire*		To be determined
The family's socio-economic situation		
The family's commitment to educational activities:		
Educational interaction:		
Family opinions on schooling		
Teacher Questionnaire*		
Professional Characteristics of the Teacher	5	0.631
Learning Conditions	5	0.916
Monitory and Pedagogic follow-up	3	0.790
Activities of the Teacher	11	0.791
Attitudes and opinions	11	0.781
School Questionnaire*		To be determined
School location,		
Means of communication in the house,		
Means of transportation, etc.),		
Frequency and evaluation of academic supervision		
School environment		

* Note that all the items in each of the questionnaires did not measure the

same construct. Items measuring the same construct were pooled together and their Cronbach alphas were determined.

Administration of Instruments

The test instruments and questionnaires were administered in July 2009 after the pupils have proceeded on vacation. The pupils were called back to school in order to participate in tests and to in order to complete their questionnaire. The choice of this period was made on the necessity to ensure coverage of curricular for the school year from which the test items were developed. The instruments were administered on primary IV pupils in the same school at the same time. Instrument administration was completed in two days. The first day was devoted to the administration of literacy and life skills and the second day was for the numeracy and pupil questionnaire. Since the teacher and head-teachers used in the study were also parts of data collectors, they respond to their questionnaire during the data collector training period.

Capacity Building

To ensure replicability of the MLA process, capacity building was provided for the personnel on key implementation activities including instruments development, as well as questionnaire administration and data inputting.

Data Collection Manual

To ensure synchronization of the field processes, a training manual detailing the objectives of the assignment, instructions on sampling and sample selection procedure and logistics of field data collection was developed. The manual also contained step-by-step procedure for the administration of learning achievement instruments and questionnaires as well as for the packaging of completed instruments for easy reference. The Manual was used for the training on data collection. It also served as reference source for the field process.

Data Processing

Instruments administered for the assessment were centrally processed. The editing of questionnaires and background information on the MLA preceded the data entry. The screen for data entry was created using the MS-excel for the both the tests and the questionnaires. These were converted to SPSS (Statistical Package for Social Sciences) Computer Software. Data verification was ensured by the International Consultant. The data analyses were carried out using SCORBATT for the tests in order to determine the item analysis (item discrimination, difficulty and distraction) and test analysis (mean, S.D and reliability) component of the test. The demographic and achievement variables were analyzed using the SPSS software. The analysis of the questionnaires was

embarked upon using the SPSS Software. Such statistical tools like descriptive (mean, S.D., frequency, percentage) and inferential statistics (multiple regression for variables linkage) were used in the analysis.

CHAPTER THREE

PARENT CHARACTERISTICS

Introduction

There are two types of variables in this chapter, the discrete and continuous variables. The discrete variables assume definite categorizations for example, sex, you are either a male or a female, but variable like age is referred to a continuous variable. Continuous variables are treated by considering the minimum, maximum, mean and S. D. The following are the ones under the continuous variables

Table 3.1 Mean and S.D. of Continuous Parent Variables

	N	Min	Max	Mean	S. D.
Parents' ages	392	16	78	37.72	9.121
Monthly salary in '000 dobras	171	2	10000	897.695	1251.960
How long have you been living with your wife or husband?	323	1	56	11.62	7.636
Number of people in the family	367	1	17	5.46	2.129
Number of children	303	1	15	4.25	2.120
Age of 1st child	372	0	53	15.88	6.771
Age of 2nd child	354	1	51	13.29	6.556
Age of 3rd child	292	1	49	10.99	6.728

Age of 4th child	217	1	44	8.78	6.364
Age of 5th child	103	1	27	7.57	6.828
Age of 6th child	56	1	24	7.94	6.439
Age of 7th child	43	0	18	7.33	5.385
Age of 8th child	43	1	22	5.19	5.491
Age of 9th child	108	1	11	1.86	1.780
Number of time solving children's problems	328	1	2	1.36	.482
Number of time hours spent helping children in Literacy per day	290	0	5	1.60	.938
Number of time hours spent helping children in Numeracy per day	274	1	5	1.67	.962
Number of time hours spent helping children in Life Skills per day	312	0	6	1.89	1.223

The parents' age ranged from 16 years to 78 years with a mean age of 37.7 years. This implies that sample took care of both young and old parents. The monthly wages of these parents ranged from 171,000 dobras (about 1.1 USD) and 10,000,000 bodras (about 62.89 USD) and the mean salary was 897,695 dobras (5.65 USD). This implies that majority of the people are living below the poverty line. Despite the low income, there are some families with more than ten people. The number of hours parents helped children in numeracy, literacy and life skills range from 0 to 6 hours a day. The mean value of about 2 hours tutorial for the children is just adequate considering the children's attention span.

The following tables present description of discrete variables.

Table 3.2 Samples by Districts

DISTRICT	Água Grande	Mé-Zochi	Lobata	Lembá	Cantagalo	Caué	Pagué	Total
Freq	97	78	30	59	43	20	71	398
Percent	24.4	19.6	7.5	14.8	10.8	5.0	17.8	100.0

The table reveals that parents were sampled from all the seven districts in Sao Tome and Principe. The island of Sao Tome consisting six districts had more parents sampled from it than the island of Principe as showing the following graph.

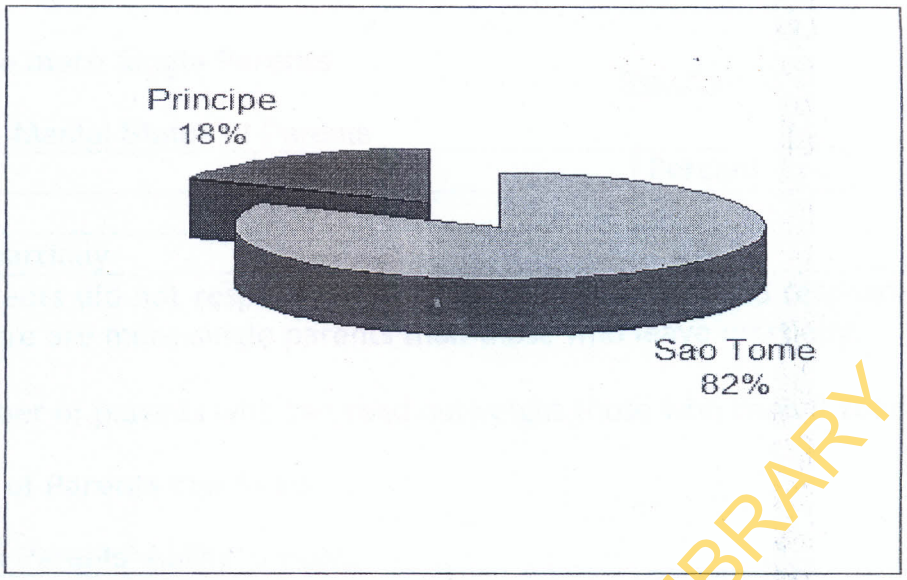

Fig. 3.1 Distribution of Parents by Islands

There are more Female Parents than Male Parents

Table 3.3 Gender Distribution of Parents

Sex	Frequency	Percent
Male	153	39.3
Female	236	60.7

The invitation to parent to participate in this study was not gender biased. Parents irrespective of their sexes were invited but there are more female parents than male parents who honoured the invitation. This pattern is expected because most times children stay with there mothers and they always make themselves available in schools when their attention is required. The pattern of parent gender is presented in Fig. 3.1

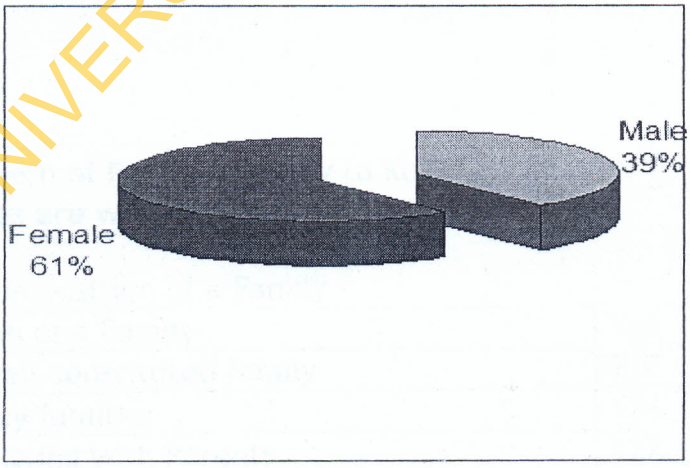

Fig. 3.2 parents Sexes

There are more Single Parents

Table 3.4 Marital Status of Parents

	Frequency	Percent
Single	218	77.0
Living martially	65	23.0

Many parents did not respond to this item, among those who responded to the item, there are more single parents than those who leave martially.

The number of parents who can read outweighs those who cannot read.

Majority of Parents can Read

Table 3.5 Parents' Ability to Read

	Frequency	Percent
Can read	275	83.8
Can not read	53	16.2

Many of the parents did not respond to this item. Among those who responded, majority of them indicated that they could read while less than a fifth indicated that they could not read as illustrated by the graph in Fig. 3.3.

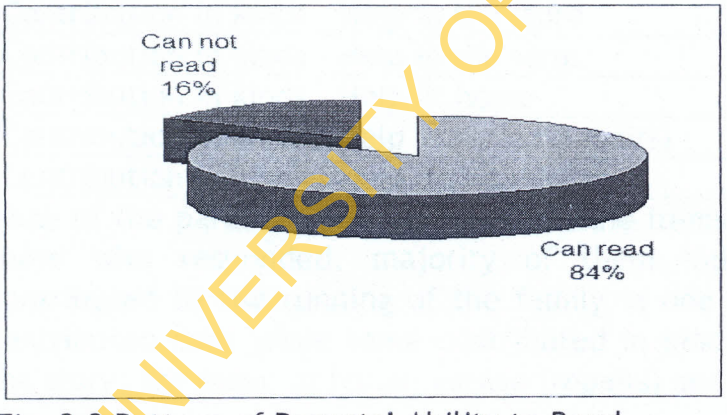

Fig. 3.3 Pattern of Parents' Ability to Read

Most families are well constituted

Table 3.6 Composition of a Family

Composition of a Family	Yes		No	
Having a well constituted family	217	76.1	68	23.9
Having many families	124	51.9	115	48.1
Children leaving with Parents	127	71.3	51	28.7
Many children	157	65.1	84	34.9

Leaving with a wife	170	70.5	71	29.5
Leaving with a husband	23	16.0	121	84.0
Leaving with servant (s)	109	81.3	25	18.7
Satisfied with the number of children	168	67.5	81	32.5

Many of the parents did not respond to the items under consideration. Among those who responded, majority of them indicated that their families are constituted meaning that there is a man (husband), wife and children while less than a third specified that their families were not properly constituted. Many of the parent also indicated that they have many families this explains the picture in table 3.1 where there were 12 people in a family. Majority of the parents specified that their children stay with them while about a third of the parents have their children leaving elsewhere. Majority of the parent also indicated that they have many children, this implies that they will need the assistance of maids to help raise these children and that explains while many of the parents indicated that leave with servants.

Children Have Roles to Play in the Family

Table 3.7 Children's contribution in the Family

Children's contribution				
Children's contribution in the home expenses	117	78.0	33	22.0
Contribution in cash	52	69.3	23	30.7
Contribution in kinds - Help in the store	15	62.5	9	37.5
Contribution in kinds - Help in the farm	14	73.7	5	26.3
Contribution in kinds - Help at home	3	30.0	7	70.0
Contribution in kinds - Help in garage(repairs)	6	27.3	16	72.7
Contribution in kinds - Help in the market	87	87.9	12	12.1

Many of the parents did not respond to the items under consideration. Among those who responded, majority of them indicated that their children contributed to the running of the family in one or the other. Some children contributed cash while some contributed in kinds for example, some help in the store; the farm; at home; garage (repairs) and the market.

Every Family has at Least a Means of Communication

Table 3.8 Means of Communication

Means of Communication	Yes		No	
Radio	115	66.9	57	33.1
Television	16	17.0	78	83.0
Telephone	10	15.9	53	84.1
Internet	17	65.4	9	34.6
Parabolic Athena (Satellite disc)	68	77.3	20	22.7

The table reveals that most parents have one means of communication or the other. The commonest of them is the radio. Some are big while some are transistor radios. The amazing result is the possession of satellite disc without television. Only 16 families indicated that they have television but as many as 68 families claimed that they have satellite dish. One begins to wonder if satellite discs have started working without connecting them to television terminals.

Every Family has at Least a Toilet

Table 3.9 Types of Toilet in use

Types of Toilet in use	Yes		No	
Water cistern toilet	46	56.8	35	43.2
Normal toilet (water closet)	21	46.7	24	53.3
Pit toilet	50	53.8	43	46.2
Bush	110	70.5	46	29.5

The type of toilet ranged from the normal toilet (water closet) to the type practised in the rural settings - bush. Majority of the family used the bush method of disposing waste from the body system while few of them use the water closet and water cistern types of toilets.

Many Families use Kerosene lamp

Table 3.10 Sources of Light in the Home

Sources of Light	Yes	
Kerosene lamp	177	81.2
Lamp with palm-oil	30	68.2
Candle	106	82.2
Electricity	82	41.4

Majority of the families used kerosene lamp as their source of light, followed by the families which used candle as their source of light in the night as seen in Fig. 3.4.

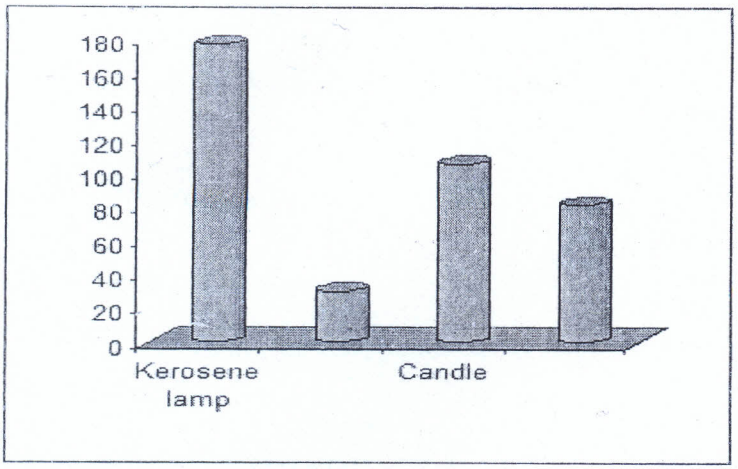

Fig. 3.4 Sources of Light in the Home

Few families used the palm-oil lamp and electricity in their homes. The candle and the palm-oil sources of light could be problematic in the sense that during windy period, keeping them aglow becomes difficult. Again, reports of forgetting to put off candle before going to bed has caused fire disaster in some families. Electricity as a source of light is safe but this is not evenly distributed to all the families.

Most Families Spoke Caboverdiana Language at Home

Table 3.11 Language Spoken

Types of languages	Freq	%
Forro	78	19.6
Portuguese	13	3.3
Ingles	3	.8
Espanhol	11	2.8
Frances	10	2.5
Lungule	11	2.8
Angolar	18	4.5
Caboverdiana	109	27.4

Majority of the families indicated that they spoke Caboverdiana language at home; this is followed by Forro lanuage. Fewer families spoke Ingles. Which ever language spoken in the family, the majority of the parents indicated they learnt the languages from schools and their parents.

Parents like reading Romantic Books

About 90% of the parents indicated that they like reading. A step forward, they were asked to indicate the type of books they read, majority (83.2%) of them

indicated romance, few of them read politics books (4.0%), teaching books (0.5%) and religious books (3.8%).

Majority of parents play Cards

Table 3.12 Type of Games Played by Parents

Types of Games	Freq	%
Chess	23	5.8
games for money	30	7.5
Football	20	5.0
Cards	35	8.8

Not all the parents indicated the type of games they play, among those who indicated, few families play chess. Chess and scrabble are educative games but very few of the parents play such games. The implication is that their children are not likely to play such games. On the contrary, games that involved money is ranked second in the games played by parents.

Majority of the Families Provide Breakfast

Table 3.13 Types of Meals

Types of meals	Freq	%
Breakfast	222	55.8
Lunch	5	1.3
Dinner	1	.3
Snack	10	2.5
Supper	19	4.8

Most of the families provide breakfast, while lunch and dinner could be obtained from vendors. Snacks are also provided in some family while dinner (the food given to the family members who before they go to bed complained that they were hungry.

Most Parents Have Motorcycle

Table 3.13 Types of Transportation

Types of transportation	Freq	%
Bicycle	1	.3
Motorcycle	37	9.3
Car	3	.8
Boat	5	1.3
Lorry	23	5.8
Canoe	3	.8

The profile of the means of transportation in the family is presented in Table 3.13. Only few families have bicycles, cars, boats and canoes. Lorries were possessed by some families because of the terrain of the two islands. Judging that some of the parents came from fishing communities, possession of boats and canoes were out of point. Motorcycles are the most popular means of transportation in the two islands again, based on the terrain of the islands.

Most Families Depend on Gifts

Table 3.14 Sources of Income

Sources of Income	Freq	%
Monthly wages	3	.8
Small businesses	8	2.0
Inheritance	4	1.0
Gift	66	16.6

From the four sources of income identified, many parents indicated that they have their income from gifts. This is likely to be through of the islands that depend heavily on foreign aids.

Most Parents Leave in their own Houses

Table 3.15 Sources of Family's House

Sources of Family's House	Freq	%
Built by you	63	15.8
Inherited	23	5.8
Rented	19	4.8
Belongs to your parents	12	3.0
Belongs to a friend	15	3.8

House were families are found could belong to the parent, parents' parents (inheritance), friends, it could be rented. Majority of the parents who responded to this item indicated that they built the house where they leave with their families.

Most the Houses are Small

Table 3.16 Size of the House

Sizes of Family's House	Freq	%
Small	132	33.2
Moderate	34	8.5
Big	97	24.4

Most of the houses found in the islands are small compared to what is seen elsewhere in some African countries. Only few families leave in not too big and not too small houses while a larger portion of the parents indicated that their houses were big as seen in Fig. 3.5.

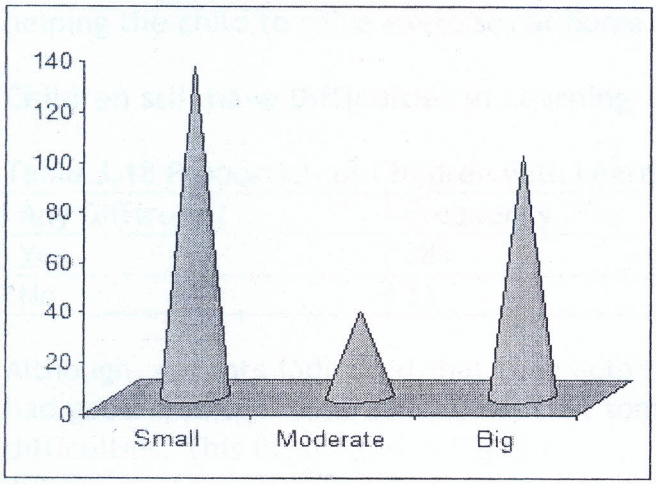

Fig. 3.5 Sizes of Family's House

One of the limitations of this question is that dimensions were not used, so what seemed small to a parent may seem big to another.

Majority of the Parents are Interested in the Academic Development of their Children

Table 3.17 Parental Involvement

Parental Involvement	Freq	%
Monitoring activities of child(ren) in school	306	76.9
Attending meetings when necessary	261	65.6
Getting information on the child	254	63.8
Helping the child to wake up to study	281	70.6
Helping the child to study	83	20.9
Helping the child to solve exercises at home	89	22.4
Checking the children's books after school	250	62.8
Stopping the child from playing to study	201	50.5
Listening to the pupil	310	77.9
Solving the problems of the child	209	52.5
Children with good school results	203	51.0

The high proportion of parents who monitor the activities of child(ren) in schools; attend meetings in schools when necessary; get information on the child; help the child to wake up to study; check the children's books after

school; stop the child from playing to study; listen to the pupil and solve the problems of the child is a strong indication that parents are doing what they are suppose to do and this led to children having good school results. Areas where efforts should be concentrated are helping the child to study and helping the child to solve exercises at home.

Children still have Difficulties in Learning

Table 3.18 Proportion of Children with Learning Difficulties

Any Difficulty?	Frequency	Percent
Yes	289	72.6
No	51	12.8

Although, parents indicated that they help their children and that the children had good results, Table 3.18 shows that some children still have some learning difficulties. This illustrated in Fig. 3.6.

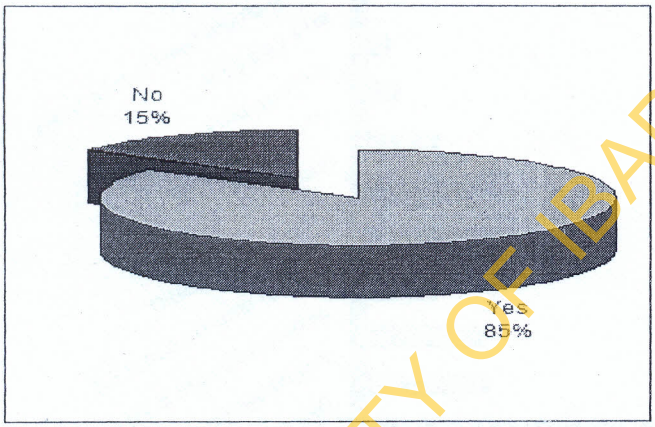

Fig. 3.6 Proportion of Children with Learning Difficulties

Poor Learning Condition tops the Reasons for Children's Learning Difficulties

Table 3.19 Reasons for Learning Difficulties

Reasons for Learning Difficulties	Freq	%
Poor learning condition	241	60.6
The teacher does not teach well	50	12.6
The teacher is always absent	49	12.3
At home, a lot of misunderstanding	31	7.8
No space at home to study	62	15.6
Difficulties in feeding	41	10.3
The poor zoon	31	7.8
no books to study	15	3.8
they do not like studying	11	2.8

they play a lot	3	.8
spend a lot of time helping parents	3	.8
influence of friends	11	2.8

Reasons identified as being the main problem why children have learning difficulties range from children spend a lot of time helping parents (0.8%) and children play a lot (0.8%) to poor learning condition (60.6%). Other reasons are: the teacher does not teach well; the teacher is always absent; at home, a lot of misunderstanding; no space at home to study; difficulties in feeding; no books to study; they do not like studying; and influence of friends. These are illustrated in Fig. 3.7.

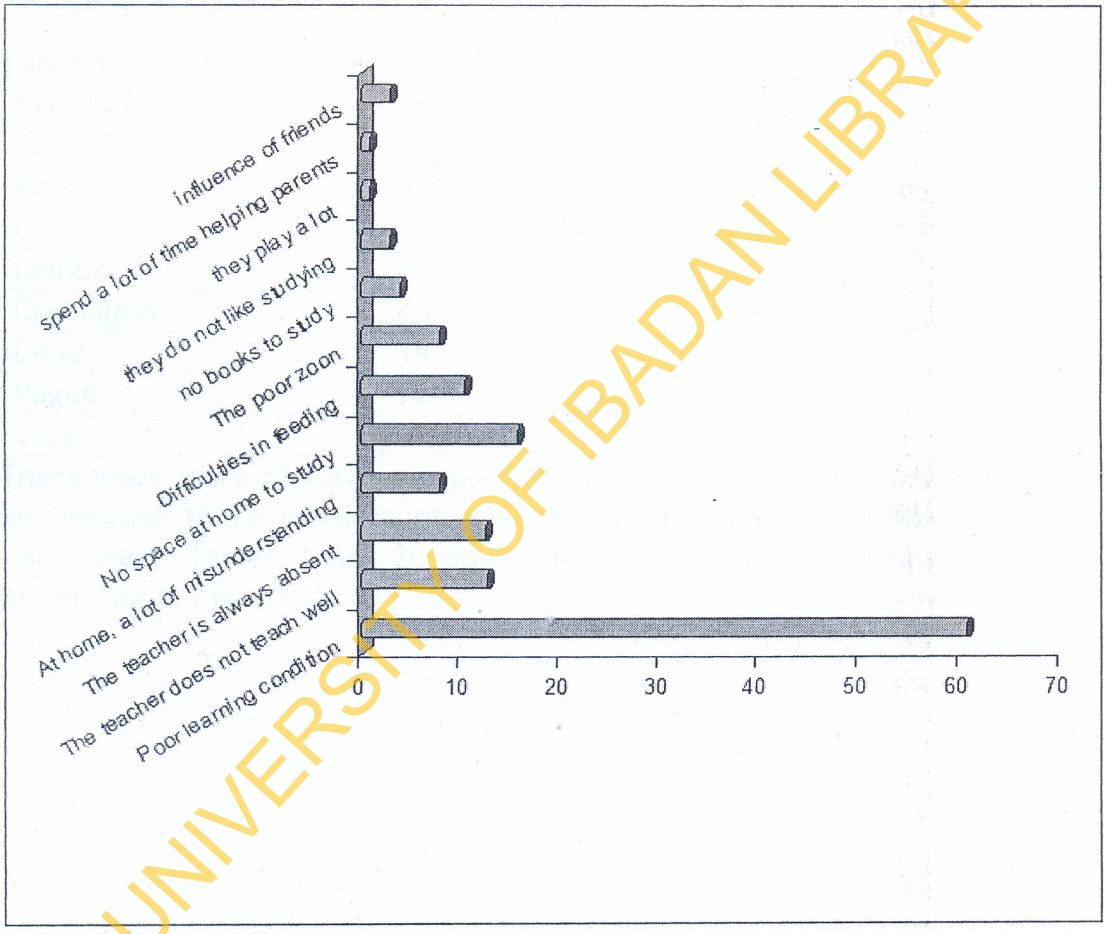

Fig. 3.7 Reasons for Learning Difficulties

CHAPTER FOUR

PUPIL CHARACTERISTICS

Introduction

There is only one type of variables (discrete variables) in this chapter, unlike in the next chapters where there are also continuous variables. The discrete variables take the form of definite categorizations for example, districts, the district could either be Água Grande, Mé-Zochi, Lobata, Caué or Pagué.

More pupils were sampled from Mé-Zochi

Table 4.1 Pupils Sampled Across Districts

DISTRICT	Frequency	Percent
Água Grande	107	21.8
Mé-Zochi	110	22.4
Lobata	68	13.9
Lembá	66	13.5
Cantagalo	48	9.8
Caué	19	3.9
Pagué	72	14.7
Total	490	100.0

There were more children sampled from Mé-Zochi and Água Grande. This could be because there were more schools and children in the districts. Pupils in Caué were fewer than in other districts. This information is presented pictorially in Fig.4.1

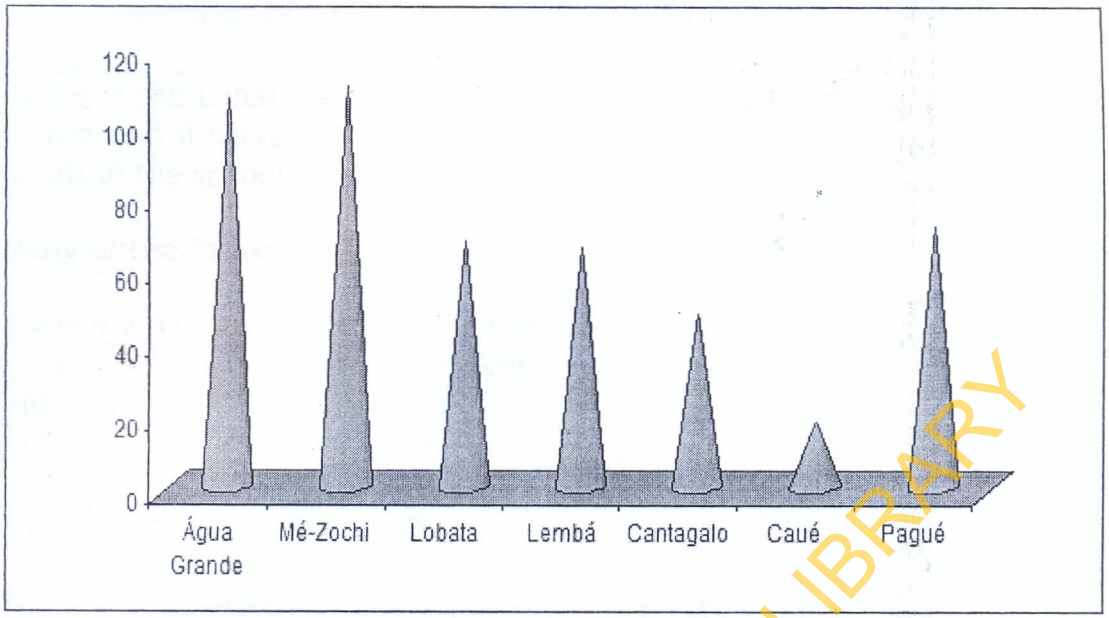

Fig. 4.1 Pupils Sampled Across Districts

There are more children in Escola Básica de Neves

Table 4.2 School Distribution

SCHOOL	Frequency	Percent
Escola Básica Dona Maria de Jesus	38	7.8
Escola Básica Integrada de Vila Fernanda	21	4.3
Escola Básica de Oque del Rei	27	5.5
Escola Básica da Praia Gâmboa	21	4.3
Escola Básica de Folha Fede	26	5.3
Escola Básica de S.Fenicia	22	4.5
Escola Básica Manuel Q. Bragança	21	4.3
Escola Básica de Monte Café	24	4.9
Escola Básica Januário Graça	17	3.5
Escola Básica José Leal Bouças	19	3.9
Escola Básica de Gudalupe	19	3.9
Escola Básica de Praia das Conchas	17	3.5
Escola Básica de Neves I	13	2.7
Escola Básica de Neves II	66	13.5
Escola Básica de Praia Rei	34	6.9
Escola Básica de Anselmo Andrade	14	2.9
Escola Básica de Ribeira Peixe	19	3.9
Escola Básica Paula Lavres	33	6.7
Escola Básica Nova Estrela	15	3.1

Escola Básica de Praia Inhame	24	4.9
Total	490	100.0

Neves is the Lobata District Headquarter, so the two schools Escola Básica de NevesI and II serves many villages around Neves. That is why there are many pupils in the schools.

Many of the Primary 4 Pupils are 11 Years Old

Table 4.3 Age Distribution of the Pupils

Age	Frequency	Percent
10 years	129	26.3
11 years	139	28.4
12 years	96	19.6
Above 12 years	78	15.9

The law stipulate that children should be admitted into primary1 at age 7, this implies that at age 10, they should be in Primary 4. Only 26.3% of these children were actually in primary 4 at age 4, most of the children were older than 10 years. This implies that many of them would have repeated one class or the other. This result is represented graphically in Fig. 4.2

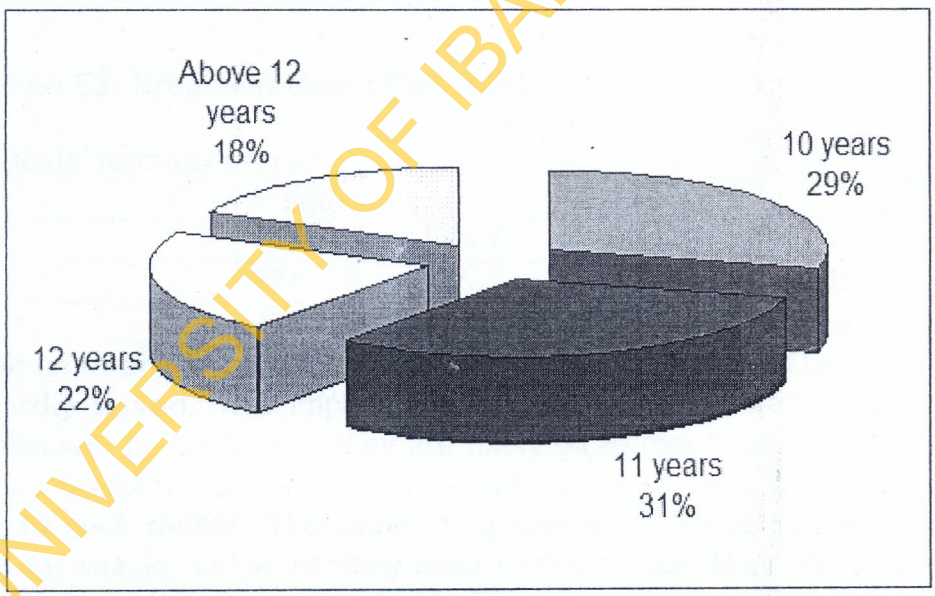

Fig. 4.2 Age Distribution of the Pupils

There are more Boys than Girls in Primary 4

Table 4.4 Sex Distribution

Sex	Frequency	Percent
Boys	246	50.9

Girls	237	49.1

There is a slight difference in the enrolment of boys and girls in primary in favour of boys. This information is represented in Fig. 4.3

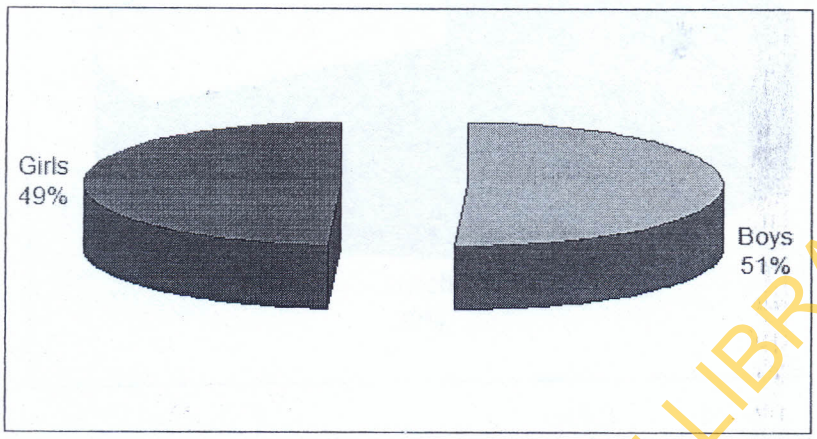

Fig. 4.3 Sex Distribution of the Pupils

Many children Eat Breakfast than other Meals

Table 4.5 Meals normally served

	Frequency		Percent	
Breakfast	459	93.7	8	1.6
Lunch	371	75.7	51	10.4
Dinner	430	87.8	4	.8

Many of the children indicated that they eat breakfast followed by dinner then lunch is hardly served. This implies that in the afternoon when the morning shift children will be returning, they are likely go to meet their parents in the market place, so such food like snacks could be given to them till evening when they close to cook dinner. The same thing happen to those in the afternoon shift, they eat snacks and when they return from school, they are served with dinner. The information is represented in Fig. 4.4

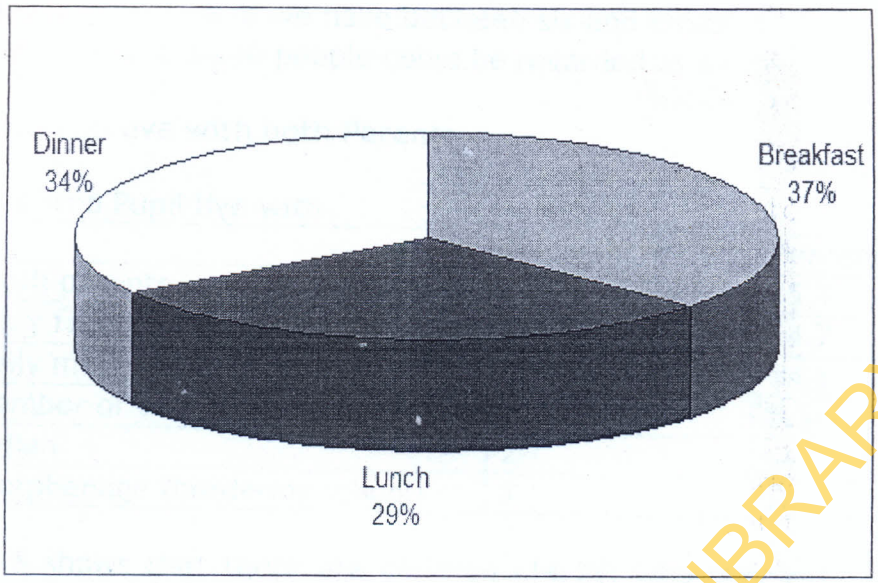

Fig. 4.4 Meals normally served

Many Children Repeated Grades 2 and 3

Table 4.6 Years spent in Grades 2 and 3

	1 year		2 years		3 years	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
2nd grade	376	76.7	45	9.2	3	.6
3rd grade	252	51.4	60	12.2	3	.6

About half of the children (51.4%) spent only one year in grade 3, this implies that about half of them could not transit to the 4th grade at the appropriate time. Worst still, there are some children who spent up to three years in grades 2 and 3. This explains why the ages of the children are above the recommended 10 years for grade 4.

Not many people live in the Pupils' Family

Table 4.7 Number of people living the family

	Frequency	Percent
Up to 5 people	231	47.1
6 to 10 people	141	28.7
More than 10 people	13	2.6

Many of the pupils indicated that five or less people live in their families. However, there are some families that could be regarded as large. For

example, families where we have between six and children living together or a family with more than 10 people could be regarded as a large family.

Many Children live with both Parents

Table 4.8 Who Pupil live with

	Frequency	Percent
With both parents	74	15.1
With only father	72	14.7
With only mother	69	14.1
Any member of the family	26	5.3
A guardian	2	.4
In the orphanage (bordering school)	1	.2

Table 4.8 shows that there are children (14.1%) who stay with their fathers only as against the believe that when there is conflict between a man and his wife the children stay with the mother. Here, reason warranting the children staying with their father is not known. The commonest practice is to have many of the children stay with both parents. There was only one child in the orphanage or boarding school.

Portuguese, Língua de Angola (dialect) and Língua de Moçambique (dialect) are Languages not many children Speak

Table 4.9 Language frequently speak at home

	Never		Sometimes		Always	
	Freq	%	Freq	%	Freq	%
Portuguese	94	19.2	98	20.0	68	13.9
Forro	65	13.3	5	1.0	20	4.1
Angolar	87	17.8	78	15.9	6	1.2
Linguié (Dialect)	83	16.9	28	5.7	3	.6
Cape Verdian dialect	49	10.0	12	2.4	33	6.7
Língua de Angola (dialect)	122	24.9	5	1.0	12	2.4
Língua de Moçambique (dialect)	110	22.4	5	1.0	2	.4

Not all the pupils responded to the question the type of language they frequently speak at home. Those who responded to the question indicated that

Portuguese and Forro were spoken sometimes but Portuguese, Língua de Angola (dialect) and Língua de Moçambique (dialect) were Languages spoken by many children. However, a handful (13.9%) of the children affirmed that they speak Portuguese language.

Fathers are more Qualified Academically than Mothers

Table 4.10 Father and Mother Qualification

	Father		Mother	
	Freq	%	Freq	%
Does not read nor write	158	32.2	208	42.4
Can read and write	57	11.6	52	10.6
Completed Primary education	63	12.9	110	22.4
Completed secondary school	62	12.7	23	4.7
Completed university	1	.2		
Total	490	100.0	490	100.0

Table 4.10 shows that many mothers (42.4%) could neither read nor write. Not all fathers could read and write but they are not as many as the mother. Again, the number of fathers who completed secondary education and more is more than the number of mother although mothers beat the fathers hands down in primary education. The result is further described in Fig. 4.5.

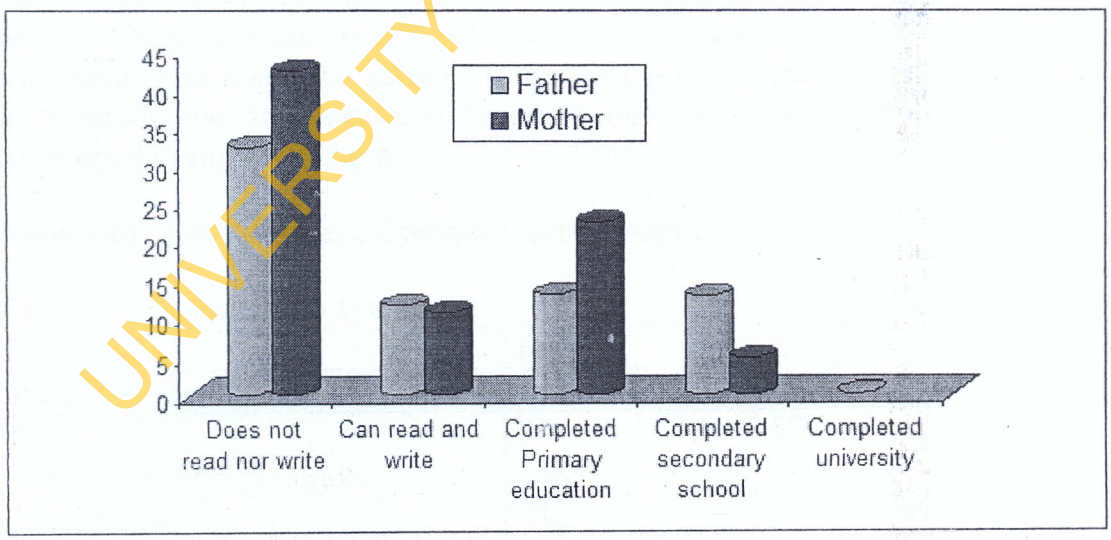

Fig. 4.5 Father and Mother Qualification

Salary, Sales of farm products and Trade are Principal Source of Income in the Family

Table 4.11 Principal Source of Income in the Family

	Frequency	Percent
Salary	135	27.6
Pension of retirement or other pension	9	1.8
Sales of plastic bags	21	4.3
Sales of farm products	70	14.3
Trade	68	13.9
Carpentry, Painting, Fishing	27	5.5

The primary source of income in the family is the salary of the mothers and fathers and some other members of the family. Other sources of income are the sales of farm products, trade and other activities like carpentry, painting, fishing, etc

Many of the Pupils' Houses are Wooden

Table 4.12 Pupils' Type of Houses

	Frequency	Percent
cane house	19	3.9
Wooden house	212	43.3
mixed house	123	25.1
concrete (block)	84	17.1

Table 4.12 shows four different of houses. Some houses were built with cane, wood, mixed and concrete. Not many of the pupils came from houses built with cane and concrete (block). The most popular houses are the ones build with woods and ones where different materials (mixture of wood and blocks) were used in building them.

Television and Radio are Common in the Pupils Homes

Table 4.13 Facilities in the House

	Freq	%
Portable water	289	59.0
Electricity	271	55.3
Lantern (lamp) or candle	268	54.7
Telephone	213	43.5
Pit toilet	177	36.1
Bath room	287	58.6
Radio	321	65.5
Television	345	70.4

Video	263	53.7
Computer	230	46.9
Fan	225	45.9
Air Condition	155	31.6
Stove	186	38.0

Table 4.13 shows that the pupils' homes have facilities ranging from hard to come by air-condition to commonly possessed television at varying degrees. Although, we stated that television is common but some homes (29.6%) are without television. Again, air-condition was referred to as hard to come by, yet 31.6% of the children homes are cooled by this facilities.

Parents less for Transport

Table 4.14 What Parents Pay for

	Frequency	Percent
transport	69	14.1
books	202	41.2
pencil, ruler, bag, compass	394	80.4
uniform	232	47.3

Majority of what parents pay for are pencil, ruler, bag and compass, other materials they pay for are the pupils' books and uniform, but they pay less for transportation.

Children Schools are not far from their Homes

Table 4.15 Distance between school and Pupils' Houses

	Frequency	Percent
Less than 3 Kms	211	43.1
Between 3 and 5 kms	207	42.2
Above 5 Kms	-	-

One of the reasons why parents pay less for transportation is because the children schools are not too far from their homes and that is why they usually go on foot as shown in Fig. 4.6

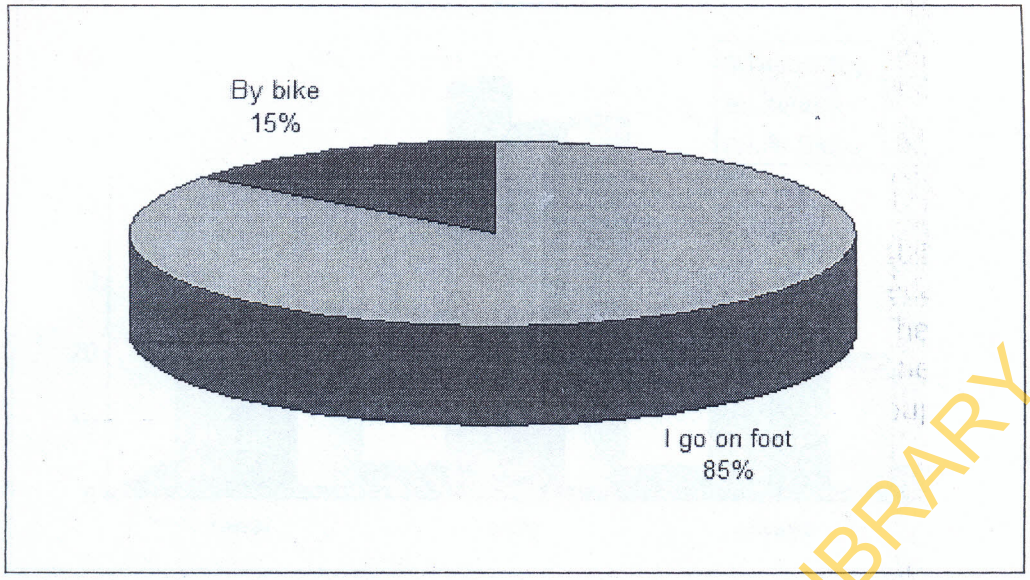

Fig. 4.6 Means of going to school

Teachers Give Homework More in Literacy

Table 4.16 Homework in Literacy, Numeracy and Life Skills

	Frequency	Percent
Numeracy	439	89.6
Literacy	446	91.0
Life Skills	434	88.6

Table 4.16 shows that teachers give pupils home work in the three areas of learning: Literacy, Numeracy and Life Skills. Many of the pupils were of the opinion that their teachers give home work more in Literacy.

Teachers Asked More Questions in Numeracy

Table 4.17 Frequency of questions in Literacy, Numeracy and Life Skills

	never		rarely		always	
Numeracy	89	18.2	267	54.5	88	18.0
Literacy	111	22.7	238	48.6	87	17.8
Life Skills	110	22.4	243	49.6	83	16.9

Table 4.17 revealed that teachers asked questions from the three areas of learning, but more emphasis is laid on Numeracy probably because many pupils are scared of anything that has to do with figures. The information is presented in Fig. 4.7

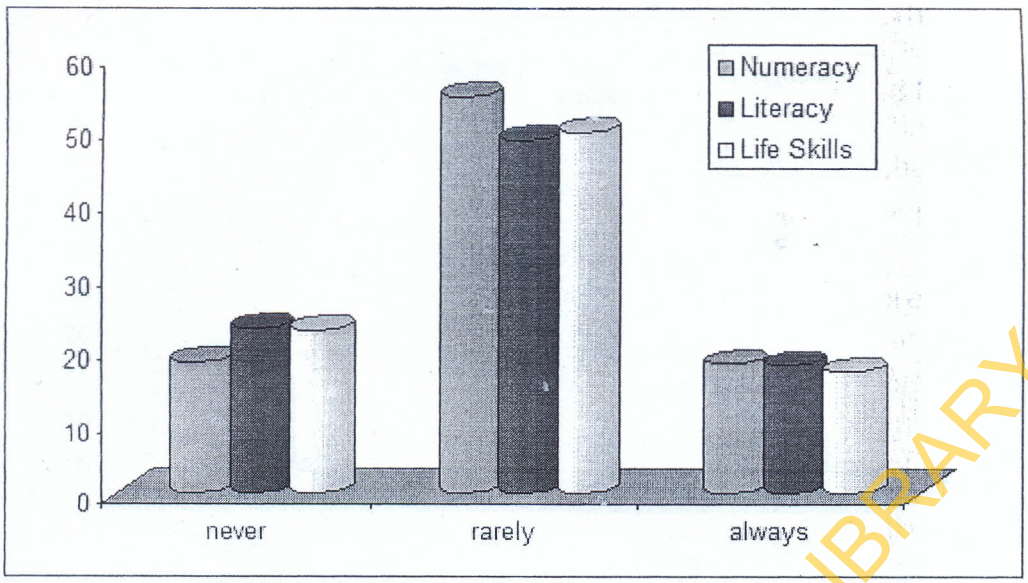

Fig. 4.7 Frequency of questions in Literacy, Numeracy and Life Skills

Pupils Do not have Access to the Library

Table 4.18 Accessibility to the school's library

	Frequency	Percent
Yes	21	4.3
No	188	38.4

Only 4.3% of the pupils indicated that they have access to the library. This implies that there are no libraries in the schools. Majority of the pupils did not respond to this question and 38.4% of the pupils categorically said they never had access to the library before. That explains why only 1.8% of the pupils indicated that they visited the library always (table not shown).

Family members monitor Homework in Literacy more than the rest Subjects

Table 4.19 Monitoring of homework in Literacy, Numeracy and Life Skills

	Never		rarely		Always	
Numeracy	6	1.2	238	48.6	32	6.5
Literacy	63	12.9	183	37.3	33	6.7
Life Skills	16	3.3	223	45.5	15	3.1

Few pupils indicated that their Numeracy were never monitored whereas many pupils indicated that their literacy was not monitor at the same time, more of these pupils indicated that family member monitor their homework in literacy than the remaining two subjects. The information is presented in Fig. 4.8

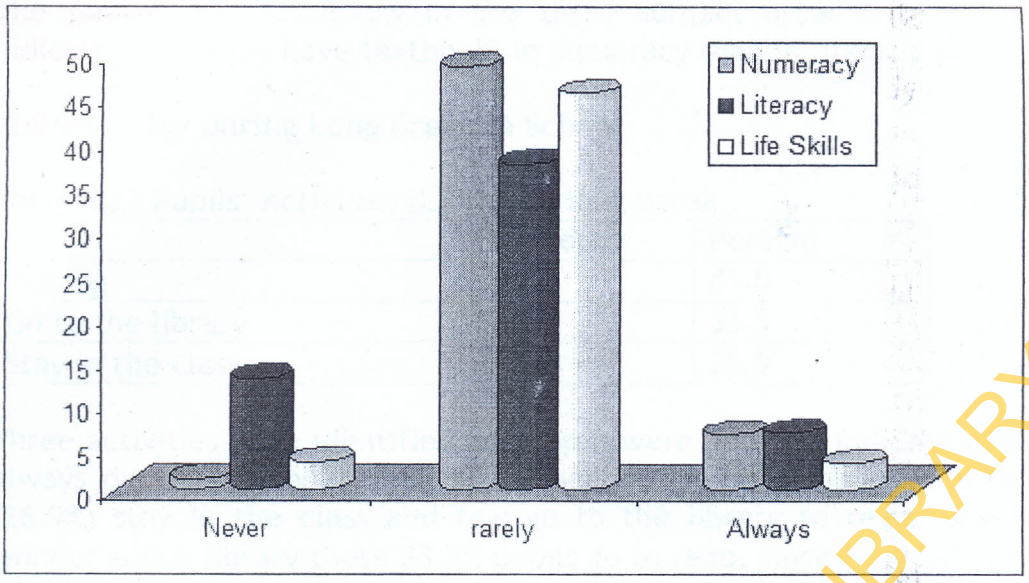

Fig. 4.8 Monitoring of homework in Literacy, Numeracy and Life Skills

Mothers help children with homework at home than anybody Else

Table 4.20 Helping with Homework at Home

	Frequency	Percent
Mother	215	43.9
Father	36	7.3
Sister	17	3.5
Brother	11	2.2
Other members of the family	42	8.6
Friends/neighbours	14	2.9
Private teacher	42	8.6

Although, some pupils indicated that they stay with their father, Table 4.19 shows that mothers always help them in their homework. Other people who help are the fathers, sisters, brothers, other members of the family, friends/neighbours and private teachers.

More Pupils have Textbooks in Numeracy than in other Subject Areas

Table 4.21 Textbooks Possessed by Pupils

	Frequency	Percent
Numeracy text books	417	85.1
Life Skills text books	385	78.6
Literacy text books	371	75.7

The pupils have textbooks in the three subject areas but many of them indicated that they have textbooks in numeracy than in literacy and life skills.

Children Play during Long Break in School

Table 4.22 Pupils' Activities during the long break

	Frequency	Percent
Playing	397	81.0
Go to the library	164	33.5
Stay in the class	132	26.9

Three activities were identified and pupils were asked to indicate what they do always during the long break in the schools. Playing topped the list. Others (26.9%) stay in the class and few go to the library to read. One begins to wonder which library these 33.5% pupils go to read, since they said they do not have access to the library. The information is presented in Fig.4

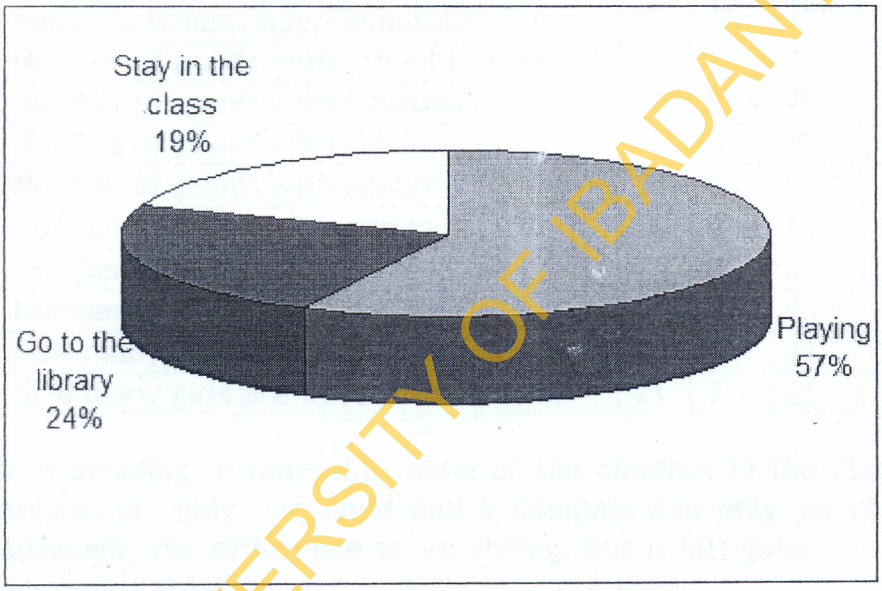

Fig. 4.9 Pupils' Activities during the long break

CHAPTER FIVE

TEACHER CHARACTERISTICS

Introduction

There are two types of variables in this chapter, the discrete and continuous variables. The discrete variables take the form of definite categorizations for

example, districts, the district could either be Água Grande, Mé-Zochi, Lobata, Caué or Pagué. But variable like how long have you been a teacher is referred to a continuous variable. Continuous variables are treated by considering the minimum, maximum, mean and S. D. The following are the ones under the continuous variables

Table 5.1 Mean and S.D. of Continuous Parent Variables

	N	Min	Max	Mean	S.D
How long have you been in the teaching field in general?	17	6	37	22.24	8.635
How long have you been in the teaching field in this school?	18	1	26	12.33	7.154
How long have you been in the teaching field in this grade?	17	2	31	11.24	9.203
How long does it take you from your house to school, approximately?	20	10	120	48.50	31.376
Number of pupils with school textbooks	21	1	45	26.52	12.073
Number of pupils with notebooks	21	0	45	25.00	13.149
Number of pupils with ruler	18	0	15	4.89	3.787
Number of pupils with square	18	0	6	.89	1.875
Number of pupils with compass	16	0	1	.13	.342
Number of pupils with protractor	15	0	0	.00	.000
Number of pupils with pen and pencil	21	0	45	19.67	14.537
How many boys are in your classroom?	20	4	21	14.15	4.837
How many girls are in your classroom?	21	7	25	14.62	5.536

It is amazing to note that none of the children in the classroom possessed a protractor, only one child had a compass and only six children had square. Although, the difference is not strong, but is intriguing to note that there are more girls (14.62) in school than boys (14.15).

More Teachers in Água Grande were sampled

Table 5.2 Samples by Districts

District	Frequency	Percent
Água Grande	6	28.6
Mé-Zochi	4	19.0
Lobata	4	19.0
Lembá	2	9.5
Cantagalo	2	9.5
Caué	1	4.8

Pagué	2	9.5
Total	21	100.0

More teachers were sampled from Água Grande probably because there are more schools in Água Grande than in other districts. Only one teacher was sampled in Caué.

There more Male Teachers than Female Teachers

Table 5.3 Sex Distribution of Teachers

	Frequency	Percent
Male	12	57.1
Female	9	42.9
Total	21	100.0

Almost in the whole world the teaching and nursing professions are fast becoming the female gender ones, the situation is different here as there are less female folks in teaching profession than male folks. This is further illustrated with the graph in Fig. 5.1.

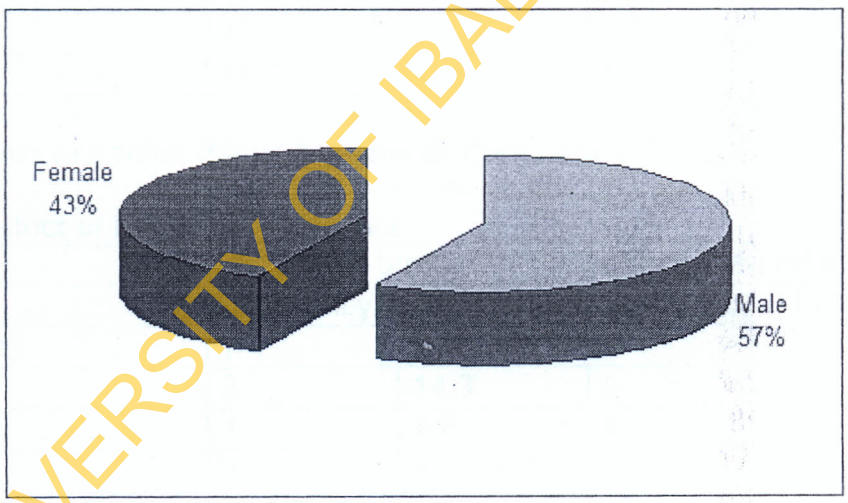

Fig. 5.1 Sex Distribution of Teachers

The situation is likely to remain so because women in the islands stay at home to take are of their children.

Most Teachers are in their Mid-Age Group

Table 5.4 Age Distribution of Teachers

Age Distribution	Frequency	Percent
25 - 34 years	5	23.8

35 - 44 years	5	23.8
45 - 54 years	9	42.9
Above 55 years	1	4.8
Total	20	95.2

The proportion of teachers that could be referred to as old (above 55 years is minimal compare to the young teachers. Unfortunately, there are no teachers below 25 years. This implies that in the next ten years if young teachers are not employed, all the teachers in their mid-age now which form the largest proportion of teachers now will be old. It is recommended that young and fresh blood should be injected into the teaching profession for continuity.

Most Teachers are Singles

Table 5.5 Marital status Distribution of Teachers

Marital status	Frequency	Percent
Single	14	66.7
Married	1	4.8
Divorced	5	23.8
Other	1	4.8
Total	21	100.0

More Teachers are from Pagué but few of them work there

Table 5.6 District of Birth and Residence

	District of birth		District of residence	
	Frequency	Percent	Frequency	Percent
Água Grande	7	33.3	6	28.6
Mézochi	3	14.3	5	23.8
Lembá	1	4.8	2	9.5
Caué	2	9.5	1	4.8
Lobata	3	14.3	4	19.0
Cantagalo	-	-	1	4.8
Autónomous R. Of Príncipe	5	23.8	2	9.5
Total	21	100.0	21	100.0

Table 5.6 shows that not all the teachers that were born in a district work in their district of birth. In Pague for example, only 40 percent of teachers born there work to develop the place.

Majority of the Teachers Completed the First Cycle of Secondary Education (9th Grade)

Table 5.7 Teachers' Highest Qualification

	Frequency	Percent
Completed the first cycle of secondary education (9.th Grade)	17	81.0
Completed second cycle of Secondary Education (11.th grade)	2	9.5
completed 1st. Year Pre- university course	-	-
completed 4th year of university course	1	4.8

None of the teachers sampled completed 1st. Year Pre- university course but majority of the teachers completed the first cycle of secondary education (9th Grade). This implies that though most the teachers were not young they are bottom heavy in terms of academic qualification. Teaches should develop themselves and acquire more qualifications.

Most Teachers Received Professional Training in Primary Education

Table 5.8 Received any professional training in primary education

	Frequency	Percent
Yes	13	61.9
No	6	28.6

For every teacher who has not received professional training in primary education there are at least two who had received such training. Teachers who have not received professional training in primary education are encouraged to do to make them relevant in their chosen profession. All those who had received such training indicated that it took them three years to go through the training. About 60 percent of the teachers indicated that they have participated in a continuous training like seminars within the country.

Fewer Teachers Received Training to Function in Primary 4

Table 5.9 Training Action for Primary 4

	Frequency	Percent
Yes	4	19.1
No	17	80.9

Many of the teachers did not receive training to function in Primary 4, only 4 of the teacher received such training. The training was indeed a short training of a week to 4 weeks. Half of those who received the training did so in a week and the remaining half between a week and 4 weeks received their own training.

All the Teachers are Professional Experience

Table 5.10 Teaching Experience

	Frequency	Percent
6 to 10 years	5	23.8
11 to 15 years	3	14.3
More than 15 years	13	61.9
Total	21	100.0

None of the teachers have been teaching for less than six years. Usually, experience is judged by how long a teacher has been teaching. A bench mark of five years to determine if a teacher is experienced or not. Teachers with less than five years are usually considered inexperienced and teachers with five years and above are experienced.

Most teachers worked between 2 and 4 hours a day

Table 5.11 Teacher workload per day

	Frequency	Percent
2 to 4 hours	10	47.6
4 to 6 hours	6	28.6
6 to 8 hours	5	23.8
Total	21	100.0

There are two shifts in schools. The morning shift is usually between 8.oo a.m. and 12noon (4 hours) and the afternoon shift starts at 1.00p.m. and ends at 5.00p.m. (4 hours). Those teachers who worked above 4 hours are likely to participate in the two shifts. For those who teach in a single shift, their workload should be between 0 and 4 hours. It is interesting to note that there is no teacher that has a workload of less than 2 hours a day. The teacher workload presented in the table could be multiplied by 5 to get the teachers' weekly workload.

The School is within a Trek-able Distance from the Teachers house

Table 5.12 Means of Getting to school?

	Frequency	Percent
on foot	12	57.1
by bike	2	9.5
by motorcycle	2	9.5
private car	1	4.8
Taxi	2	9.5
Bus	2	9.5
Total	21	100.0

Only 2 teachers go to school in a private car, some by bicycle, motorcycle, taxi and bus. Majority (every 3 out of 5) get to school on foot. This implies that the teachers' houses are within walk-able distances to their respective schools.

Chalk is the Commonest Facility in the Classroom

Table 5.13 Facilities in the Classroom

	Yes		No Response	
	Frequency	Percent	Frequency	Percent
Chalk	20	95.2	1	4.8
Duster	18	85.7	3	14.3
Ruler	12	57.1	9	42.9
Square	11	52.4	10	47.6
Compass	10	47.6	11	52.4

Facilities like chalk; duster; ruler; square; and compass are what on expect to see in a classroom, but not all these facilities could be found in all the classrooms. For example, facilities like square and compass were in short supply to the classroom. Pieces of chalk which seem to be the essential commodities were also lacking in one of the classrooms.

The Directors and Methodologists Visit Schools more than the Inspectors

Table 5.14 Frequency of Visits of the Inspectors, Methodologists and Directors

	The inspector visit your classroom		The methodologist visit your classroom		The director visit your classroom	
	Freq	%	Freq	%	Freq	%
Never	6	28.6	1	4.8		
At least once a year	4	19.0	5	23.8	5	23.8
Twice a year	4	19.0	6	28.6	4	19.0

Thrice a year	2	9.5	7	33.3	10	47.6

Note that not all the 21 teachers responded to this item. Six among those who responded, indicated that inspectors never visited their schools in a whole year at least for once, it is only in 1 school that methodologists failed to visit in a year but the directors never missed out a school visitation (although there is still room for them to improve because all the schools should be visited at least once in a term (making a three visit schedule within a year). The result shows that the directors and methodologists visit schools more than the inspectors. The picture of the Inspectors, Methodologists and Directors' visit to schools is shown in Fig. 5.

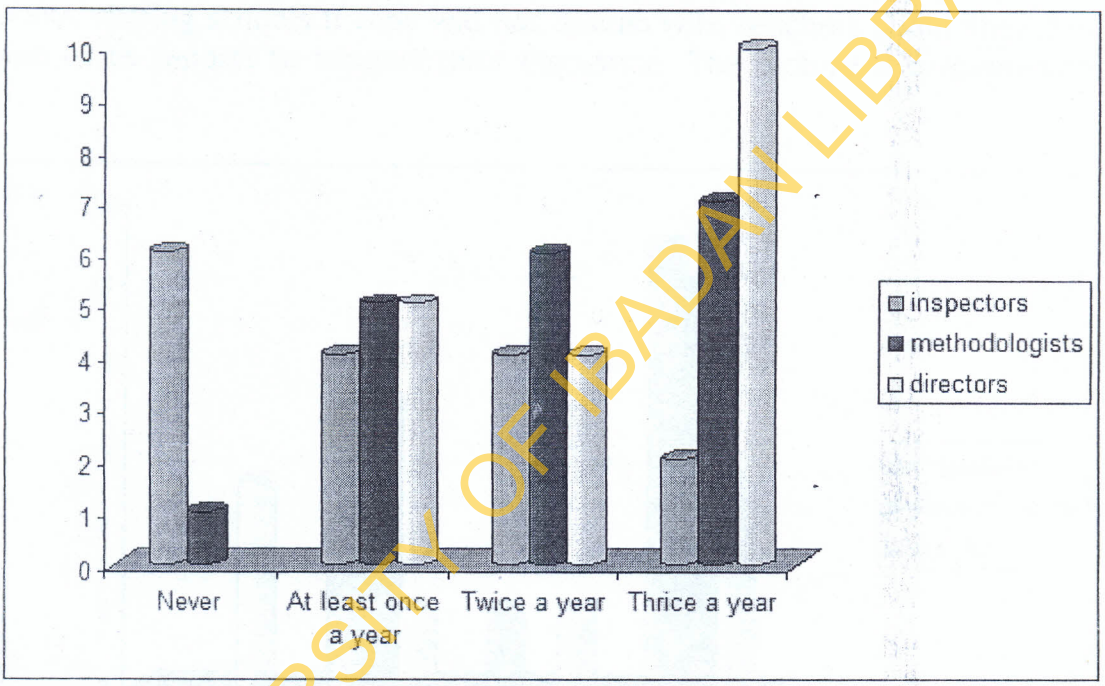

Fig. 5.2 Frequency of Visits of the Inspectors, Methodologists and Directors

Inspectors are better at Giving Feedback than the Directors and Methodologists

Table 5.15 Feedbacks from Inspectors, Directors and Methodologists

	The inspector visit your classroom		The methodologist visit your classroom		The director visit your classroom	
	Freq	%	Freq	%	Freq	%
No dialogue nor written report					5	23.8
interview	7	33.3	7	33.3	2	9.5

written report	2	9.5			2	9.5
Interview and written report	11	52.4	10	47.6	5	23.8

Although, the directors and the methodologists were better when it come to visiting schools, the essence of their going to school is to correct teachers by either talking to them one on one or by writing a detailed report of what teachers should do to be effective. These are less emphasized by the directors and the methodologists. The inspectors discussed verbally with the teachers and they also write reports. The directors and the methodologists also discussed with the teachers and wrote report but not many of them did that. The directors and the methodologists should therefore not be enthusiastic about visiting schools if they will not discuss with teachers about their findings and write reports to support their discussion. The picture is presented in Fig. 5.

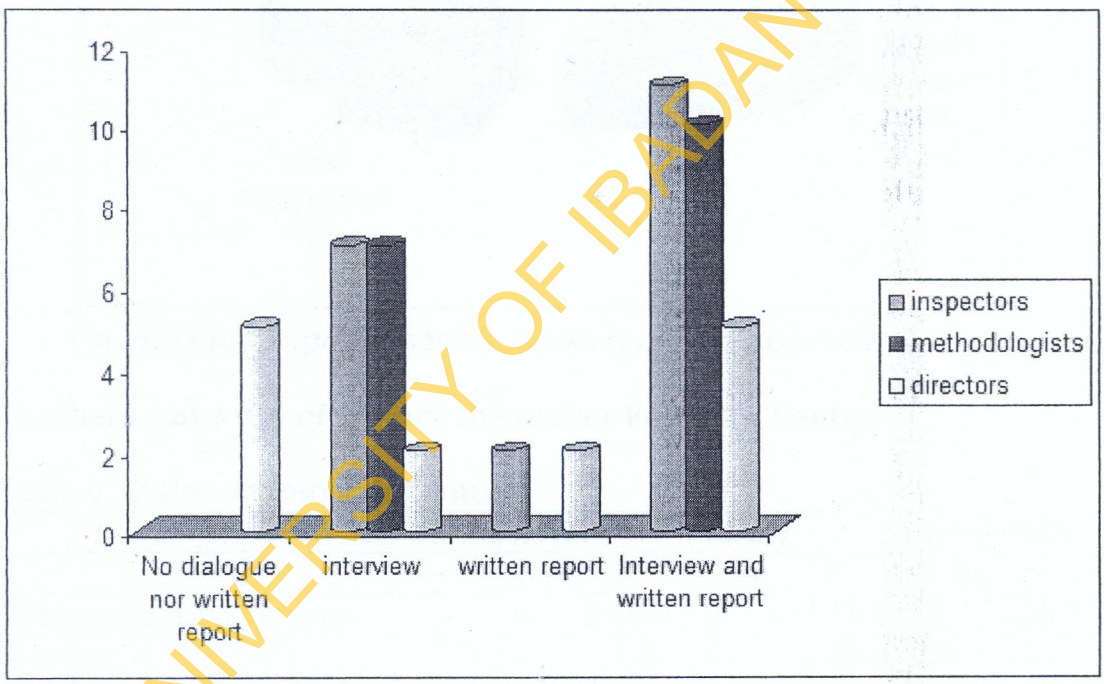

Fig. 5.3 Feedbacks from Inspectors, Directors and Methodologists

Teachers Received Thematic Discussion in a form of a Professional Support from Colleagues more than other Professional Supports

Table 5.16 Kind of professional support received from colleagues

	Yes		No Response	
	Frequency	Percent	Frequency	Percent
thematic discussion	15	71.4	6	28.6

Class observations	3	14.3	18	85.7
demonstrative classes	10	47.6	11	52.4

No single person is a fountain of knowledge; teachers need supports from each others. Three areas were identified: thematic discussion; class observations; and demonstrative classes. Teachers helped themselves more when it comes to thematic discussion more than other forms of supports. This is further illustrated in Fig. 5.

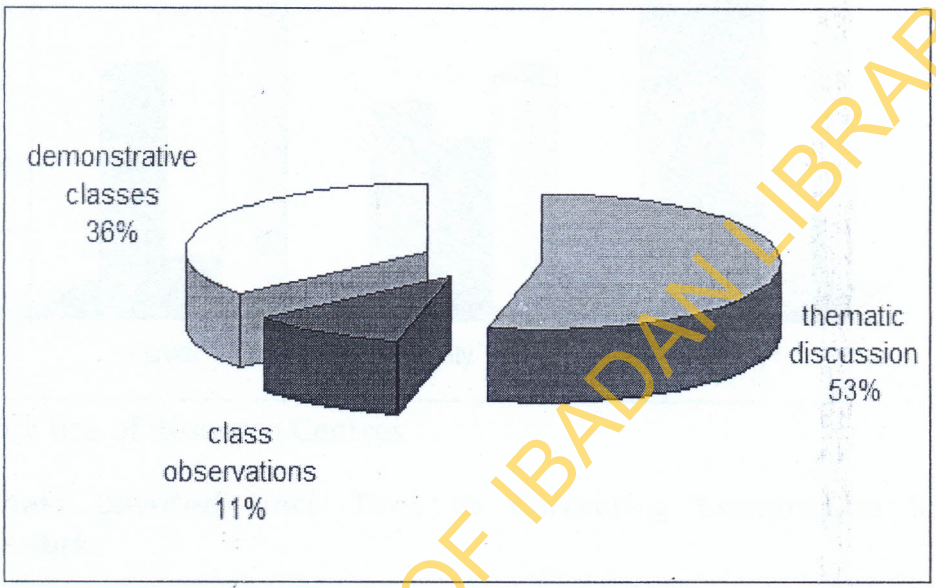

Fig. 5.4 Kind of professional support received from colleagues

Teachers make use of Library than other Resource Centres

Table 5.17 Use of Resource Centres

	never		rarely		frequently	
	Freq	%	Freq	%	Freq	%
Documentation centres	6	28.6	5	23.8	8	38.1
Library	1	4.8	4	19.0	16	76.2
educational institute / training Centre	9	42.9	6	28.6	2	9.5

Out of the three resource centres identified: documentation centres; library; and educational institute / training centre, teachers used the library more frequently as shown in fig. 5.

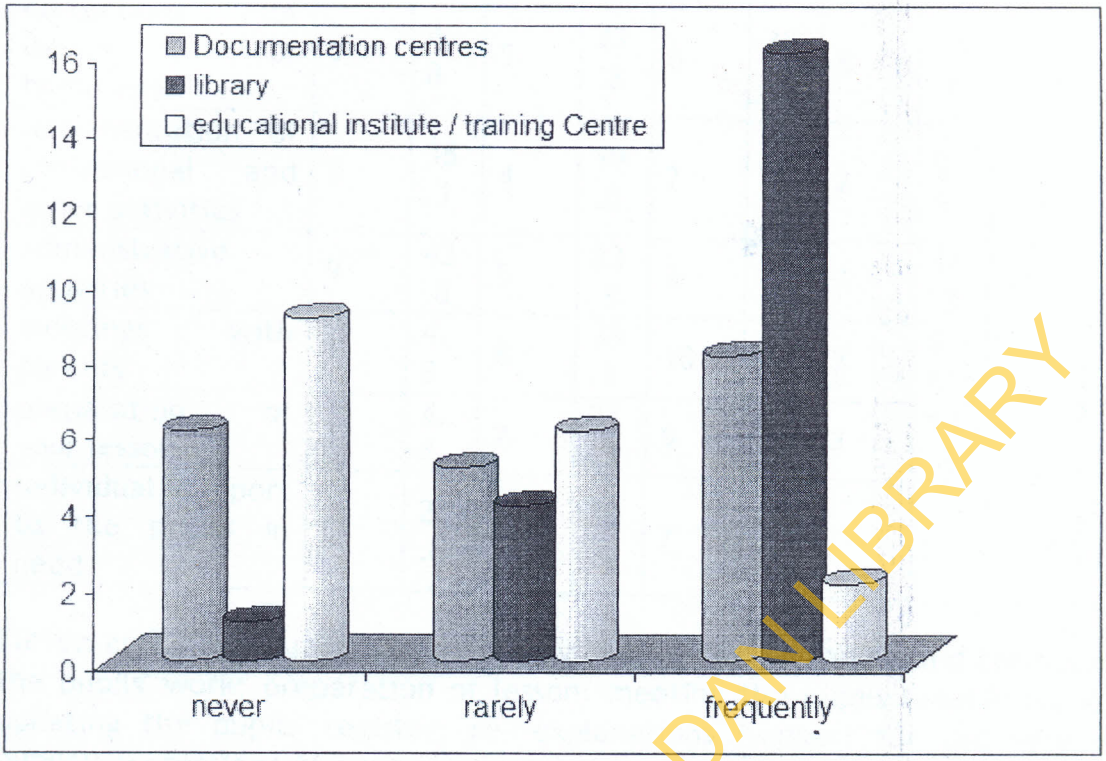

Fig. 5.5 Use of Resource Centres

Teachers Devoted More Time to Correcting Examination Scripts and Homework

Table 5.18 Number of Hours dedicate to Class Activities

	Nothing		Approx 1 hr		1 or 2 hrs		3 or 4 hrs		More than 4 hrs	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
reading and correction of the pupils'work			8	38.1	8	38.1	4	19.0	1	4.8
preparation of lesson	1	4.8	7	33.3	7	33.3	4	19.0	2	9.5
meeting the pupils outside the class	5	23.8	11	52.4	5	23.8				
updating the pupils'register	4	19.0	8	38.1	5	23.8	4	19.0		
re -explanations (support for the very weak pupils	1	4.8	11	52.4	5	23.8	2	9.5	2	9.5

corrections of exams or homework	1	4.8	5	23.8	6	28.6	6	28.6	3	14.3
documentation of professional and other activities	8	38.1	4	19.0	7	33.3	2	9.5		
administrative activities	9	42.8	5	23.8	3	14.3	3	14.3	1	4.8
meetings with parents	1	4.8	8	38.1	10	47.6	2	9.5		
preparation of your lesson	1	4.8	7	33.3	9	42.9	3	14.3	1	4.8
individual support to the pupils in need	6	28.6	8	38.1	7	33.3				

Eleven activities usually carried out by teachers are: reading and correction of the pupils' work; preparation of lesson; meeting the pupils outside the class; updating the pupils' register; re -explanations (support for the very weak pupils); corrections of exams or homework; documentation of professional and other activities; administrative activities; meetings with parents; preparation of your lesson; and individual support to the pupils in need. Out of these eleven activities two were rarely done by the teachers, these are: documentation of professional and other activities; and administrative activities. However, more time is spent by the teachers correcting the examination scripts and homework.

Teachers believed they Use the Knowledge of Individual Differences of the Student in Teaching

Table 5.19 Teachers' Opinions

How will you rate yourself in	Low	Below average	Average	Good	Excellent
Effective planning of lesson	9.5		47.6	38.1	4.8
choice and preparation of teaching materials		38.1		47.6	4.8
motivating pupils to participate in class			52.4	42.9	4.8
preparation of tests (questions)	9.6	4.8	28.6	52.4	4.8
using the results of tests to teach	4.8		38.1	52.4	4.8

using the develop individual relationship with colleagues			42.9	57.1	
using the knowledge of individual differences of the student	4.8		52.4	33.3	9.5
tolerating indiscipline in class	9.5	4.8	33.3	52.4	
identifying the difficulties of the pupils in learning	9.5	4.8	33.3	42.9	9.5

Teachers were asked to express their opinions about their knowledge on some classroom management techniques such as effective planning of lesson; choice and preparation of teaching materials; motivating pupils to participate in class; preparation of tests (questions); using the results of tests to teach; using the develop individual relationship with colleagues; using the knowledge of individual differences of the student; tolerating indiscipline in class; and identifying the difficulties of the pupils in learning. More teachers believed that they use the knowledge of individual differences of the student in teaching more than other techniques. Another technique they indicated they used effectively was the difference between teaching to test and testing to teach. They used the later i.e. knowledge of using the results of tests to teach.

Many Teachers are not satisfied with their Job

Table 5.20 Willingness to Change Job

	Yes	No		
	Freq	%	Freq	%
Would you change your job if an opportunity arises?	15	71.4	8	38.1

Although, the number of teachers who indicated that they would like to change their job any time opportunity arise is less than those who want to stick to teaching through thick and thin, the proportion of these teachers is high enough (38.1 percent) to warrant focusing attention on them and what could be done to make them stay and attract others into the teaching profession.

Improvement of Living Conditions tops the Priority List of Teachers who want to Quit Teaching

Table 5.21 Teachers' Reason for Wanting to Change Job

Reason for Wanting to Change Job	Freq	%
Improvement of living conditions (salary, the advantages, etc)	8	38.1

Improvement of working conditions (salary costs, installations,	2	9.5
More promotion perspectives	3	14.3
Job Security	3	14.3

Out of the four issues identified why teachers want to quit teaching in case there is an opportunity, Improvement of living conditions tops the reasons. They believe that if there is improvement in living conditions of teachers, they will continue to be in the teaching profession. Other reasons are: improvement in working conditions; more promotion prospects and job security.

CHAPTER SIX

HEAD-TEACHER CHARACTERISTICS

Introduction

There are two types of variables in this chapter, the discrete and continuous variables. The discrete variables take the form of definite categorizations for example, districts, the district could either be Água Grande, Mé-Zochi, Lobata, Caué or Pagué. But variable like how long have you been a teacher is referred to a continuous variable. Continuous variables are treated by considering the minimum, maximum, mean and S. D. The following are the ones under the continuous variables

Table 6.1 Mean and S.D. of Continuous Parent Variables

	N	Min	Max	Mean	S. D.
Number of people living with head-teacher	16	2	11	5.00	2.160
Length of service as a head-teacher	13	3	22	9.92	6.813
Length of service as a teacher	14	5	37	25.00	8.412
Distance from house school	13	.5	12.0	3.808	3.2438
Time taken to get to school from home	15	0	2	.69	.611
Number of teachers on transfer in the last five years	8	1	1	1.00	.000
Number of teachers on retirement in the last five years	1	2	2	2.00	.000
Number of teachers with new jobs in the last five years	9	1	3	2.67	.707
Number of visits in an academic year	11	3	5	4.64	.809

There is a situation where only one head-teacher oversees two schools. For example, Escola Básica Dona Maria de Jesus I and II that is why the number of questionnaires retrieved is not up to 20.

Some of the variables considered here are personal information from the head-teacher, for example, the number of people living with him/her; length of service as a head-teacher; length of service as a teacher; distance from house school and time taken to get to school from home. Other variables are related to the school. For example, number of teachers on transfer in the last five years; number of teachers on retirement in the last five years; and number of teachers with new jobs in the last five years and number of visits in an academic year. Some head-teachers had more than 10 people living with them. Teacher mobility is not pronounced as there are only six movements due to transfer, retirement or for new jobs.

There are more Male Head-Teachers than Female Head-Teachers

Table 6.2 Gender Distribution of Head-Teacher

Sex	Frequency	Percent
Male	9	56.3
Female	5	31.3

For every female head-teacher, there are approximately two male head-teachers. The reason is likely because female folk always stay at home to take care of the children.

There are more Single Head-Teachers

Table 6.3 Marital Status of Head-Teachers

Marital Status	Frequency	Percent
Single	7	43.8
Living together	3	18.8
Married	4	25.0

There are few teachers who were not married but are living with one opposite sex. The married are not as many as singles, the singles are almost doubled those couple living together but are not married and almost three times the married head-teachers as illustrated in Fig. 6.1

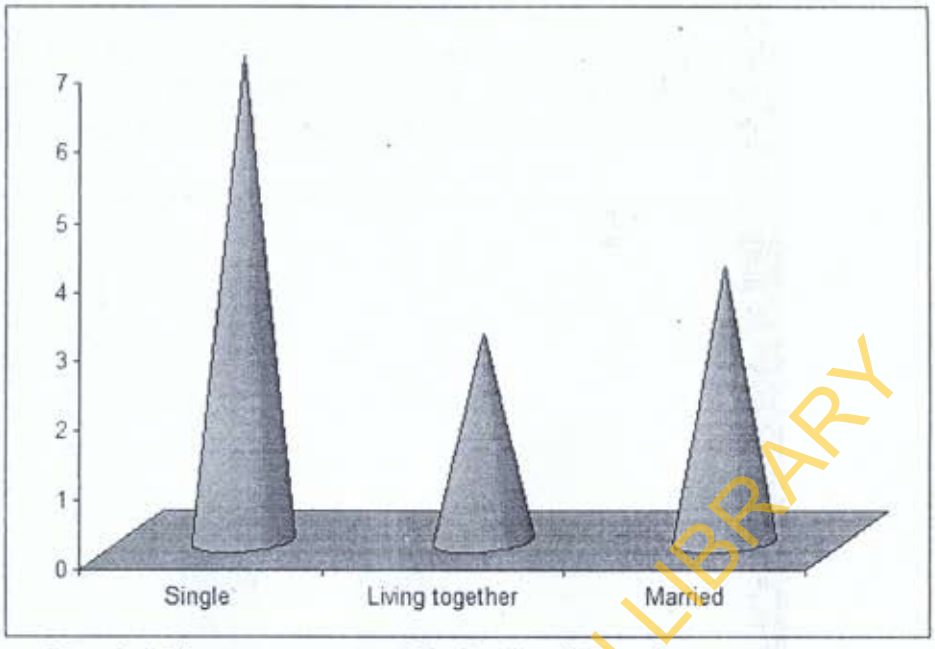

Fig. 6.1 There are more Single Head-Teachers

Head-Teacher has all the Means of communication

Table 6.4 Means of Communication

Marital Status	Frequency	Percent
Radio	15	93.8
Television	14	87.5
Telephone	13	81.3
Mobile phone	15	93.8

The four identified means of communication are adequately possessed by the head-teachers. Getting in touch with them from the Ministry of Education and Culture will not pose a threat. The head-teachers on the other hand could get in touch with the teachers and the parents in case there is an urgent information that needs to be pass across.

Head-Teachers also Use Bush

Table 6.5 Type of Toilet in the Head-Teachers Home

Type of Toilet	Frequency	Percent
Water cistern	7	43.8
Water closet (normal toilet)	6	37.5
Pit toilet	10	62.5
Bush	16	100.0

All the sixteen sampled head-teachers indicated they had made use of bush one time or the other they wanted to remove waste product from their body system. Other type of toilet commonly used by the head-teachers are the water cistern; water closet (normal toilet); and the pit toilet as illustrated in Fig. 6.2.

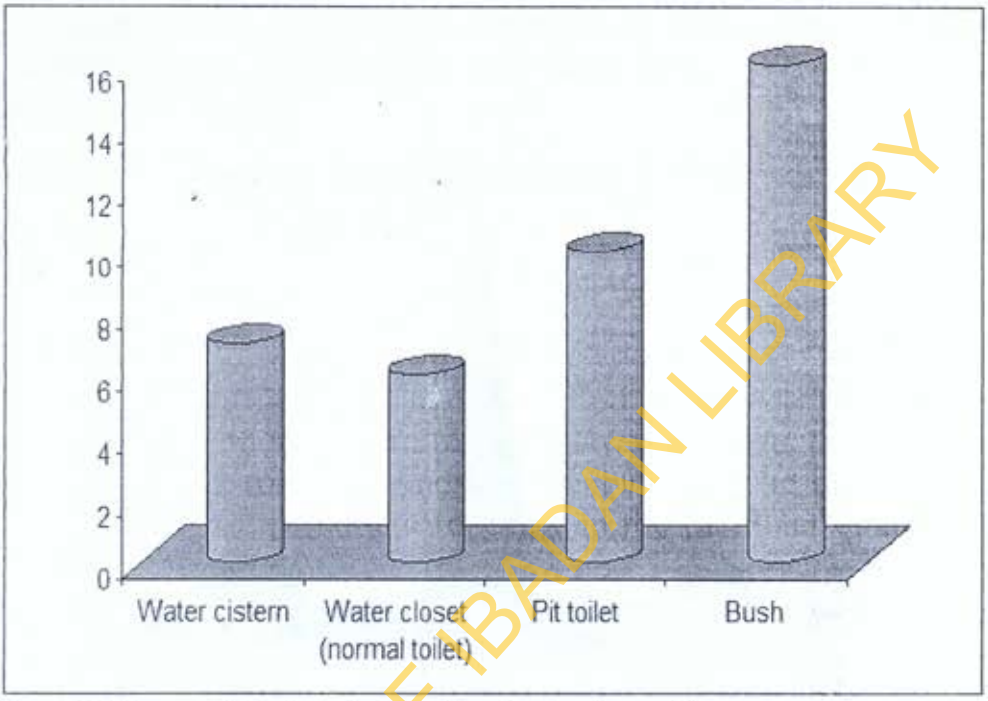

Fig. 6.2 Type of Toilet in the Head-Teachers Home

Kerosene lamp is Popular among the Head-Teachers

Table 6.6 Source of Light in the Head-Teachers Home

Source of Light	Frequency	Percent
Kerosene lamp	16	100.0
Oil lamp	1	6.3
Electricity	12	75.0
Candle	5	31.3

Kerosene lamp and electricity are the commonest sources of light used by the head-teachers. Other sources of used by them include oil lamp (infrequently used as only 1 had-teacher indicates its use) and candles.

Most Head-Teachers had 12 Grade (Pre-University) Professional Qualification

Table 6.7 Professional Qualification of Head-Teachers

Professional Qualification	Frequency	Percent
General training	3	18.8

12 grade- pre-university	8	50.0
Primary	2	12.5

For a teacher to be professionally qualify, s(he) must have any of these qualifications: general training; practical training; 12 grade - pre-university; primary; Pre-degree or Degree Course. None of them had any of the general training; Pre-degree or Degree Course. Most head-teachers had 12 Grade (Pre-University) Professional Qualification and they spent three years for the training as shown in Fig. 6.3.

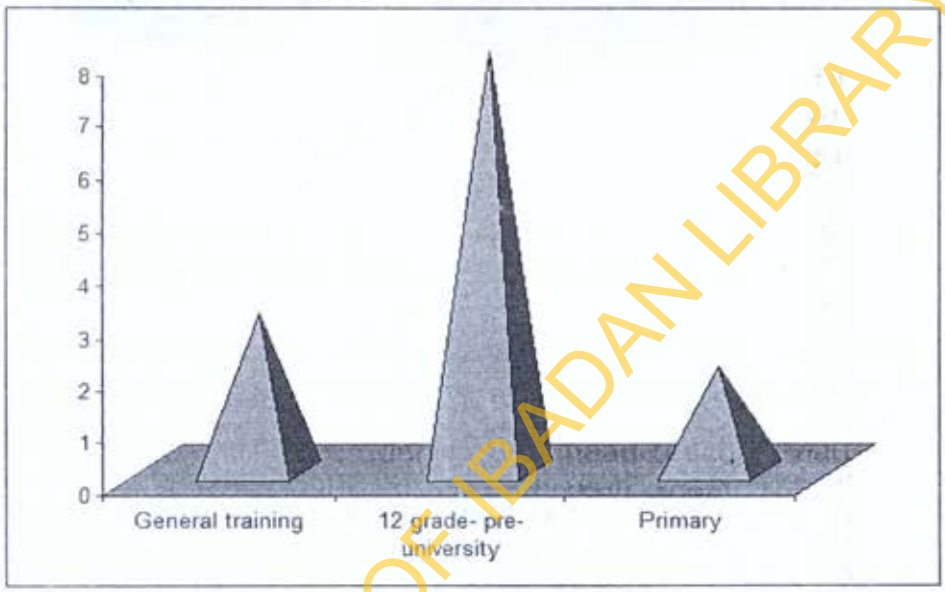

Fig. 6.3 Professional Qualification of Head-Teachers

Most head-teachers received Training to Exercise their Functions

Few of the head-teachers who responded to the questionnaire indicated that they were not trained before they start to exert the functions of a head-teacher as shown in Fig. 6. but many of them were trained.

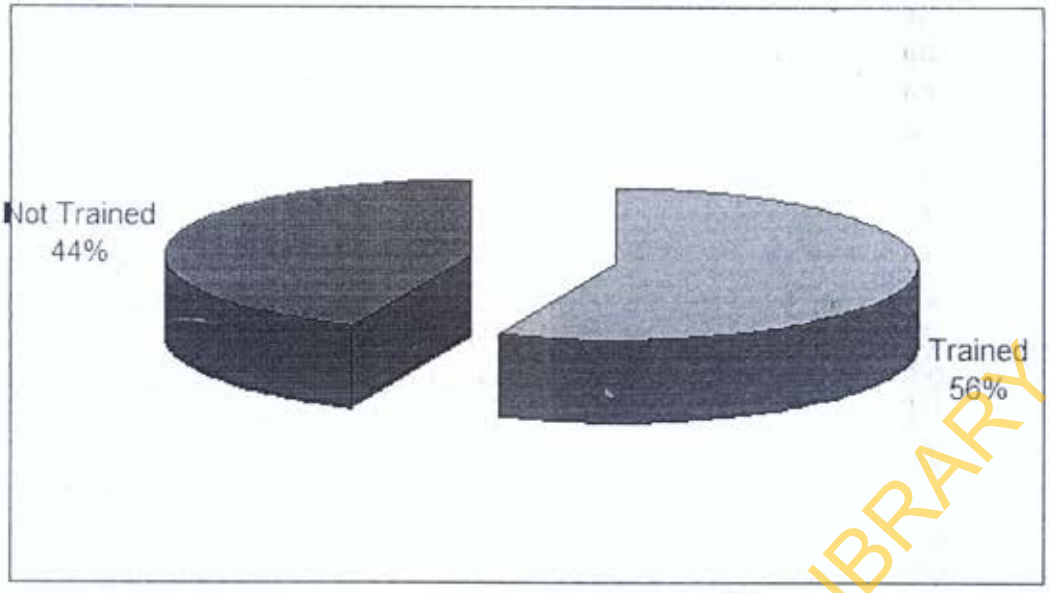

Fig. 6.4 Any Training for Head-Teacher Before posting?

Although, such trainings are not for a long period of time (it ranges between 2 weeks to 3 months or more, those trainings are very important in making the head-teacher effective.

Pupils are Sent Home when a Class Teacher is Absent

Table 6.7 Common Practice when a teacher is absent

Common Practices	Frequency	Percent
Students are sent home	9	56.3
Students distributed to other class	4	25.0
Students stay in the class to study	3	18.8

The common practice is to send children home when their class teachers are absent from school. This implies that there are no class assistants who could double as the class teacher pending the time the substantive teacher will resume. The option of distributing them (although not the ideal) would have been better than sending the children home as some of them have to be taken home by their parents.

Some children Abandoned School because of Conflicts between Parents

Table 6.8 Causes of Abandoning School

Causes of Abandoning School	Frequency	Percent
Finance	6	37.5
Distance	2	12.5
Conflicts b/w parents	8	50.0

Emigration	2	12.5
Immigration	1	6.3

Many reasons could make a child abandon schooling. One of these reasons as indicated by the head-teachers is conflict between the parents. Other reasons could be finance (this is the second strong reason). A child may abandon schooling if the distance from home to school is long and there is no means of getting to school. Emigration should actually not be a reason because a child is relocating from another country into the islands. Immigration, when a child is transferred from the islands to another country, then it is possible for him/her to abandon his/her school.

Most Head-Teachers Prefer to meet with the Teachers and Parents

Table 6.9 Functions of Head-Teachers

Meeting the parents	12	75.0
Visits to homes	2	12.5
Meeting the teachers	14	87.5
Visit the classrooms	11	68.8

There are many functions of a school head, only four of them were examined, these are meeting with the parents and visit homes to discuss with them their children's academic work. The remaining two functions are teacher related. They could organise meetings with the teacher to discuss pedagogical issues. They could also carry out classroom visit; thereby supervise what teachers are doing. The easiest is to organise either with the teachers or the parents

Most schools have received the Inspectors

More than three in every five head-teachers have received inspectors some once in a year, others more than one time. Majority of them had received inspectors four times in one academic year. Unfortunately, most of the head-teacher indicated that the visit of the inspectors had been less interesting.

Most Methodologists Visit Schools on Account of Literacy, Numeracy and Life Skills Twice in an Academic Year

Table 6.10 Number of Visits of Methodologists in Literacy, Numeracy and Life Skills in an Academic Year

	Literacy		Numeracy		Life Skills	
	Freq	%	Freq	%	Freq	%
1 time	4	25.0	3	18.8	2	12.5

2 times	8	50.0	4	25.0	6	37.5
3 times			1	6.3	1	6.3
4 times			2	12.5	2	12.5
5 times	3	18.8				

The head-teachers' responses indicate that most Methodologists visit schools on account of Literacy, Numeracy and Life Skills twice in an academic year. However, there are situations where some Methodologists visit schools more than two times a year, for example, in Literacy, methodologists visit five times. The ideal visit would have been three in an academic year (one visit per term). This is further illustrated in Fig. 6.5

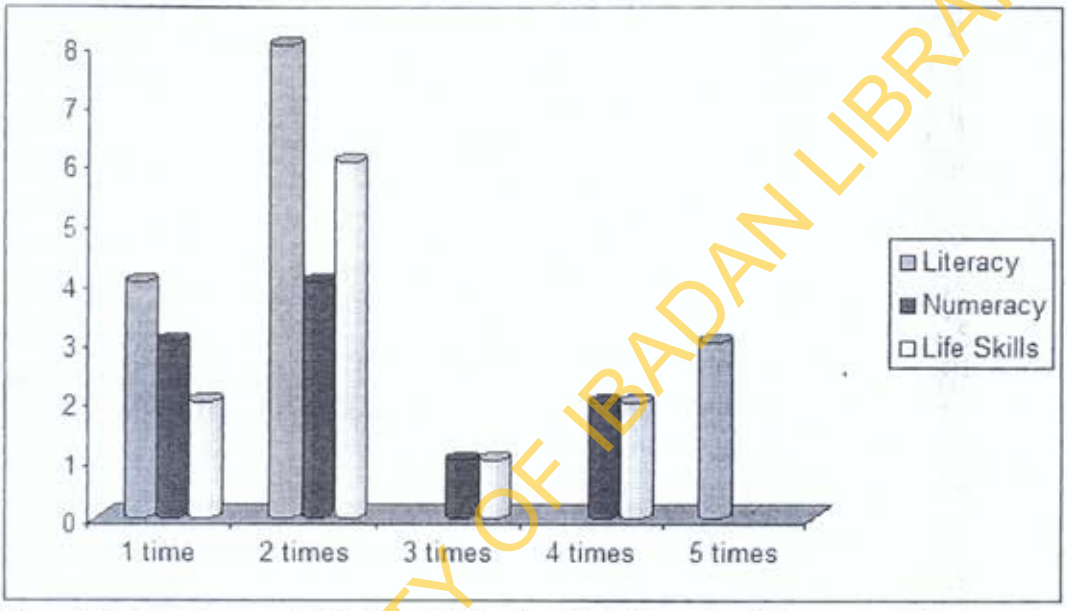

Fig. 6.5 Number of Visits of Methodologists in Literacy, Numeracy and Life Skills in an Academic Year

Most Methodologists' Visit to Schools are Uninteresting

Table 6.11 Evaluation of the methodologist's visit

	Literacy		Numeracy		Life Skills	
	Freq	%	Freq	%	Freq	%
No interest	1	6.3	1	6.3	1	6.3
Less interest	12	75.0	12	75.0	13	81.3
Interesting	2	12.5				

Majority of the head-teachers indicated that the methodologists' visits to schools are less interesting. It could be that the methodologists themselves do

not know what to do when they get to schools. It could be that instead of correcting the teachers, they end up confusing them the more. These methodologists need to be trained so that they can be efficient in their job and head-teachers will find them interesting in the subsequent visits.

Some Facilities in the School are Skewed

Table 6.12 Facilities in the Schools

Facilities in the Schools	Frequency	Percent
An equipped and functional office for the Director	7	43.8
Functional classrooms for students	6	37.5
Functional hall for meetings	1	6.3
Functional library	2	12.5
Functional secretariat	2	12.5
Security Men	11	68.8
Garden	9	56.3
School farm	9	56.3
Servants	3	18.8
Functional Laboratory	-	-
Geometric materials	9	56.3
Functional sports field	2	12.5
Functional Gymnasium	1	6.3
Sufficient desks for students	10	62.5
Functional staff room for teachers	10	62.5
Functional toilet for the Director and teachers	7	43.8
Functional toilet for students	8	50.0
School fence	11	68.8

Some school facilities are more than average in schools while in many schools some common facilities were not available. For example, functional hall for meetings; functional sports field; functional library; and functional secretariat. Facilities like desks staff rooms for teachers though not adequate were available in some quantity.

Most classrooms accommodate 30 to 40 pupils

Table 6.13 Class Size

class size	Frequency	Percent
50 - 60 students	1	6.3
30 - 40 students	10	62.5
20 - 30 students	1	6.3

For effective class management, pupils less than 30 are adequate, but when the situation could not be helped (when there are more children than the available facilities - classrooms), then the type of situation presented in Table 6.13 could be obtained.

Most Desks are for two Pupils

Table 6.14 Number of Pupils on a Desk

Number of Pupils on a Desk	Frequency	Percent
For one person	1	6.3
For two persons	11	68.8

There are two types of desks for children, ones that can seat only one child and the ones that can seat two children. Majority of the schools have the ones that can seat two children.

Most Classrooms are Clean, Illuminated and has good Ventilation

Table 6.15 Degree of satisfaction in relation to cleaning, illumination and ventilation of classrooms

	Clean Classroom		illumination		ventilation	
	Freq	%	Freq	%	Freq	%
Satisfied	11	68.8	10	62.5	11	68.8
Not satisfied	2	12.5	3	18.8	2	12.5

Majority of the head-teachers are satisfied with the level hygienic, illumination and ventilation of the classrooms in their schools. Very few of the head-teachers believed that there still room for improvement in the aspect of the hygienic, illumination and ventilation of the classrooms in their schools. This is further illustrated in Fig. 6.6

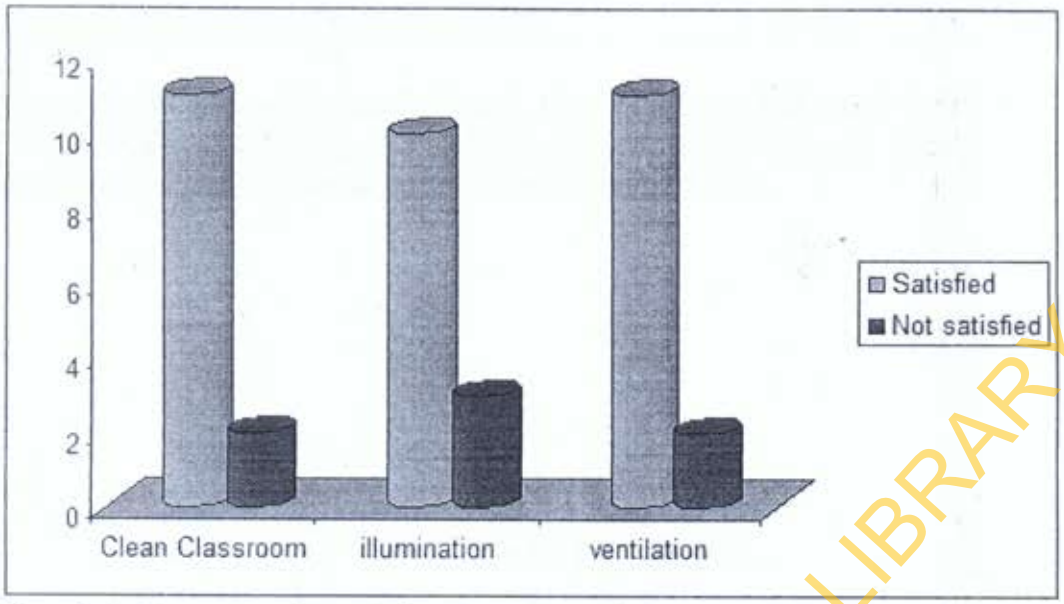

Fig. 6.6 Degree of satisfaction in relation to cleaning, illumination and ventilation of classrooms

Many Equipments are absent in Schools

Table 6.12 Equipment in the Schools

Equipment in the Schools	Frequency	Percent
Functional computer and printer	8	50.0
Functional writing machine	4	25.0
Functional photocopy machine	1	6.3
Functional polycopy machine	-	-
Functional telephone	9	56.3
Functional fax machine	1	6.3
Functional television	2	12.5
Functional Video	1	6.3
Functional Radio	15	93.8

Apart from the functional computers and printers and telephones, the remaining school equipments are in serious shortage condition. Efforts should be geared towards obtaining these equipments as they promote learning.

Many children can get to school without Difficulty and there are Dispensary / Clinics close to the Schools

Table 6.13 Pupils' Comfort

Pupils' Comfort	Frequency	Percent
Easy access for students	14	87.5

Dispensary or clinic close to schools	14	87.5

The schools are well situated such that pupils do not have difficulty accessing the school even during the raining season. Furthermore, there are clinics or dispensary close to the school in case a child is sick.

CHAPTER SEVEN

PERFORMANCE ON LITERACY TEST

Introduction

The chapter presents the findings and conclusion on pupils' performance on the learning achievement test on literacy. Pupils at this stage have been exposed to comprehension and oral and written expression; functions of language - analysis and thinking and oral and written communication. The literacy test measured pupils' level of attainment in these skills.

In this chapter, answers were provided to the following research questions:

- What are the characteristics (in terms of discrimination, difficulty, distracters of options, difficulty, and internal consistency - reliability and construct validity - validity) of the Literacy Achievement Test?
- What is the level of performance of the pupils in the Literacy Achievement Test?
- In which Literacy subscales did the pupils perform (a) best (b) worst?

Literacy achievement test was administered on 503 primary 4 pupils. In all, the test was made up of 31 items (multiple choice) with four options A, B, C and D. The test assessed the pupils' level of skill acquisition on two major areas of achievement, including

- three subscales such as comprehension and oral and written expression (compreensão e expresão oral e escrita); functions of language - analysis and thinking (funcionameto da língua - análise e reflexão) and oral and written communication (comunicação oral e escrita);
- three cognitive operations, such as recall, understanding and thinking.

Characteristics of the Literacy Achievement Test

Item Difficulty and Distribution of Distracter

Table 7.1 shows the item difficulty and distribution of distracters across the 31 items. Item difficulty is expressed as the proportion of pupils who scored an item correctly. When few of them scored an item correctly, we conclude that the item is difficult but when majority of them score an item correctly; such an item is considered simple or cheap.

Table 7.1 *Item Difficulty and Distribution of Distracter*

ITEM NO	Omit	A	B	C	D
1	0.046	0.039	0.031	**0.801**	0.083
2	0.053	0.333	**0.422**	0.090	0.103
3	0.063	0.048	0.035	**0.799**	0.055
4	0.050	0.042	**0.781**	0.085	0.042
5	0.050	**0.652**	0.107	0.083	0.107
6	0.011	0.068	0.160	**0.646**	0.116
7	0.002	0.057	**0.849**	0.046	0.046
8	0.015	0.048	0.098	**0.667**	0.171
9	0.013	0.085	**0.621**	0.225	0.055
10	0.009	0.042	0.357	**0.425**	0.168
11	0.011	0.234	**0.632**	0.068	0.055
12	0.002	0.151	0.195	0.179	**0.473**
13	0.004	0.151	0.077	**0.698**	0.070
14	0.002	0.193	**0.530**	0.147	0.129
15	0.000	0.136	**0.799**	0.055	0.011
16	0.004	0.011	0.022	0.074	**0.888**
17	0.018	0.085	**0.856**	0.013	0.028
18	0.033	**0.794**	0.085	0.033	0.055
19	0.002	0.177	0.046	**0.753**	0.022
20	0.011	0.265	**0.368**	0.274	0.083
21	0.015	**0.691**	0.136	0.127	0.031
22	0.004	0.068	0.107	**0.733**	0.088
23	0.007	0.300	**0.525**	0.085	0.083
24	0.007	0.048	0.208	**0.558**	0.179
25	0.002	0.144	0.074	0.103	**0.676**
26	0.011	0.013	0.276	**0.619**	0.081
27	0.004	0.083	0.112	0.081	**0.720**
28	0.007	0.059	**0.604**	0.236	0.094
29	0.007	**0.446**	0.219	0.252	0.077
30	0.011	0.140	**0.499**	0.214	0.136
31	0.009	0.260	0.168	0.186	**0.376**

Omit as presented in Table 7.1 indicates the proportion of pupils who were not sure of themselves, so did not pick any option. About 32 pupils (6.3% of the 503 pupils) did not select any of the four options in item 3. The item is presented below:

> Read with attention the text and answer the following questions:
> 3. What lesson can you learn from this story? "The lion and the mouse"
> A. Slowly walk far away from each other
> B. Who wants everything will lose everything
> C. should know how to forgive the one another
> D. Walking he/she/it makes road

Test items that require pupils to think or summarise a passage tend to be challenging to them. They are familiar with test items that require less of thinking, especially the ones in which answers can easily be identified.

The table also reveals the proportion of pupils who selected each of the different options. For each of the 31 items, the options A, B, C and D corresponding to figures that are in bold face indicate the correct option for that item. Again, the bold face figures represent the proportion of pupils who got the item corresponding to the item number correct. An item is difficult if less than 30 percent of the pupils get the item correct. An item is simple or cheap if more than 69 percent of the pupils get the item correct. Items in which between 30 and 70 percent of the pupils ($0.3 \leq p \geq 0.7$) get them right are good (moderate) items. The following table shows the number of the difficulty, moderate and cheap items.

Table 7.2 Distribution of difficult, moderate and cheap items

	Difficult	Moderate	Cheap
Number of items	Nil	19	12

Table 7.2 reveals that none of the 31 items was difficult. Although the field workers were asked not to explain the questions on Lingua Portuguesa to the pupils when they indicated that they could not read and understand the questions, it is interesting to note there is a possibility that these test items were explained to the pupils. The degree of explanation is however lower unlike in Numeracy. There are 12 cheap test items and 19 moderate test items. Examples of the cheap items are items 16 and 17. About 89% (88.8%) and 85.6% respectively of pupils got items 16 and 17 correctly.

Read the text "A beautiful world" of page 22 in your text book and answer the following questions:
16. Hans was:
A. an Angolan
B. a Brazilian
C. a Portuguese
D. a German

To get the item correctly, pupils must have had access to the textbook, able to read and understand the text "A beautiful world" before s(he) knows that Hans was from Germany. Majority of the pupils did not find this activity difficult.

Read the text "A beautiful world" of page 22 in your text book and answer the following questions:
17. Why was Pedro happy?
Pedro was happy because
A. Has will spend vacations in Portugal
B. Hans will spend vacations in its house
C. Pedro will visit Rio Tejo
D. Hans will spend vacations in Germany

To get the item correctly, pupils must have had access to the textbook, able to read and understand the text "A beautiful world" before s(he) knows that Hans will spend his vacations in his (Pedro) house.

Examples of test items with moderate difficulty levels are items 10 and 29. About 43% (42.5%) and 44.6% respectively of pupils got items 10 and 29 correctly.

10. Identify the possessive determinant
A. The dogs hunted the mouse.
B. That mouse is very smart.
C. Your friends killed the mouse.
D. They like to play in the sand.

To get the item correctly, pupils must know the meaning possessive determinant. The "the" in option A, "that" in option B and "they" are determinants but they are not possessive. Possessive pronouns are his own, her own, their own, your own, etc. "Your" used in item 10 is a possessive determinant.

29. Identify the sentences that have homonymy
A. I read a beautiful story. I count up to three.
B. Hans tells a history. The history is pretty.
C. I am the friend of Hans. The friends if do not quarrel.
D. I saw a story book. The stories are wonderful.

For pupils to get this item correct, they must know that homonymy is the same as homonym and it means two or more words (in this item, two sentences) having the same spelling or pronunciation but different meaning. In Portuguese, Eu li um belo conto and Eu conto até três (option A) are two different sentences but they are similarity is some spellings and pronunciations.

Other figures apart from the ones in bold face are referred to as distracter. They looked like the correct answer to some pupils and so such pupils picked them as the correct response. Examples of such items are items 21 and 31. The proportion of pupils who select each of the options is high. We can conclude that the options adequately distracted the pupils.

Table 7.3 Distracters

item No	20	31
Omit	0.011	0.009
A	0.265	0.260
B	**0.368**	0.168
C	0.274	0.186
D	0.083	**0.376**

Item 31 is used as an example.

31. Identify words that have nasal diphthong:
A. father, I am
B. said, it liked
C. paper, friend
D. tomorrow, bread

Most of the pupils find oral questions difficult and that is why only 37.6% of them got it right. Other pupils guessed wrongly.

Item Discrimination

The results of item analysis showed that only one item (number 20) gave negative discrimination index of -13.44% (-0.1344), while in each of the remaining 30 items, there was a high and positive discriminations between the weak and strong pupils as suggested by Thorndike (1997) that good items should have discrimination indexes higher than 0.20 (20.0%). Therefore item number 20 was not a good item; because more testees from the lower group than form the upper group got the item right.

Internal Consistency and Construct Validity Index

Kuder Richardson formula 20 was used to establish the internal consistency

and construct validity of the entire test. KR value of 0.887 was established, the implication is that the 31 test items are measures of Literacy to a large extent (88.7%). Therefore, it can be concluded that Literacy test was both valid and reliable for the primary 4 pupils used in this study.

Pupils Performance in Literacy Test

Tables 4.4 and 4.5 are used in explaining pupils' performance in the literacy test.

Table 7.4 Pupils' level of performance in MAT

Sample Size	Mean Percent Score	Standard Deviation	Minimum Score	Maximum Score	Modal Score Range
503	65.5230	21.61157	3.23	96.77	61 - 70

Table 7.4 shows that national mean score of 65.52% (S.D. = 21.61) is observed. The weakest pupil scored 3.2% and brightest pupil scored 96.8% and the modal class (score obtained by the majority of the pupils) is between 61 and 70.

Table 7.5 Distribution of Pupils' Performance using score range

Score range	Frequency	Percent
00-10	3	.6
11-20	3	.6
21-30	31	6.2
31-40	45	8.9
41-50	56	11.1
51-60	48	9.5
61-70	88	17.5
71-80	96	19.1
81-90	75	14.9
91-100	58	11.5
Total	503	100.0

Table 7.5 presents the score range of the pupils in literacy test. None of the pupils scored in the low ranges (i.e. the first two ranges - 00 - 10 and 11 - 20). Few of them scored in the range 21 - 30 while majority scored in high ranges, especially in the 81 - 90 range. This also confirms that the pupils scored very high in the literacy test.

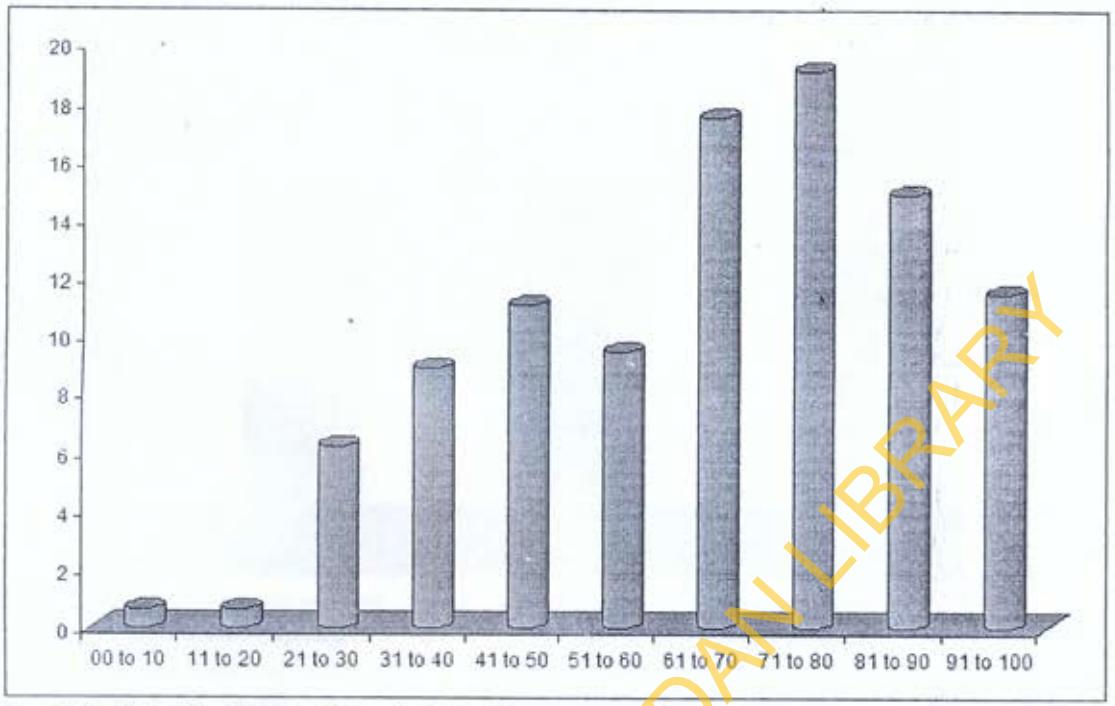

Fig. 7.1 Distribution of Pupils' Performance along the Score Range

Table 7.6 Performance in Each Subset

	No of items	Mean	S.D	% Mean or test Difficulty level
Comprehension and oral and written expression	2	1.223	0.677	61.2
Functions of language - analysis and thinking	25	15.341	5.986	61.4
Oral and written communication	4	3.337	0.955	83.4
Knowledge	18	11.453	4.398	63.6
Comprehension	4	2.967	0.932	74.2
Thinking	9	5.481	2.205	60.9
TOTAL	31	19.902	6.700	64.2

The table shows that pupils' level of performance was lowest in Comprehension and oral and written expression (Mean = 1.22 SD = 0.68 out of 2 items) with relative performance of 61.2% and highest in Oral and written communication (Mean = 3.34; SD = 0.96 out of 4 items) with relative performance of 83.4%. As shown in the table, the order of level of performance was comprehension and oral and written expression < functions of language -

analysis and thinking < oral and written communication.

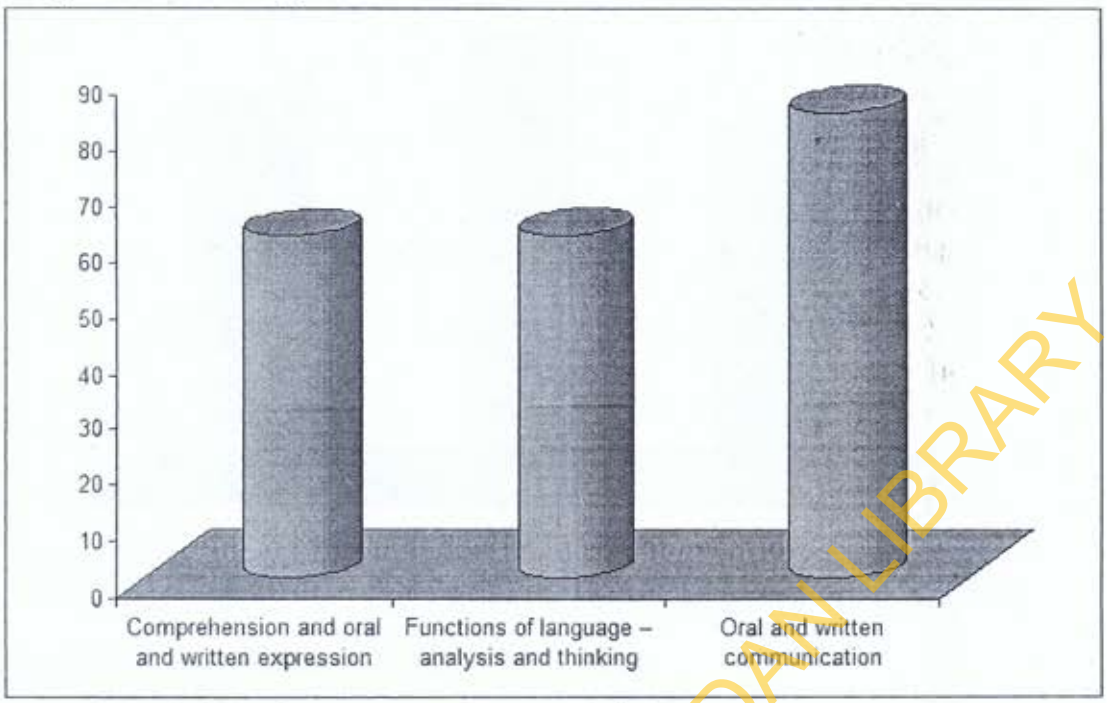

Fig. 7.2 Pupils' Performance in Literacy Sub-Test

It is also observed from the table that pupils' level of performance was highest in items that required comprehension, with relative performance of 74.2% (Mean = 2.97; S.D = 0.93 out of 4 items) and lowest in items that required thinking with relative performance of 60.9% (Mean = 5.48; S.D. = 2.21). The order of performance in the three cognitive operations was understanding, knowledge and thinking.

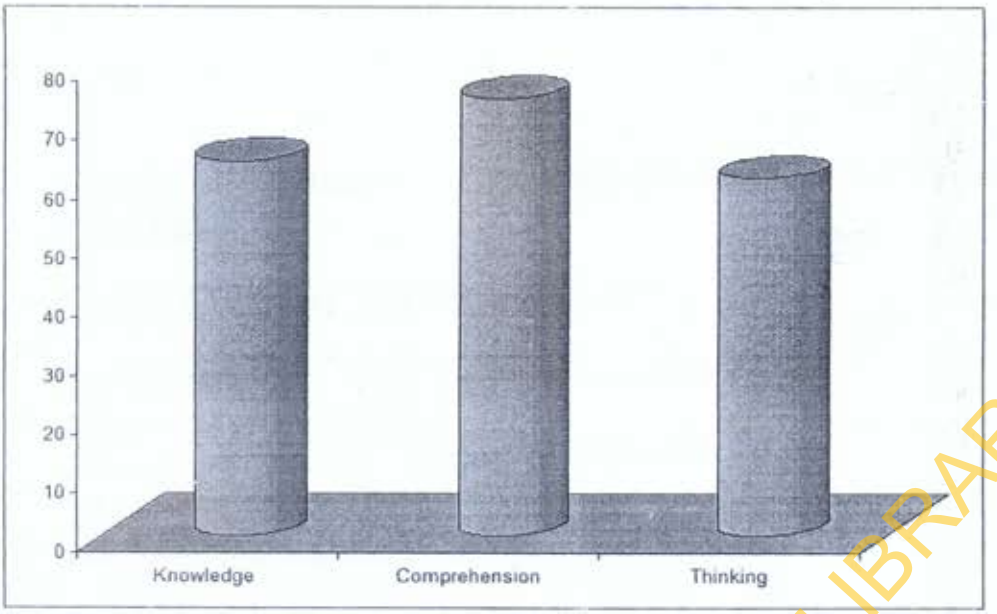

Fig. 7.3 Pupils' Performance in the Level of Cognition in Literacy Test

Inter item-correlation among the subscales

To confirm each of the content subscales as actual measures of literacy skills, an inter item-correlation of subscales with each test form was carried out and this is shown on Table 7.7

Table 7.7 Correlation Between Literacy Sub-Test

	Comprehension and oral and written expression	Functions of language - analysis and thinking	Oral and written communication
Comprehension and oral and written expression	1.000		
Functions of language - analysis and thinking	0.346	1.000	
Oral and written communication	0.561	0.222	1.000

From Table 7.7, the observed coefficients confirmed that all the subsets were valid measures of literacy competencies. Two measures of literacy are related (Comprehension and oral and written expression and Oral and written communication) that explains why the coefficient between these two measures is high (0.561) but functions of language - analysis and thinking is not all that related with the remaining two, so its correlations with them are low (0.346

and 0.222).

Table 7.8 Correlation Between Literacy items under cognitive operations

	Knowledge	Comprehension	Thinking
Knowledge	1.000		
Comprehension	0.501	1.000	
Thinking	0.766	0.465	1.000

One of the problems of item developers is to categorize items into knowledge, comprehension and thinking. The correlation coefficient presented in Table 7.8 shows that the items grouped as knowledge are related with the items grouped as thinking. The same is true of the items in comprehension, thinking and knowledge.

Pupils' Performance in Literacy Test at Different Group Level

Table 7.9 Performance at District Level

DISTRICT	Mean	N	Std. Deviation	Minimum	Maximum
Água Grande	63.1378	110	20.20175	16.13	93.55
Mé-Zochi	51.6398	120	17.47687	22.58	96.77
Lobata	73.9492	66	16.02758	32.26	93.55
Lembá	91.8151	67	2.76973	80.65	93.55
Cantagalo	52.6882	48	20.52441	3.23	77.42
Caué	35.1443	19	8.86003	19.35	51.61
Pagué	76.5356	73	9.25388	58.06	93.55
Total	65.5230	503	21.61157	3.23	96.77

Pupils in Lembá are the winners in Literacy Test

The table reveals that pupils in Lemba in Neves were the highest performers in Literacy with mean score of 91.82% (S.D. = 2.77). The weakest pupil score 80.65 and the best pupil score 93.55. They are followed by the pupils in Pague in Principe. The least performers were the pupils from Caué in Ribeira Peixe with mean value of 35.14% (S.D. = 8.86). The best pupil scored 51.61% and the weakest pupil scored 19.35%. The pupils' performance across the districts is presented in Fig. 7.4

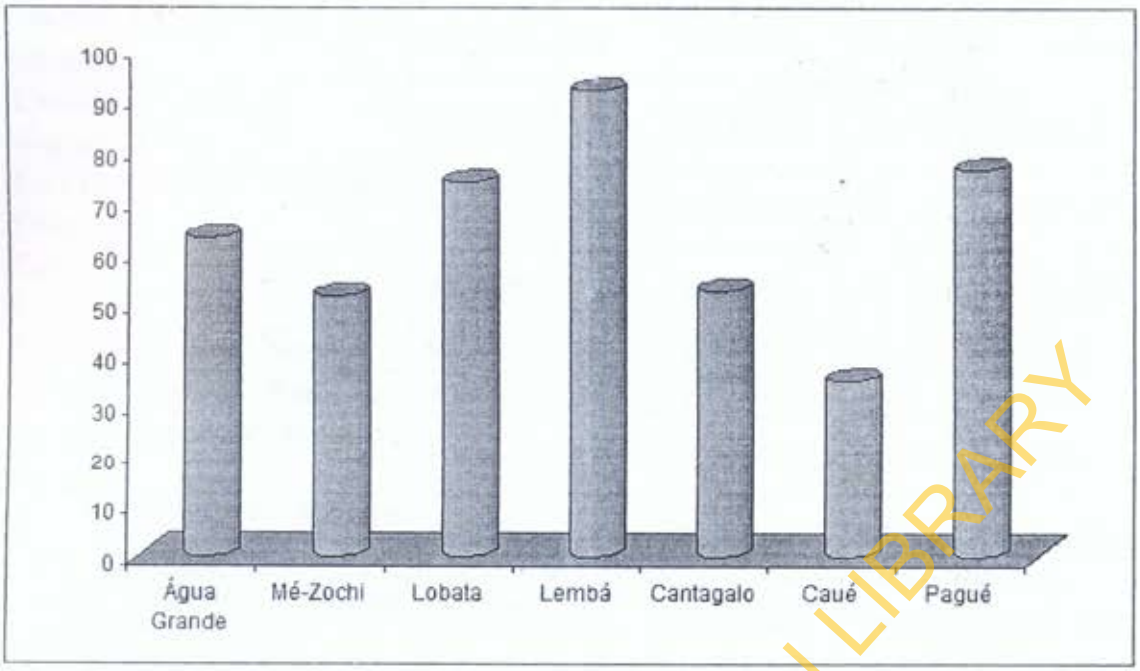

Fig. 7.4 Pupils' Performance in the Districts

Table 7.10 Pupils' Performance at School Level

SCHOOL	Mean	N	Std. Deviation	Minimum	Maximum
Escola Básica Dona Maria de Jesus	81.6129	40	7.31231	64.52	93.55
Escola Básica Integrada de Vila Fernanda	44.4282	22	17.91721	16.13	80.65
Escola Básica de Oque del Rei	67.0251	27	9.18226	32.26	80.65
Escola Básica da Praia Gâmboa	42.5499	21	11.83563	22.58	64.52
Escola Básica de Folha Fede	67.5030	27	15.59734	41.94	96.77
Escola Básica de S.Fenicia	47.6959	28	13.78015	25.81	74.19
Escola Básica Manuel Q. Bragança	45.5645	24	10.85881	25.81	64.52
Escola Básica de Monte Café	50.4032	24	20.87990	22.58	93.55
Escola Básica Januário Graça	43.2638	17	13.25424	25.81	67.74

Escola Básica José Leal Bouças	90.3226	19	2.63386	83.87	93.55
Escola Básica de Gudalupe	74.3633	19	10.77812	38.71	80.65
Escola Básica de Praia das Conchas	53.2258	16	12.12720	32.26	77.42
Escola Básica de Caldeiras	75.0000	12	5.16953	67.74	83.87
Escola Básica de Neves	91.8151	67	2.76973	80.65	93.55
Escola Básica de Praia Rei	45.1613	34	19.69400	3.23	77.42
Escola Básica de Anselmo Andrade	70.9677	14	5.51516	61.29	77.42
Escola Básica de Ribeira Peixe	35.1443	19	8.86003	19.35	51.61
Escola Básica Paula Lavres	72.7273	33	7.69690	58.06	87.10
Escola Básica Nova Estrela	83.6694	16	8.20047	67.74	93.55
Escola Básica de Praia Inhame	77.0161	24	9.23792	61.29	93.55
Total	65.5230	503	21.61157	3.23	96.77

Pupils in Escola Básica de Neves are the Stars in Literacy Test

Table 7.10 shows that out of the 20 schools that participated in the study, pupils from the Escola Básica de Neves were the best with the mean value of 91.82% (S.D.= 2.77). Judging from the number of pupils involved in the test, the minimum score (80.65%) which is higher than the national mean of 65.52% and the maximum score (93.55%) and the value of the standard deviation, it can be observed that the pupils score are very close and this may suggest that the data collectors are likely to have given the pupils in this school explanation (although we instructed that they should not give explanation in the language (since we are testing the language power of the pupils). The data also reveals that it is possible that these pupils were helped by the explanations given by the data collectors. Another reason is that the children in Neves speak Angolaris and they do not have mix their language with Portuguese (if they initiate a sentence in Angola, they complete in Angola and if they start a sentence in Portuguese, they complete it in Portuguese) unlike the children who leave in some parts of the Islands where they mix dialects and Portuguese together which of course has serious implication to learning outcomes. These pupils' performances were followed by those of the pupils in Escola Básica José Leal Bouças with the mean value of 90.32% (S.D.= 2.63). The same explanation

could be given like that of the previous school. The performance of pupils in Escola Básica de Ribeira Peixe tends to reveal the true performance of an average school because of the large standard deviation and the differences between the maximum (51.61%) and the minimum (19.35%) scores. The pattern of the schools' performances is presented in Fig.4.5

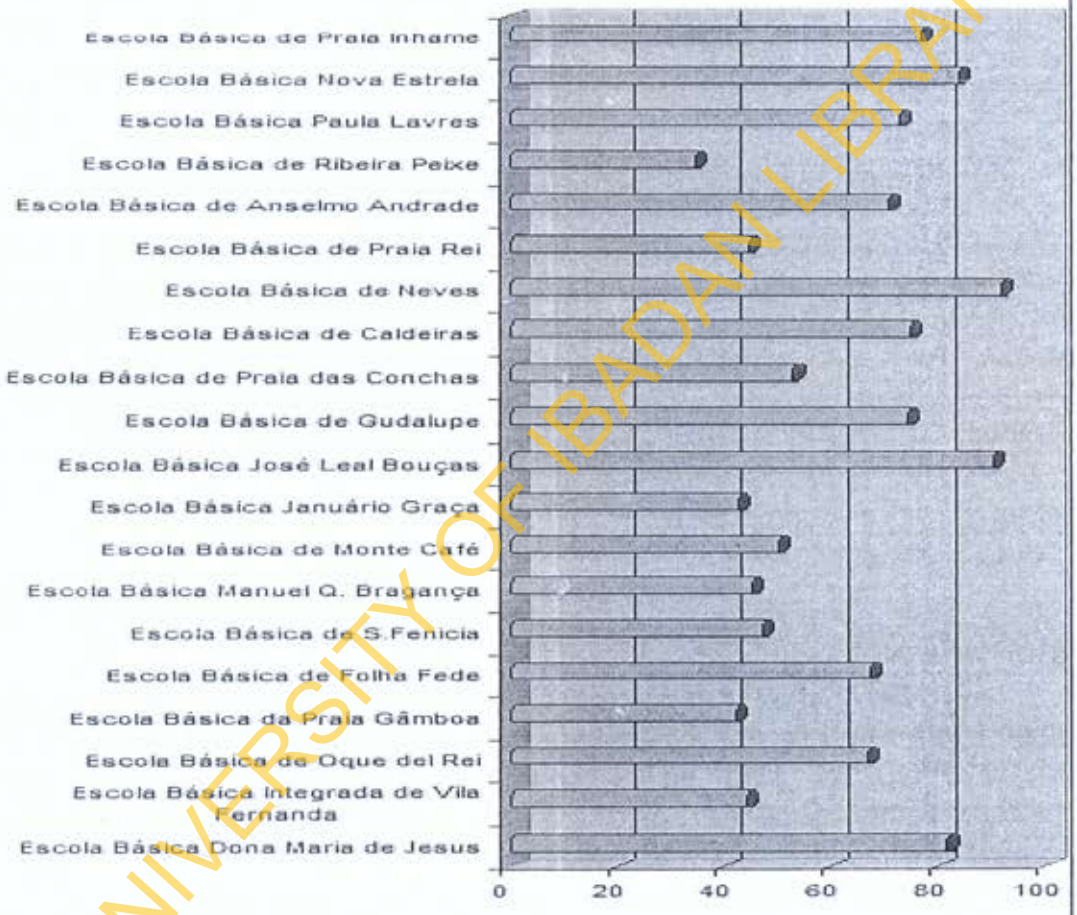

Fig. 7.5 Pupils' Performance in the Schools

Table 7.11 Performance of Pupils in Different Zones

Zone	Mean	N	Std. Deviation	Minimum	Maximum
Urban	83.2015	159	10.29777	38.71	93.55
sub-urban	60.2670	145	21.34247	3.23	93.55
Rural	59.3021	159	19.39495	16.13	96.77
Piscato'zia	39.0323	40	11.04966	19.35	64.52
Total	65.5230	503	21.61157	3.23	96.77

Pupils in Urban Centre are the Title Holders in Literacy Test

Table 7.11 shows that pupils in urban centres outperformed (83.20%; S.D. = 10.30) pupils from other settings. This is result is likely to be so because the pupils have access to some leaning materials that not likely to be in the other settings. This is also true of the pupils in sub-urban setting. They may not have as much access to the learning facilities, but definitely theirs is likely to be more that those in the rural and piscatória (fishing locality) - 39.03%; S.D. = 11.61.

Fig. 7.6 Pupils' Performance in the Zones

Summary of Findings on Pupils' Performance in Literacy Test

- The overall mean score in the literacy was 65.52% with standard deviation of 21.61. This mean value was considered to be high, because it is above the average value of 50.0% which is taken to be the bench mark in any primary school.
- In the literacy subscales, the pupils performed in the following order, comprehension and oral and written expression < functions of language - analysis and thinking < oral and written communication. Pupils performed worst in the comprehension and oral and written expression aspect of the test and best in the aspect oral and written communication.
- In the cognitive operation subscales, the pupils' performance was in the order: comprehension > knowledge > thinking. In other words the pupils' level of performance was worst in items that require thinking and best in the comprehension items.

• In the district level of analysis, pupils in Lembá performed better in Literacy test than all the pupils in other districts.

• In the school analysis, pupils in Escola Básica de Neves outperformed pupils in other schools.

• In zonal analysis, pupils in urban centre are the champions in literacy test.

Implications

The analyses of the literacy test as presented in the foregoing sections are quite revealing. The findings tend to be at variance with the general belief that pupils' level of performance in literacy at primary 4 in Sao Tome and Principe is generally low. We have explained the plausible reasons for this.

Although, we concluded that pupils' performance is very high, it will be desirous to have all the learners scoring 100%, this could be achieved by continuous training and re-training of teachers at primary 4 level.

In the next MLA study, teachers or data collectors should not be allowed to explain any item to pupils either as an individual or in group. This will give us an objective assessment of the pupils' ability in literacy test.

CHAPTER EIGHT

PERFORMANCE ON NUMERACY TEST

Introduction

The chapter presents the findings and conclusion on pupils' performance on the learning achievement test on numeracy. Pupils at this stage should have acquired skills in such activities as simple mathematical operations as addition, and subtraction up to four digits numbers, division and multiplication, even in worded terms, fractions activities, buying and selling, measurement of time, fractions, distinguishing between geometric shapes and angles. The numeracy test measured pupils' level of attainment in these skills.

In this chapter, answers were provided to the following research questions:

- What are the characteristics (in terms of discrimination, difficulty, distracters of options, difficulty, and internal consistency - reliability and construct validity - validity) of the Numeracy Achievement Test?
- What is the level of performance of the pupils in the Numeracy Achievement Test?
- In which Numeracy subscales did the pupils perform (a) best (b) worst?

Numeracy achievement test was administered on 477 primary 4 pupils. In all, the test was made up of 37 items (multiple choices) with four options A, B, C and D. The test assessed the pupils' level of skill acquisition on two major areas of achievement, including

• three subscales such as Numeros e Cálculos (Number and Numeration),

Geometria (Geometry) and Grandeza e Medidas (Mensuration);
• three cognitive operations, such as recall, understanding and thinking.

Characteristics of the Numeracy Achievement Test

Item Difficulty and Distribution of Distracter

Table 8.1 shows the item difficulty and distribution of distracters across the 37 items. Item difficulty is expressed as the proportion of pupils who scored an item correctly. When few of them scored an item correctly, we conclude that the item is difficult but when majority of them score another item correctly, such an item is considered simple or cheap.

Table 8.1 *Item Difficulty and Distribution of Distracter*

Item N°	Omit	A	B	C	D
1	0.013	0.006	0.010	0.038	**0.933**
2	0.013	0.008	**0.912**	0.023	0.044
3	0.008	0.038	**0.937**	0.008	0.008
4	0.096	0.086	**0.717**	0.065	0.036
5	0.023	**0.822**	0.067	0.065	0.023
6	0.019	0.203	0.065	**0.704**	0.008
7	0.021	0.061	0.101	**0.782**	0.036
8	0.019	0.040	**0.860**	0.063	0.019
9	0.013	0.046	0.042	**0.862**	0.038
10	0.021	0.075	0.099	0.153	**0.652**
11	0.042	0.050	0.080	0.088	**0.740**
12	0.027	0.055	**0.809**	0.069	0.040
13	0.017	0.023	0.061	**0.889**	0.010
14	0.002	0.013	0.023	**0.945**	0.017
15	0.006	0.025	0.025	0.067	**0.876**
16	0.008	0.004	**0.933**	0.036	0.019
17	0.019	0.044	0.046	**0.820**	0.073
18	0.010	0.019	0.006	0.036	**0.929**
19	0.017	0.283	0.229	**0.363**	0.109
20	0.017	0.023	0.088	0.073	**0.799**
21	0.013	0.021	0.050	0.117	**0.799**
22	0.017	0.048	0.241	0.128	**0.566**
23	0.180	0.036	0.025	**0.654**	0.105
24	0.015	0.015	0.025	0.075	**0.870**
25	0.010	0.222	**0.646**	0.042	0.080
26	0.013	**0.799**	0.134	0.025	0.029
27	0.008	0.015	0.027	0.090	**0.860**
28	0.013	0.038	**0.790**	0.082	0.078
29	0.004	0.101	0.057	0.044	**0.795**

30	0.000	0.004	0.010	**0.971**	0.015
31	0.004	0.029	0.103	**0.455**	0.409
32	0.013	0.170	**0.486**	0.235	0.096
33	0.023	0.063	**0.763**	0.126	0.025
34	0.006	0.006	0.249	**0.700**	0.038
35	0.013	0.096	**0.398**	0.205	0.287
36	0.021	0.099	**0.614**	0.103	0.164
37	0.006	0.212	0.243	0.256	**0.283**

Omit as presented in Table 8.1 indicates the percentage of pupils who were not sure of themselves, so did not pick any option. As many as 86 pupils (18% of the 477 pupils) did not select any of the four options in item 23. The item is presented below:

23. Identify the right pattern in the interval of 2 years, in the following figures.

A. 7 – 10 - 12 _____ ☐

B. 7 - 11 – 14 _____ ☐

C. 7 – 9 - 11 _____ ☐

D. 7 – 8 – 10 _____ ☐

The way the test item was structured is likely to be problematic to the pupils. A simple stem like ***which of the following options has an interval of 2*** could have been more meaningful to the pupils.

The table also reveals the proportion of pupils who selected each of the different options. For each of the 37 items, the options where figures are in bold face indicate the correct option for that item. Again, the bold face figures represent the proportion of pupils who got the item corresponding to the item number correct. For an item to be difficult, less than 30 percent of the pupils must get the item right. For an item to be cheap, more than 69 percent of the pupils must get the item right. Items with more than 29 percent of the pupils but less than 71 percent of the pupil ($0.3 \leq p \geq 0.7$) getting them right are good (moderate) items. The following table shows the number of the difficulty, moderate and cheap items.

Table 8.2 Distribution of difficult, moderate and cheap items

	Difficult	Moderate	Cheap
Number of items	1	10	26

Table 8.2 reveals only one test item out of the 37 items is difficult. The

explanation is that all the pupils indicated that they could not read and understand the questions, the field workers were asked to explain the question to them, there is a thin line between explaining the question to them and providing the answer for the pupils. There are 26 cheap test items and 14 moderate test items. Examples of the cheap items are items 3 and 14. About 94% (93.7%) and 94.5% respectively of pupils got items 3 and 14 correctly.

- Put a cross on the closest number to 500.

A. 508 ☐

B. 498 ☐

C. 436 ☐

D. 125 ☐

To get the item correctly, pupils are to find the difference between each of the options and 500, the option that yielded the smallest number is the answer. Pupils did not find this activity difficult.

- Read and chooses the correct option. Marking a cross

A) One day has 22 hours ☐

B) One day has 23 hours ☐

C) One day has 24 hours ☐

D) One day has 25 hours ☐

To get the answer right, pupils are required to remember the number of hours in a day, which they must have learnt from primary 1 and by this time (Primary 4), they should have been able to internalize it. Unfortunately, about 6% of the pupils still could not answer the question correctly.

The only item where as low as 28.3% of the pupils got the item correct is item 37.

37. Ana weighs 34,3 kg and her colleague Ulisses weighs 43,25 kg. How many kilograms do Ulisses weighs more than Ana?

A. 7, 95 kg _____

B. 6kg _____

C. 9, 2 kg _____

D. 8, 95 kg _____

Other figures apart from the ones in bold face are referred to as distracter. They looked like the correct answer to some pupils and so such pupils picked them as the correct response. Although, item 37 is the only difficult one, it has its four options that are well distributed as shown in Table 8.3

Table 8.3 Distracters

A.	0.212
B.	0.243
C.	0.256
D.	0.283

Item Discrimination

The results of item analysis showed that only one item (number 32) gave negative discrimination index of -3.11% (-0.0311), while in each of the remaining 36 items, there was a positive discrimination between the weak and strong pupils. Therefore item number 32 was not a good item; because more testees from the lower group than form the upper group got the item right. In addition 10 items have discrimination indexes ranging from 0.0285 - item 19 (2.85%) to 0.1972 - item 2 (19.72%). Though they have positive discrimination indexes, still they are not good items based on Thorndike (1997) recommendation that good items should have discrimination indexes higher than 0.20 (20.0%). In all 26 items can be considered good because their discrimination indexes is higher than 0.2.

Internal Consistency and Construct Validity Index

Kuder Richardson formula 20 was used to establish the internal consistency and construct validity of the entire test. KR value of 0.811 was established, the implication is that the 37 test items are measures of Numeracy to a large extent (81.1%). Therefore, it can be concluded

that Numeracy test was both valid and reliable for the primary 4 pupils used in this study.

Pupils Performance in Numeracy Test

Tables 3.4 and 3.5 are used in explaining pupils' performance in the numeracy test.

Table 8.4 Pupils' level of performance in MAT

Sample Size	Mean Percent Score	Standard Deviation	Minimum Score	Maximum Score	Modal Score Range
477	74.9504	14.25173	27.03	97.30	81 - 90

Table 8.4 shows that national mean score of 74.95% (S.D.=14.25) is observed. The weakest pupil scored 27% and brightest pupil scored 97.3% and the modal class (score obtained by the majority of the pupils) is between 81 and 90.

Table 8.5 Distribution of Pupils' Performance using score range

Score range	Frequency	Percent
00-10	-	-
11-20	-	-
21-30	3	.6
31-40	9	1.9
41-50	16	3.4
51-60	52	10.9
61-70	86	18.0
71-80	90	18.9
81-90	169	35.4
91-100	52	10.9
Total	477	100.0

Table 8.5 presents the score range of the pupils in numeracy test. None of the pupils scored in the low ranges (i.e. the first two ranges - 00 - 10 and 11 - 20). Few of them scored in the range 21 - 30 while majority scored in high ranges, especially in the 81 - 90 range. This also confirms that the pupils scored very high in the numeracy test.

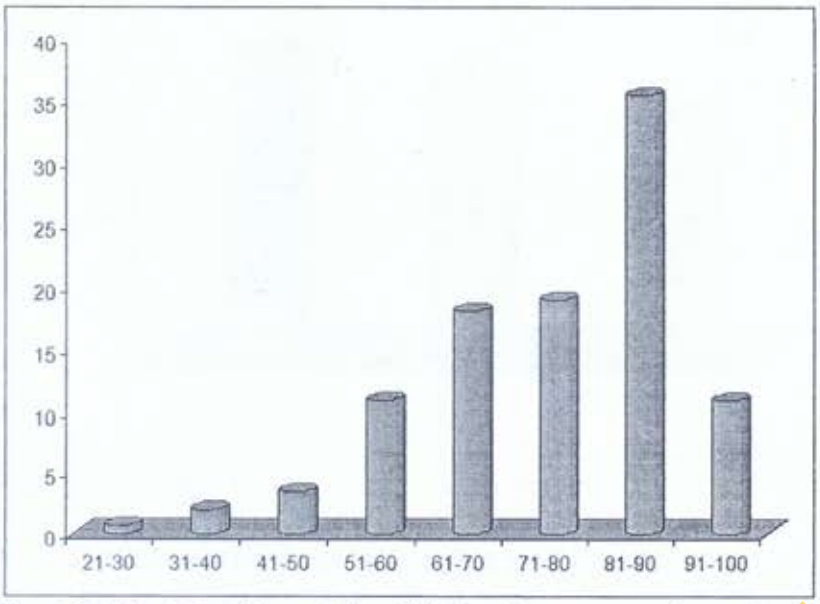

Fig. 8.1 Distribution of Pupils' Performance along the Score Range

Table 8.6 Performance in Each Subset

Sub-Test	No of Items	Mean	S.D.
Number and numeration	24	19.172 (79.9)	3.725
Geometry	3	2.235 (74.5)	0.812
Mensuration	10	6.325 (63.2)	1.816
Knowledge	11	8.874 (80.7)	1.713
Comprehension	11	8.581 (78.0)	2.000
Thinking	15	10.277 (68.5)	2.577
TOTAL	37	27.732 (75.0)	5.273

Number in parenthesis represents performance in each numeracy subscales percentage.

The table shows that pupils' level of performance was lowest in Mensuration (Mean = 6.33; SD = 1.82 out of 10 items) with relative performance of 63.2% and highest in Number and numeration (Mean = 19.17; SD = 3.73 out of 24 items) with relative performance of 79.9%. As shown in the table, the order of level of performance was numerals, geometry and mensuration.

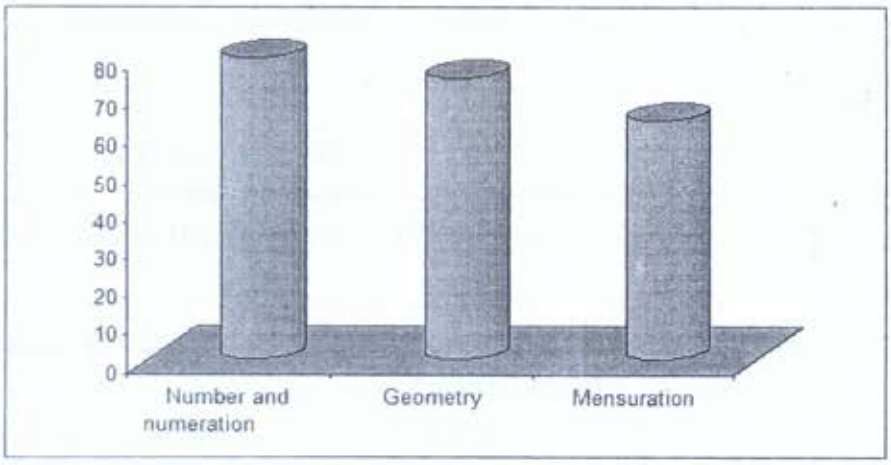

Fig. 8.2 Pupils' Performance in Numeracy Sub-Test

It is also observed from the table that pupils' level of performance was highest in items that required recall, with relative performance of 80.7% (Mean = 8.87; S.D = 1.71 out of 11 items) and lowest in items that required thinking with relative performance of 68.5% (Mean = 10.28; S.D. = 2.58 out of 15 items). The order of performance in the three cognitive operations was recall, understanding and thinking. This is consistent with other findings (NAEP, 2007).

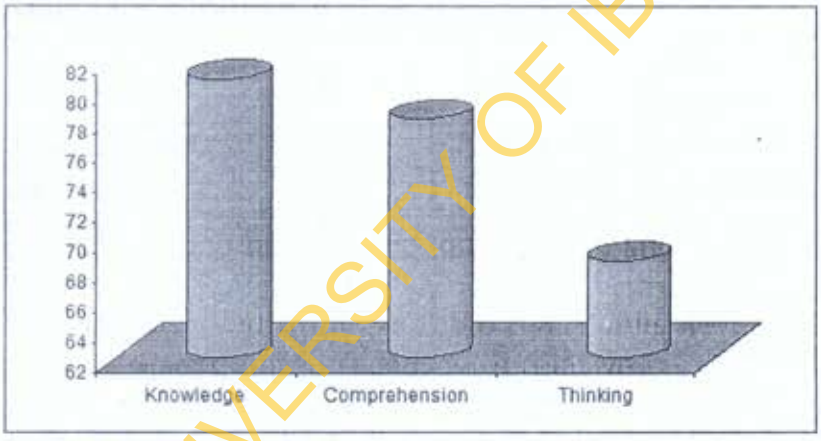

Fig. 8.3 Pupils' Performance in the Level of Cognition in Numeracy Test

Inter item-correlation among the subscales

To confirm each of the content subscales as actual measures of numeracy skills, an inter item-correlation of subscales with each test form was carried out and this is shown on Table 8.7

Table 8.7 Correlation Between Numeracy Sub-Test

	Number and numeration	Geometry	Mensuration

Number and numeration	1.000		
Geometry	0.383	1.000	
Mensuration	0.485	0.371	1.000

From Table 8.7, the observed coefficients confirmed that all the subsets were valid measures of numeracy competencies. Most topics in Numeracy are related and this why the coefficients are high.

Table 8.8 Correlation Between Numeracy items under cognitive operations

	Conhecimento	Compreensão	Reflexão
Conhecimento	1.000		
Compreensão	0.571	1.000	
Reflexão	0.535	0.543	1.000

One of the problems item developers always have is to categorize items into knowledge, comprehension and thinking. The correlation coefficient presented in Table 8.8 confirmed this assertion as there are some items in knowledge that should normally be in comprehension or thinking and vice versa.

Pupils' Performance in Literacy Test at Different Group Level

Table 8.9 Performance at District Level

DISTRICT	N	Mean	Std. Deviation	Minimum	Maximum
Água Grande	107	69.4115	12.74510	29.73	89.19
Mé-Zochi	103	70.6114	15.86657	27.03	97.30
Lobata	65	76.6320	10.38466	43.24	97.30
Lembá	67	90.4397	4.73595	62.16	97.30
Cantagalo	48	67.4550	11.05192	40.54	86.49
Caué	17	57.2337	11.23473	35.14	78.38
Pagué	70	82.8571	7.37494	45.95	91.89
Total	477	74.9504	14.25173	27.03	97.30

Pupils in Lembá top the Performance Chart

The table reveals that pupils in Lemba in Neves were the highest performers in Numeracy. They are followed by the pupils in Pague in Principe. The least performers are the pupils from Caué in Ribeira Peixe.

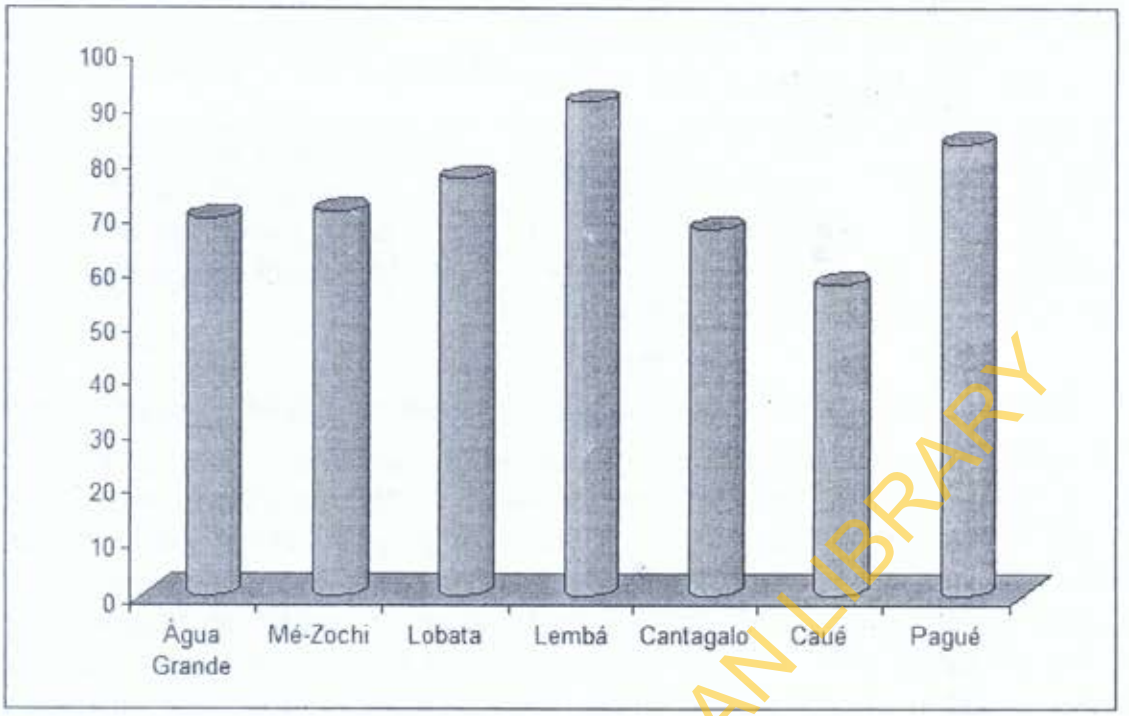

Fig. 8.4 Pupils' Performance in the Districts

Table 8.10 Pupils' Performance at School Level

SCHOOL	N	Mean	Std. Deviation	Minimum	Maximum
Escola Básica Dona Maria de Jesus	39	71.1019	13.00840	35.14	89.19
Escola Básica Integrada de Vila Fernanda	24	58.5586	11.97245	29.73	72.97
Escola Básica de Oque del Rei	27	77.9780	5.64459	64.86	86.49
Escola Básica da Praia Gâmboa	17	67.2496	10.19721	40.54	81.08
Escola Básica de Folha Fede	24	64.5270	13.41474	27.03	86.49
Escola Básica de S.Fenicia	24	77.8153	12.32053	37.84	89.19
Escola Básica Manuel Q. Bragança	18	82.8829	10.52892	56.76	97.30
Escola Básica de Monte Café	20	73.7838	12.92012	45.95	89.19
Escola Básica Januário Graça	17	52.3052	11.85580	29.73	67.57
Escola Básica José Leal Bouças	19	80.6543	3.02348	72.97	83.78
Escola Básica de Gudalupe	17	73.6089	6.92555	54.05	81.08
Escola Básica de Praia das Conchas	16	81.9257	14.95774	43.24	97.30
Escola Básica de Caldeiras	13	68.1913	8.04433	59.46	83.78
Escola Básica de Neves	67	90.4397	4.73595	62.16	97.30

Escola Básica de Praia Rei	34	62.9571	9.37495	40.54	78.38
Escola Básica de Anselmo Andrade	14	78.3784	6.08974	67.57	86.49
Escola Básica de Ribeira Peixe	17	57.2337	11.23473	35.14	78.38
Escola Básica Paula Lavres	33	80.9173	6.54881	56.76	91.89
Escola Básica Nova Estrela	13	79.2100	10.60529	45.95	86.49
Escola Básica de Praia Inhame	24	87.5000	3.06735	78.38	91.89
Total	477	74.9504	14.25173	27.03	97.30

Pupils in Escola Básica de Neves Outperformed Pupils in other Schools

Table 8.10 shows that out of the 20 schools that participated in the study, pupils from the Escola Básica de Neves were the best with the mean value of 90.44% (S.D.= 4.74). Judging from the number of pupils involved in the test, the minimum score (62.16%) and the maximum score (97.30%) and the value of the standard deviation, it can be observed that the pupils score are very close and this may suggest that the explanation given to the pupils by the data collectors was likely to be more than just explanation, there is an indication that it is possible that these pupils were somehow helped. Another reason is that the children in Neves speak Angolares and they do not have mix their language with Portuguese (if they initiate a sentence in Angola, they complete in Angola and if they start a sentence in Portuguese, they complete it in Portuguese) unlike the children who leave in some parts of the Islands where they mix dialects and Portuguese together which of course has serious implication to learning outcomes. These pupils' performances were followed by those of the pupils in Escola Básica de Praia Inhame with the mean value of 87.5% (S.D.= 3.07). The same explanation could be given like that of the previous school. The performance of pupils in Escola Básica Januário Graça tends to be the one that could be expected because of the standard deviation and the differences between the minimum and the maximum scores. The pattern of the schools' performances is presented in Fig. 8.5

Fig. 8.5 Pupils' Performance in the Schools

Table 8.11 Performance of Pupils in Different Zones

Zone	N	Mean	Std. Deviation	Minimum	Maximum

Urban	156	81.7568	11.55105	35.14	97.30
sub-urban	139	73.8091	14.10326	29.73	97.30
Rural	148	71.7677	14.19423	27.03	97.30
Piscatória	34	62.2417	11.72403	35.14	81.08
Total	477	74.9504	14.25173	27.03	97.30

Pupils in Urban Centre are the Champions in Numeracy

Table 8.11 shows that pupils in urban centres outperformed pupils from other settings. This is result is likely to be so because the pupils have access to some leaning materials that not likely to be in the other settings. This is also true of the pupils in sub-urban setting. They may not have as much access to the learning facilities, but definitely theirs is likely to be more that those in the rural and piscatória (fishing locality).

Fig. 8.6 Pupils' Performance in the Zones

Summary of findings on pupils performance in Numeracy Test

- The overall mean score in the numeracy was 74.95% with standard deviation of 14.25. The value it was considered to be high, because it is above the average value of 50.0% which is taken to be the bench mark in any primary school.
- In the numeracy subscales, the pupils performed in the following order, number and numeration > geometry > mensuration. In other words, the pupils performed worst in the mensuration aspect of the test and best in the number and numeration aspect .
- In the cognitive operation subscales, the pupils performance was in the order: knowledge > comprehension > thinking. In other words the pupils' level of performance was worst in items that require thinking and best in the knowledge (recall) items.
- In the district level of analysis, pupils in Lembá performed better in Numeracy test than all the pupils in other districts.
- In the school analysis, pupils in Escola Básica de Neves outperformed pupils in other schools.
- In zonal analysis, pupils in urban centre are the champions in numeracy test.

Implications

The analyses of the numeracy test as presented in the foregoing sections are quite revealing. The findings tend to be at variance with the general belief that pupils' level of performance in numeracy at primary 4 in Sao Tome and Principe is generally low. We have explained the plausible reasons for this.

Although, we concluded that pupils' performance is very high, learning at any level should be for mastery (where at least 95% of the pupils pass), the remaining 25.05% of the students should be carried along to obtain 100% performance in numeracy test.

In the next MLA study, teachers or data collectors should not be allowed to read or explain any item to pupils either as an individual or in group. This will give us an objective assessment of the pupils' ability in numeracy test.

It's good to remember that it is usual habit to read or explain to pupils either as an individual or in group during in numeracy test.

CHAPTER NINE

PERFORMANCE ON LIFE SKILLS TEST

Introduction

The chapter presents the findings and conclusion on pupils' performance on the learning achievement test on life skills. Pupils at this stage have acquired skills in such activities as living things and the environment, human being and health, the planet earth, settlements and economic activities, organisation of the society cultural and national heritage. The life skills test measured pupils' level of attainment in these skills.

In this chapter, answers were provided to the following research questions:

- What are the characteristics (in terms of discrimination, difficulty, distracters of options, difficulty, and internal consistency - reliability and construct validity - validity) of the Life skills Achievement Test?
- What is the level of performance of the pupils in the Life skills Achievement Test?
- In which Life skills subscales did the pupils perform (a) best (b) worst?

Life skills achievement test was administered on 504 primary 4 pupils. In all, the test was made up of 30 items (multiple choice) with four options A, B, C and D. The test assessed the pupils' level of skill acquisition on two major areas of achievement, including

- six subscales such as living things and the environment, human being and

health, the planet earth, settlements and economic activities, organisation of the society cultural and national heritage;
• three cognitive operations, such as recall, understanding and thinking.

Characteristics of the Life skills Achievement Test

Item Difficulty and Distribution of Distracter

Table 9.1 shows the item difficulty and distribution of distracters across the 30 items. Item difficulty is expressed as the proportion of pupils who scored an item correct. When few of the pupils scored an item correctly, we conclude that the item is difficult but when majority of them score an item correctly; such an item is considered simple or cheap.

Table 9.1 *Item Difficulty and Distribution of Distracter*

ITEM NO	OMIT	A	B	C	D
1	0.002	0.077	0.044	0.034	**0.843**
2	0.002	0.008	0.054	**0.627**	0.310
3	0.048	0.113	0.071	**0.579**	0.188
4	0.016	0.046	0.030	**0.772**	0.137
5	0.002	0.085	**0.734**	0.121	0.058
6	0.004	0.040	**0.817**	0.036	0.103
7	0.002	0.002	0.022	**0.970**	0.004
8	0.002	0.018	0.004	0.018	**0.958**
9	0.006	0.079	**0.571**	0.331	0.012
10	0.002	0.032	0.077	**0.837**	0.052
11	0.006	0.038	0.050	0.036	**0.871**
12	0.004	0.238	0.006	0.115	**0.637**
13	0.002	0.212	0.022	**0.690**	0.073
14	0.010	**0.472**	0.167	0.206	0.145
15	0.004	0.147	0.190	**0.516**	0.143
16	0.004	0.069	**0.550**	0.294	0.083
17	0.032	0.069	0.091	**0.762**	0.046
18	0.105	0.083	0.069	**0.577**	0.165
19	0.056	0.101	**0.663**	0.127	0.054
20	0.002	0.171	0.042	0.008	**0.778**
21	0.002	0.032	**0.885**	0.044	0.038
22	0.008	**0.938**	0.022	0.024	0.008
23	0.006	0.028	0.067	**0.883**	0.016
24	0.008	0.060	0.127	0.125	**0.681**
25	0.006	0.075	0.056	**0.766**	0.097
26	0.008	**0.631**	0.220	0.056	0.085
27	0.002	0.058	0.028	**0.853**	0.060
28	0.012	0.040	0.052	0.071	**0.825**

29	0.006	0.054	0.032	0.054	**0.855**
30	0.002	0.018	**0.839**	0.032	0.109

Omit as presented in Table 9.1 indicates the percentage of pupils who were not sure of themselves, so did not pick any option. About 53 pupils (10.5% of the 504 pupils) did not select any of the four options in item 18. The item is presented below:

18. The economic activity more developed in the cities is:
A. agriculture
B. industry
C. trade
D. fishing

Many of the pupils did not select any option because they have seen all the four economic activities in the cities, so they were not sure of which option to select. The item also is somehow misleading, because both trade and industry are more developed in the cities. Anybody who selected industry was marked wrong; only those who selected trade were credited.

The table also reveals the proportion of pupils who selected each of the different options. For each of the 30 items, the options A, B, C and D corresponding to figures that are in bold face indicate the correct option for that item. Again, the bold face figures represent the proportion of pupils who got the item corresponding to the item number correct. An item is difficult if less than 30 percent of the pupils get the item correct. An item is simple or cheap if more than 69 percent of the pupils get the item correct. Items in which between 30 and 70 percent of the pupils ($0.3 \leq p \geq 0.7$) get them right are good (moderate) items. The following table shows the number of the difficulty, moderate and cheap items.

Table 9.2 Distribution of difficult, moderate and cheap items

	Difficult	Moderate	Cheap
Number of items	Nil	12	18

Table 9.2 reveals that none of the 30 items is difficult. The explanation is that all the pupils indicated that they could not read and understand the questions, the field workers were asked to explain the question to them, there is a thin line between explaining the question to them and providing the answer for the pupils. There are 18 cheap test items and 12 moderate test items. Examples of the cheap items are items 8 and 22. About 96% (95.8%) and 93.8% respectively of pupils got items 8 and 22 correctly.

8. Sao Tome and Prince is a country formed by two islands. Its representation is made through:
A. plants
B. marquette
C. coffee
D. map

To get the item correctly, pupils are to recall that representations are always done in pictures, graphs, maps, etc. So, the only option that fits the description is the map (option D). Pupils did not find this activity complicated.

22. Which are the colours of the National Flag?
A. yellows, green, red and black
B. Green, white, red and black
C. Green, yellow, blue and black
D. Red, green, white and blue

To get the answer right, pupils are suppose to know different types of colours and make mental picture of the national flag, thereby list all the colours in the national flag, then match their colour picture of the national flag with each of the options. The one that match an option became their answer. Many of the pupils were able to do this task successfully.

Examples of test items with moderate difficulty levels are items 3 and 26. About 58% (57.9%) and 63.1% respectively of pupils got items 2 and 26 correctly.

3. Which of the following is NOT an indirect contact of an infectious disease that is transmitted from one person to another?
A. Contact through flies.
B. Contact through water.
C. Sexual contact.
D. Contact through the air.

To get the item correctly, pupils must know the modes of transmitting infectious diseases and the type of diseases that could be transmitted by each vector. The knowledge of direct and indirect contact is very crucial in identifying the correct answer.

26.	In 1991 there took place the first legislative and presidential free elections in Sao Tome &Principe in where ---------- won the election. A. Miguel Trovoada B. Pinto da Costa C. Alda de Espírito Santo D. Fradique de Menezes

For pupils to get this item correct, they must remember the history they were taught in school as none of them is likely to be born in 1991 (18 years ago).

Other figures apart from the ones in bold face are referred to as distracter. They looked like the correct answer to some pupils and so such pupils picked them as the correct response. An example of such items is items 14. The proportion of pupils who select each of the options is high. We can conclude that the options adequately distracted the pupils.

Table 4.3 Distracters

item No	14
Omit	0.010
A	**0.472**
B	0.167
C	0.206
D	0.145

21.	The mountainous relief and the exhibition to the predominant winds introduce climatic changes at which of the following level? A. National B. Regional C. Local D. Superior

The knowledge of climatic changes is required here before pupils could answer question effectively. It also pertinent to note that basically, climatic changes are not regional, local or superior dependent. Climatic changes vary from one nation to another.

Item Discrimination

The results of item analysis showed that two items (items 14 and 20) gave negative discrimination indices of -10.06% (-0.1006) and -9.60% (0.0960) respectively, while in each of the remaining 28 items, there was a positive discrimination between the weak and strong pupils their brighter colleagues. Therefore, item2 14 and 20 were not good items; because more testees from the lower group than form the upper group got the item right. In addition

seven items have discrimination indexes ranging from 0.0312 - item 7 (3.12%) to 0.1855 - item 18 (18.55%). Though they have positive discrimination indexes, still they are not good items based on Thorndike (1997) recommendation that good items should have discrimination indexes higher than 0.20 (20.0%). In all 21 items can be considered good because their discrimination indexes is higher than 0.2.

Internal Consistency and Construct Validity Index

Kuder Richardson formula 20 was used to establish the internal consistency and construct validity of the entire test. KR value of 0.746 was established, the implication is that the 30 test items are measures of Life skills to a large extent (74.6%). Therefore, it can be concluded that Life Skill test was both valid and reliable for the primary 4 pupils used in this study.

Pupils Performance in Literacy Test

Tables 5.4 and 5.5 are used in explaining pupils' performance in the life skills test.

Table 9.4 Pupils' level of performance in MAT

Sample Size	Mean Percent Score	Standard Deviation	Minimum Score	Maximum Score	Modal Score Range
504	73.7235	14.16718	16.67	96.67	81 - 90

Table 9.4 shows that national mean score of 73.72% (S.D. = 14.17) is observed. The weakest pupil scored 16.67% and brightest pupil scored 96.67% and the modal class (score obtained by the majority of the pupils) is between 81 and 90.

Table 9.5 Distribution of Pupils' Performance using score range

Score range	Frequency	Percent
00-10	-	-
11-20	2	.4
21-30	3	.6
31-40	7	1.4
41-50	26	5.2
51-60	60	11.9
61-70	103	20.4
71-80	123	24.4
81-90	168	33.3
91-100	12	2.4

Total	504	100.0

Table 9.5 presents the score range of the pupils in life skills test. None of the pupils scored in the low ranges (i.e. the first range - 00 to 10). Few of them scored in the range 11 - 40 while majority scored in high ranges, especially in the 81 - 90 range. This also confirms that the pupils scored very high in the life skills test. This is further illustrated in Fig. 9.1.

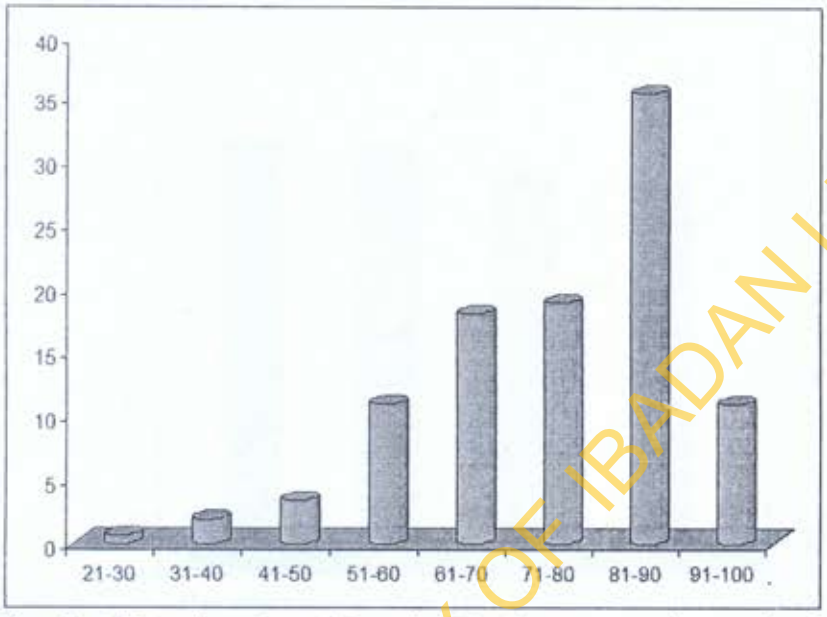

Fig. 9.1 Distribution of Pupils' Performance along the Score Range

Table 9.6 Performance in Each Subset

Sub-Items	Mean	No of Items	%	S.D.
Living things and the Environment	1.470	2	73.5	0.617
Human being and Health	2.903	4	72.6	0.954
The Planet Earth	6.808	10	68.1	1.856
Settlements and Economic Activities	2.002	3	66.7	0.902
Organisation of the society	5.562	7	79.5	1.314
Cultural and National Heritage	3.373	4	84.3	0.985
Knowledge	13.405	18	74.5	0.124
Comprehension	5.296	8	66.2	0.065
Thinking	3.417	4	85.4	0.037
TOTAL	22.117	30	73.7	4.250

The table shows that pupils' level of performance was lowest in the settlements and economic activities (Mean = 2.00; SD = 0.90 out of 3 items) with relative performance of 68.1% and highest in cultural and national heritage (Mean = 3.37; SD = 0.037 out of 4 items) with relative performance of 84.3%. As shown in the table, the order of level of performance was settlements and economic activities; the planet earth; human being and health; living things and the environment; organisation of the society and cultural and national heritage. The pupils' performance in these sub-tests is presented in Fig. 9.2.

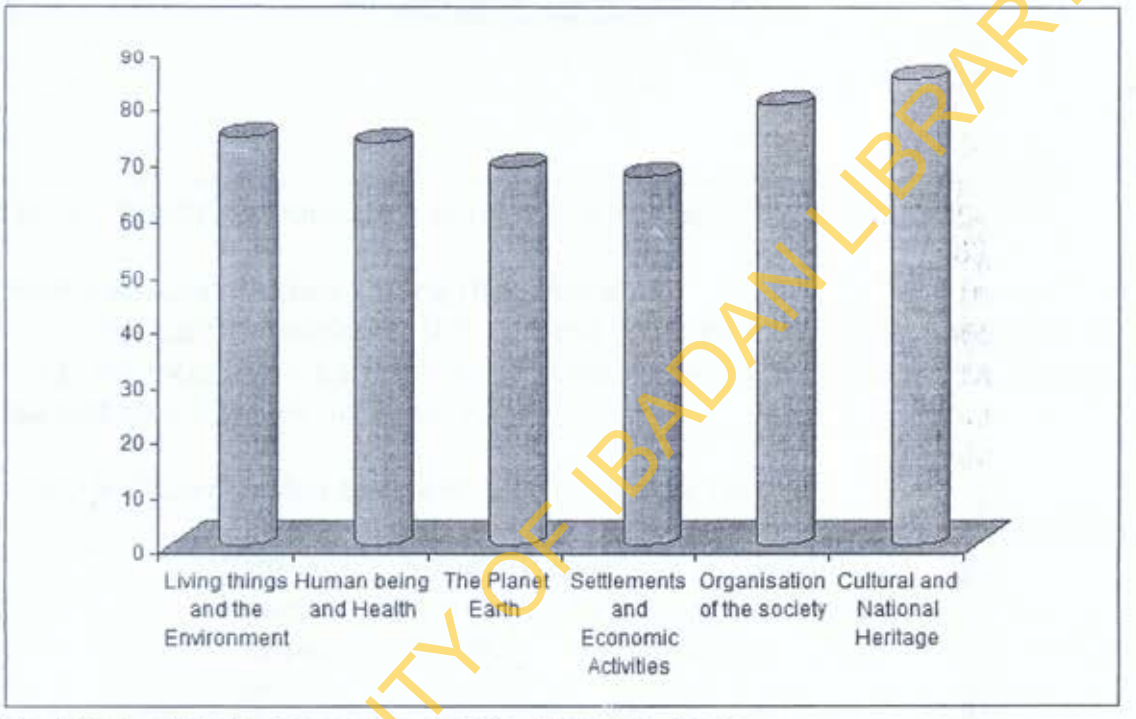

Fig. 9.2 Pupils' Performance in Life skills Sub-Test

It is also observed from the table that pupils' level of performance was highest in items that required thinking, with relative performance of 85.4% (Mean = 3.42; S.D = 0.04 out of 4 items) and lowest in items that required comprehension with relative performance of 66.2% (Mean = 5.30; S.D. = 0.04 out of 8 items). The order of performance in the three cognitive operations was comprehension, knowledge and thinking. This is inconsistent with other findings (NAEP, 2007). Usually, knowledge, understanding and thinking is the order in which students performed.

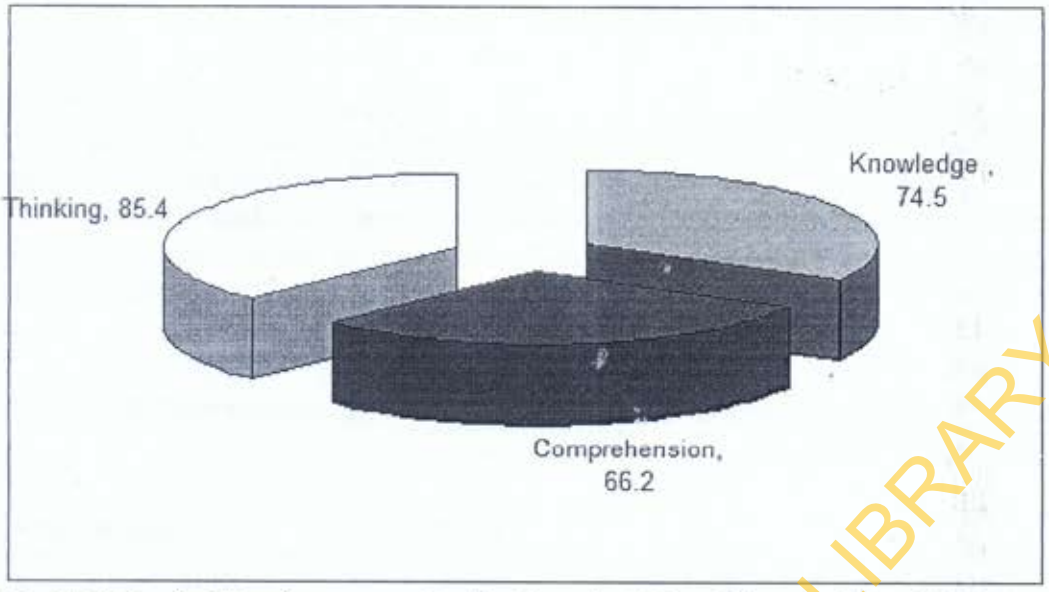

Fig. 9.3 Pupils' Performance in the Level of Cognition in Life skills Test

Inter item-correlation among the subscales

To confirm each of the content subscales as actual measures of life skills, an inter item-correlation of subscales with each test form was carried out and this is shown on Table 9.7

Table 9.7 Correlation Between Life skills Sub-Test

	Living things and the Environment	Human being and Health	The Planet Earth	Settlements and Economic Activities	Organisation of the society	Cultural and National Heritage
Living things and the Environment	1.000					
Human being and Health	0.047	1.000				
The Planet Earth	0.241	0.335	1.000			
Settlements and Economic Activities	0.091	0.044	0.172	1.000		
Organisation of the society	0.105	0.296	0.385	0.229	1.000	

Cultural and National Heritage	0.192	0.301	0.415	0.205	0.486	1.000

From Table 9.7, the observed coefficients confirmed that all the subsets were valid measures of life skills competencies. Items used in most of the topics in Life skills are distinct measure of each sub-test, however items under cultural and national heritage and organisation of the society are related and this why their coefficient is high.

Table 9.8 Correlation Between Life skills items under cognitive operations

	Knowledge	Comprehension	Thinking
Knowledge	1.000		
Comprehension	0.499	1.000	
Thinking	0.564	0.342	1.000

One of the problems item developers always have is to categorize items into knowledge, comprehension and thinking. The correlation coefficient presented in Table 9.7 confirmed this assertion as there are some items in knowledge that should normally be in comprehension or thinking.

Pupils' Performance in Literacy Test at Different Group Level

Table 9.9 Performance at District Level

DISTRICT	N	Mean	Std. Deviation	Minimum	Maximum
Água Grande	114	69.5029	17.07887	16.67	90.00
Mé-Zochi	118	69.0113	12.70835	36.67	96.67
Lobata	66	80.3030	11.27325	16.67	96.67
Lembá	66	88.5859	4.13700	60.00	93.33
Cantagalo	48	71.1111	9.65929	40.00	90.00
Caué	19	57.0175	9.15536	40.00	73.33
Pagué	73	74.6119	9.17306	56.67	90.00
Total	504	73.7235	14.16718	16.67	96.67

Pupils in Lembá top the Performance Chart

The table reveals that pupils in Lemba in Neves were the highest performers in Life skills with an average score of 88.59%; S.D. = 4.14, the weakest pupil score 60% and the strongest pupil score 93.33%. They are followed by the pupils in

Lobata in Caldeiras. The least performers are the pupils from Caué in Ribeira Peixe with an average score of 57.02%; S.D. = 9.16, the weakest pupil score 40% and the strongest pupil score 73.33%.

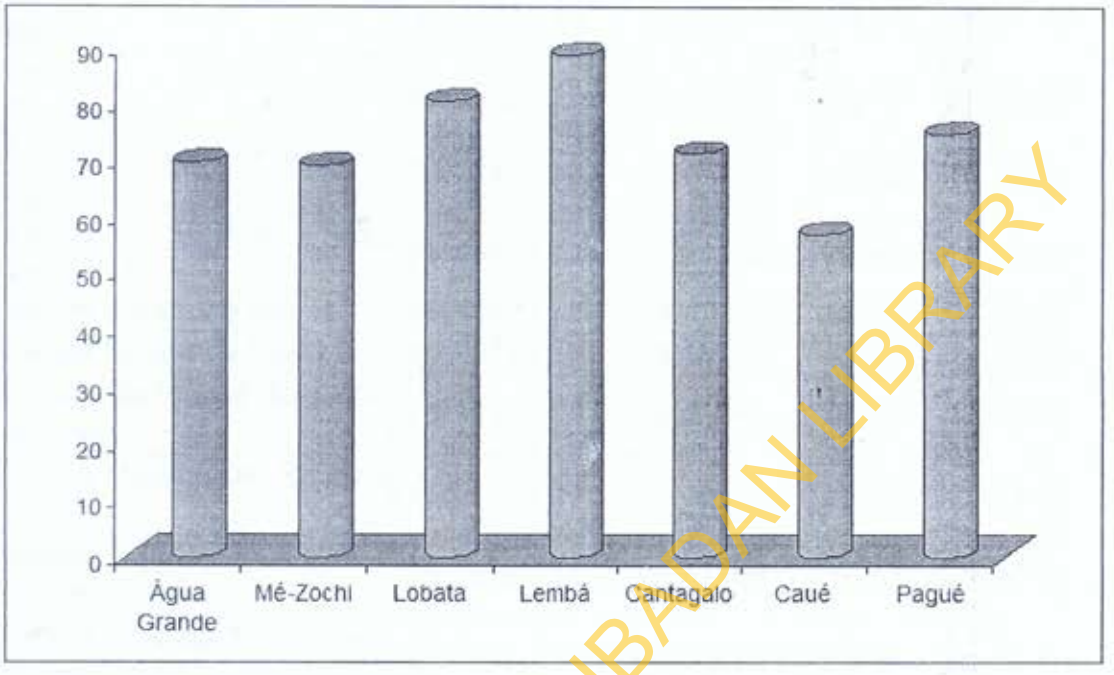

Fig. 9.4 Pupils' Performance in the Districts

Table 9.10 Pupils' Performance at School Level

SCHOOL	Mean	N	Std. Deviation	Minimum	Maximum
Escola Básica Dona Maria de Jesus	73.8636	44	10.82974	23.33	86.67
Escola Básica Integrada de Vila Fernanda	47.7273	22	12.69864	16.67	63.33
Escola Básica de Oque del Rei	88.0247	27	2.31296	83.33	90.00
Escola Básica da Praia Gâmboa	59.3651	21	9.22672	43.33	76.67
Escola Básica de Folha Fede	77.7333	25	10.26140	60.00	96.67
Escola Básica de S.Fenicia	59.6429	28	10.59308	36.67	83.33
Escola Básica Manuel Q. Bragança	69.8611	24	7.18823	60.00	83.33

Escola Básica de Monte Café	73.3333	24	14.93949	40.00	93.33
Escola Básica Januário Graça	64.3137	17	10.65655	43.33	83.33
Escola Básica José Leal Bouças	83.3333	19	3.68514	73.33	86.67
Escola Básica de Gudalupe	88.5965	19	6.50885	73.33	96.67
Escola Básica de Praia das Conchas	73.3333	16	5.01848	60.00	80.00
Escola Básica de Caldeiras	71.6667	12	18.39521	16.67	90.00
Escola Básica de Neves	88.5859	66	4.13700	60.00	93.33
Escola Básica de Praia Rei	68.1373	34	8.69193	40.00	80.00
Escola Básica de Anselmo Andrade	78.3333	14	8.13875	63.33	90.00
Escola Básica de Ribeira Peixe	57.0175	19	9.15536	40.00	73.33
Escola Básica Paula Lavres	75.7576	33	8.63105	56.67	90.00
Escola Básica Nova Estrela	83.1250	16	5.08720	66.67	86.67
Escola Básica de Praia Inhame	67.3611	24	5.97735	56.67	80.00
Total	73.7235	504	14.16718	16.67	96.67

Pupils in Escola Básica de Neves Outperformed Pupils in other Schools

Table 9.10 shows that out of the 20 schools that participated in the study, pupils from the Escola Básica de Oque del Rei, Escola Básica de Gudalupe and Escola Básica de Neves were the best with the mean values of 88.02% (S.D. = 2.31), 88.60% (S.D.= 6.51) and 88.59% (4.14). The difference between the performance pupils in the two schools is minimal; one will prefer the scores of pupils in Rei because of the low standard deviation. Judging from the number of pupils involved in the two schools, their minimum scores (83.33%, 73.33% and 60% respectively) and the maximum score (90.00%, 96.367% and 93.33 respectively), it can be observed that the pupils' score are very close and this may suggest that the explanation given to the pupils by the data collectors was likely to be more than just explanation, there is an indication that it is possible that these pupils were somehow helped. Another reason is that the children in Neves speak Angolaris and they do not have mix their language with Portuguese (if they initiate a sentence in Angola, they complete in Angola and if they start

a sentence in Portuguese, they complete it in Portuguese) unlike the children who leave in some parts of the Islands where they mix dialects and Portuguese together which of course has serious implication to learning outcomes. The performance of pupils in Escola Básica Integrada de Vila Fernanda tends to be the one that could be expected because of the large standard deviation and the large differences between the minimum (16.67) and the maximum (63.33) scores. The pattern of the schools' performances is presented in Fig.5.5

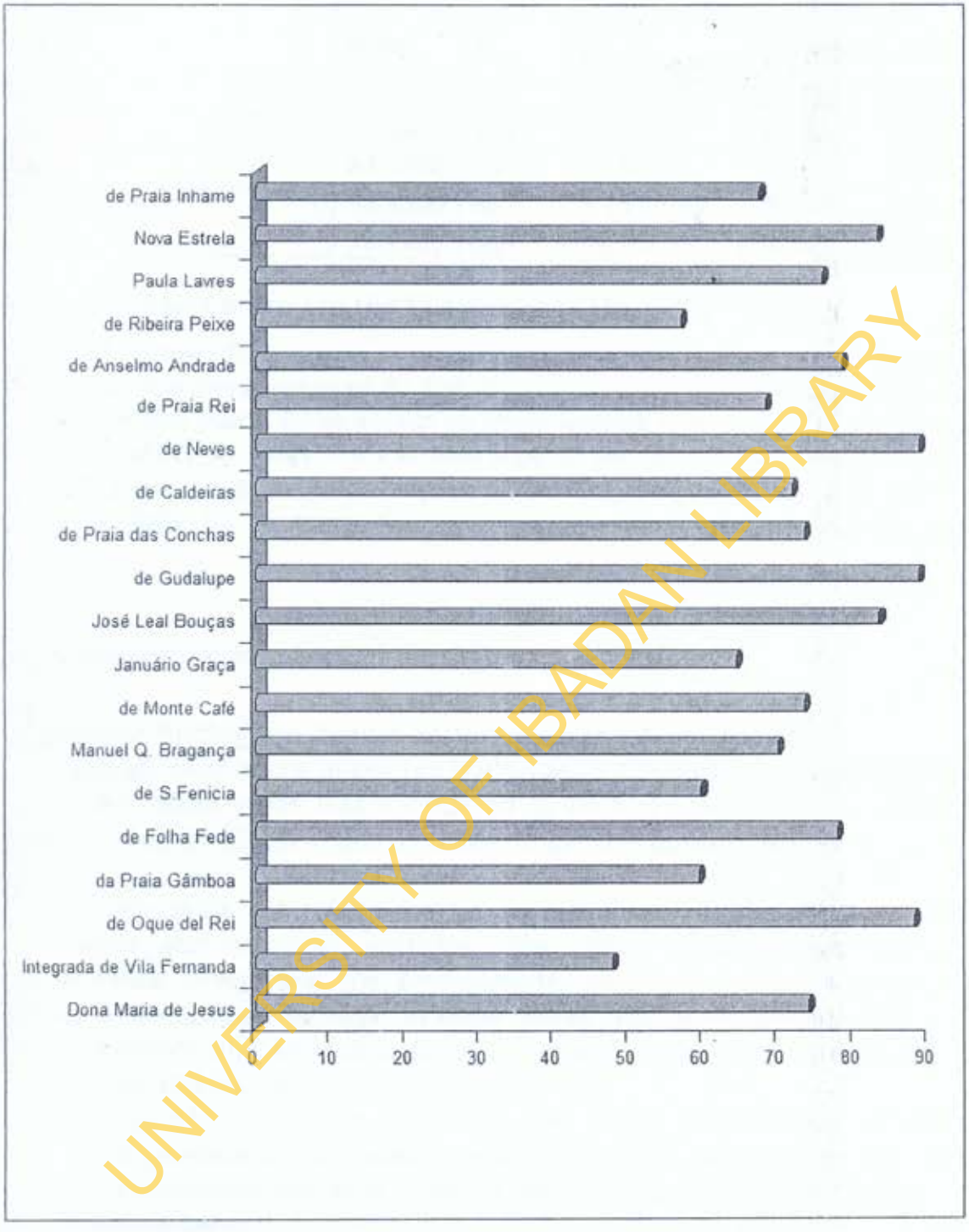

Fig. 9.5 Pupils' Performance in the Schools

Table 9.11 Performance of Pupils in Different Zones

Zone	Mean	N	Std. Deviation	Minimum	Maximum
Urban	81.9753	162	10.33300	23.33	96.67
sub-urban	73.5402	145	11.14038	40.00	90.00
Rural	69.3206	157	15.80571	16.67	96.67
Piscato'zia	58.2500	40	9.15170	40.00	76.67
Total	73.7235	504	14.16718	16.67	96.67

Pupils in Urban Centre are the Champions in Life skills

Table 9.11 shows that pupils in urban centres outperformed pupils from other settings with a mean value of 81.98% (S.D. = 10.33). This is result is likely to be so because the pupils have access to some leaning materials that not likely to be in the other settings. This is also true of the pupils in sub-urban setting. They may not have as much access to the learning facilities, but definitely theirs is likely to be more that those in the rural and piscato'zia (fishing locality).

Fig. 9.6 Pupils' Performance in the Zones

Summary of findings on Pupils' Performance in Life skills Test

- The overall mean score in the life skills was 73.72% with standard deviation of 14.17. This mean value was considered to be high, because it is above the average value of 50.0% which is taken to be the bench mark in any primary school.
- In the life skills subscales, the pupils performed in the following order, settlements and economic activities; the planet earth; human being and health; living things and the environment; organisation of the society and cultural and national heritage. In other words, the pupils performed worst in the settlements and economic activities aspect of the test and best in the cultural and national heritage aspect of the test.
- In the cognitive operation subscales, the pupils performance was in the order: comprehension, knowledge and thinking. In other words the pupils' level of performance was best in items that require thinking and worst in the understanding items.
- In the district level of analysis, pupils in Lembá performed better in Life skills test than all the pupils in other districts.
- In the school analysis, pupils from the Escola Básica de Oque del Rei, Escola Básica de Gudalupe and Escola Básica de Neves were the best
- In the zonal analysis, pupils in urban centre are the champions in life skills test.

Implications

The analyses of the life skills test as presented in the preceding sections are quite revealing. The findings tend to be at variance with the general belief that pupils' level of performance in life skills at primary 4 in Sao Tome and Principe is generally low. We have explained the plausible reasons for this.

Although, we concluded that pupils' performance is very high, learning at any level should be for mastery (where at least 95% of the pupils pass), the remaining 38.28% of the students should be carried along to obtain 100% performance in life skills test.

In the next MLA study, teachers or data collectors should not be allowed to read or explain any item to pupils either as an individual or in group. This will give us an objective assessment of the pupils' ability in the life skills test.

It's good to remember that it is usual habit to read or explain to pupils either as an individual or in group during in life skills test.

CHAPTER TEN

Summary of Findings, Conclusion, Implications and Recommendations

Although, there has been an assessment of some sort, the Monitoring Learning Achievement (MLA), 2009 is a pioneer assessment of learning achievement of in Primary 4 in such an elaborate form in Sao Tome and Principe. Learning assessment, as measured in this study, constitutes the amount of knowledge and skills in the core subject areas of Literacy, Numeracy and Life Skills which the pupils are able to demonstrate in response to standardised achievement tests drawn from relevant curriculum of the three subjects. Similar to the MLA study of 1997, 2003 in Nigeria, the MLA, 2009 in Sao Tome and Principe contributes to the existing baseline data for assessing the implementation of the Goal 6 of the Dakar 2000 Framework for Action of the 'Education for All' which aims at improving all aspects of the quality of education, and ensuring excellence so that learning outcomes are achieved, especially in literacy, numeracy and essential life skills. This chapter summarises the key findings of the study in response to the main objectives which were to:

Measure primary 4 pupils' level of attainment in such core subjects as Literacy, Numeracy and Life Skills.

Determine what school, teacher, student, and home variables that promote or impede primary 4 pupils' performance in Literacy, Numeracy and Life Skills, and the extent to which they did so.

Summary of Parents Characteristics

The summary of findings on characteristics of the sampled parents of Primary 4 pupils includes the following:

- The parents' age ranged from 16 years to 78 years with a mean age of 37.7 years.
- The monthly wages of these parents ranged from 171,000 dobras (about 1.1 USD) and 10,000,000 bodras (about 62.89 USD) and the mean salary was 897,695 dobras (5.65 USD).
- The number of hours parents helped children in numeracy, literacy and life skills range from 0 to 6 hours a day. The mean value of about 2 hours tutorial for the children is just adequate considering the children's attention span.
- More female parents than male parents
- There are more single parents
- Most parents can read
- Children have roles to pay in the family
- Every family has at least a means of communication
- Every family has at least a toilet
- Many families use kerosene lamp
- Most families spoke caboverdiana language at home
- Majority of parents play cards
- Majority of the families provide breakfast
- Most parents have motorcycle
- Most families depend on gifts
- Most parents leave in their own houses and most the houses are small
- Majority of the parents are interested in the academic development of their children
- Children still have difficulties in learning
- Poor learning condition tops the reasons for children's learning difficulties

Summary of Pupil Characteristics

The summary of findings on characteristics of the sampled Primary 4 pupils includes the following:

- More pupils were sampled from mé-zochi
- There are more children in escola básica de neves
- Many of the primary 4 pupils are 11 years old
- There are more boys than girls in primary 4
- Many children eat breakfast than other meals
- Many children repeated grades 2 and 3
- Not many people live in the pupils' family
- Many children live with both parents
- Portuguese, língua de angola (dialect) and língua de moçambique (dialect) are languages not many children speak
- Fathers are more qualified academically than mothers
- Salary, sales of farm products and trade are principal source of income in the

family
- Children play during long break in school
- Many of the pupils' houses are wooden
- Television and radio are common in the pupils' homes
- Parents pay less for transport
- Children schools are not far from their homes
- Teachers give homework more in literacy
- Teachers asked more questions in numeracy
- Pupils do not have access to the library
- Family members monitor homework in literacy more than the rest subjects
- Mothers help children with homework at home than anybody else
- More pupils have textbooks in numeracy than in other subject areas

Summary of Teacher Characteristics

The summary of findings on characteristics of the sampled Primary 4 teachers includes the following:

None of the children in the classroom possessed a protractor, only one child had a compass and only six children had square.

There are more girls (14.62) in school than boys (14.15).

More teachers in água grande were sampled

There more male teachers than female teachers

Most teachers are in their mid-age group

Most teachers are singles

More teachers are from pagué but few of them work there

Majority of the teachers completed the first cycle of secondary education (9th grade)

Most teachers received professional training in primary education

Fewer teachers received training to function in primary 4

All the teachers are professional experience

Most teachers worked between 2 and 4 hours a day

The school is within a trek-able distance from the teachers house

Chalk is the commonest facility in the classroom

The directors and methodologists visit schools more than the inspectors

Inspectors are better at giving feedback than the directors and methodologists

Teachers received thematic discussion in a form of a professional support from colleagues more than other professional supports

Teachers make use of library than other resource centres

Teachers devoted more time to correcting examination scripts and homework

Teachers believed they use the knowledge of individual differences of the student in teaching

Many teachers are not satisfied with their job

Improvement of living conditions tops the priority list of teachers who want to quit teaching

Summary of Head-Teacher Characteristics

The summary of findings on characteristics of the sampled Primary 4 teachers includes the following:

- One head-teacher oversees two schools in some instances.
- For every female head-teacher, there are approximately two male head-teachers.
- There are more Single Head-Teachers
- Head-teacher has all the means of communication
- Head-teachers also use bush
- Kerosene lamp is popular among the head-teachers
- Most head-teachers had 12 grade (pre-university) professional qualification
- Most head-teachers received training before posting
- Pupils are sent home when a class teacher is absent
- Some children abandoned school because of conflicts between parents
- Most head-teachers prefer to meet with the teachers and parents
- Most schools have received the inspectors
- Most methodologists visit schools on account of literacy, numeracy and life skills twice in an academic year
- Most methodologists' visit to schools are uninteresting
- Some facilities in the school are skewed
- Most classrooms accommodate 30 to 40 pupils
- Most desks are designed for two pupils
- Most classrooms are clean, illuminated and has good ventilation
- Many equipments are absent in schools
- Many children can get to school without difficulty and there are dispensary / clinics close to the schools

Summary of Findings on Pupils' Performance in Literacy Test

The main finding of the study in respect of Literacy achievement is that:

- The overall mean score in the literacy was 65.52% with standard deviation of 21.61. This mean value was considered to be high, because it is above the average value of 50.0% which is taken to be the bench mark in any primary school.
- In the literacy subscales, the pupils performed in the following order, comprehension and oral and written expression < functions of language - analysis and thinking < oral and written communication. Pupils performed worst in the comprehension and oral and written expression aspect of the test and best in the aspect oral and written communication.

• In the cognitive operation subscales, the pupils' performance was in the order: comprehension > knowledge > thinking. In other words the pupils' level of performance was worst in items that require thinking and best in the comprehension items.
• In the district level of analysis, pupils in Lembá performed better in Literacy test than all the pupils in other districts.
• In the school analysis, pupils in Escola Básica de Neves outperformed pupils in other schools.
• In zonal analysis, pupils in urban centre are the champions in literacy test.

Summary of findings on pupils performance in Numeracy Test

• The overall mean score in the numeracy was 74.95% with standard deviation of 14.25. The value it was considered to be high, because it is above the average value of 50.0% which is taken to be the bench mark in any primary school.
• In the numeracy subscales, the pupils performed in the following order, number and numeration > geometry > mensuration. In other words, the pupils performed worst in the mensuration aspect of the test and best in the number and numeration aspect .
• In the cognitive operation subscales, the pupils performance was in the order: knowledge > comprehension > thinking. In other words the pupils' level of performance was worst in items that require thinking and best in the knowledge (recall) items.
• In the district level of analysis, pupils in Lembá performed better in Numeracy test than all the pupils in other districts.
• In the school analysis, pupils in Escola Básica de Neves outperformed pupils in other schools.
• In zonal analysis, pupils in urban centre are the champions in numeracy test.

Summary of findings on Pupils' Performance in Life skills Test

• The overall mean score in the life skills was 73.72% with standard deviation of 14.17. This mean value was considered to be high, because it is above the average value of 50.0% which is taken to be the bench mark in any primary school.
• In the life skills subscales, the pupils performed in the following order, settlements and economic activities; the planet earth; human being and health; living things and the environment; organisation of the society and cultural and national heritage. In other words, the pupils performed worst in the settlements and economic activities aspect of the test and best in the cultural and national heritage aspect of the test.
• In the cognitive operation subscales, the pupils performance was in the order: comprehension, knowledge and thinking. In other words the pupils'

level of performance was best in items that require thinking and worst in the understanding items.

- In the district level of analysis, pupils in Lembá performed better in Life skills test than all the pupils in other districts.
- In the school analysis, pupils from the Escola Básica de Oque del Rei, Escola Básica de Gudalupe and Escola Básica de Neves were the best
- In the zonal analysis, pupils in urban centre are the champions in life skills test.

Summary of Findings on Parent, pupil, teacher, head-teacher and school variables as correlates of achievement in literacy

- Out of 88 independent variables (pupils, teachers, head-teacher and parent) and one dependent variable (pupils' achievement in Life skills), 23 are significant to the prediction.
- The 88 independent variables jointly account for 69.3% of the total variance in primary 4 pupils' achievement in Literacy.
- Out of the 88 independent variables, 35 are related to pupil; 20 are teacher-related; 11 are for head-teacher; and the remaining 22 are parent related.
- Out of the 23 variables that significantly contributed to pupils' achievement in Literacy, 5 are for pupils; 2 for parents; 1 for head-teacher; and 15 for teachers.
- The significant pupil-related variables are: pupil's age; language frequently spoken at home - cape verdian dialect; father or guardian qualification; frequency of homework in literacy; and receiving explanations in literacy.
- The significant teacher related variables are: teacher marital status; teacher current educational level; teacher professional experience; teacher workload; thematic discussion support from colleague; class observations support from colleague; demonstrative classes support from colleague; frequency of use of documentation centres; number of week hours tutorial for weak pupils; number of week hours for documentation of professional and other activities; number of week hours for administrative activities; number of week hours for meetings with parents; effectiveness of planning lesson; motivating pupils to participate in class; and tolerating indiscipline in class.
- The significant parent related variables are: parent's involvement in getting information on the child; and parent checking children's books after school.
- The head-teacher-related variable is visiting the classrooms.
- Out of the 23 variables reported to have contributed significantly to pupils' achievement in Literacy, record keeping (number of week hours for documentation of professional and other activities) is the most potent (β = -0.811); followed by teacher effectiveness in planning lesson (β = -0.519);

followed by teacher's frequency of use of documentation centres (β = 0.369).
• The least among the significant predictor variables is the number of week hours tutorial for weak pupils (β = - 0.095).

Summary of Findings on Parent, pupil, teacher, head-teacher and school variables as correlates of achievement in Numeracy

• Out of 87 independent variables (pupils, teachers, head-teacher and parent) and one dependent variable (pupils' achievement in Numeracy), 16 are significant to the prediction.
• The 87 independent variables jointly account for 52.0% of the total variance in primary 4 pupils' achievement in Numeracy.
• Out of the 87 independent variables, 34 are related to pupil; 20 are teacher-related; 11 are for head-teacher; and the remaining 20 are parent related.
• Out of the 16 variables that significantly contributed to pupils' achievement in Numeracy, 3 are for pupils; none for parents; 2 for head-teachers and 11 for teachers.
• The significant pupil-related variables are: types of meals frequently have (breakfast); language frequently speak at home - Língua de Angola (dialect); and distance between your school and pupils' home.
• The significant teacher related variables are: professional training in primary education; professional experience, inspector's visit; class observations support received from colleague; number of week hours for tutorial for weak pupils; number of week hours for correcting exams or homework; number of hours for documentation of professional and other activities; number of week hours for meetings with parents; effectiveness of planning of lesson; motivating pupils to participate in class and tolerating indiscipline in class.
• The significant head-teacher-related variables are: head-teachers' sex and the availability of functional computer and printer
• Out of the 16 variables reported to have contributed significantly to pupils' achievement in Numeracy, class observations support received from colleague; (β = 0. 535); followed number of hours for documentation of professional and other activities (β = - 0.535); followed by tolerating indiscipline in class (β = 0.410).
• The least among the significant predictor variables is the availability of functional computer and printer (β = 0.106).

Summary of Findings on Parent, pupil, teacher, head-teacher and school variables as correlates of achievement in Life Skills

• Out of 88 independent variables (pupils, teachers, head-teacher and parent)

and one dependent variable (pupils' achievement in Life skills), 18 are significant to the prediction.

- The 88 independent variables jointly account for 48.8% of the total variance in primary 4 pupils' achievement in Life skills.
- Out of the 88 independent variables, 35 are related to pupil; 20 are teacher-related; 11 are for head-teacher; and the remaining 22 are parent related.
- Out of the 18 variables that significantly contributed to pupils' achievement in Life skills, 5 are for pupils; 2 for parents; none for head-teachers and 11 for teachers.
- The significant pupil-related variables are: age; language frequently speak at home - portuguese; language frequently speak at home - forro; language frequently speak at home - linguié(dialect); and father or guardian qualification.
- The significant teacher related variables are: professional training in primary education; professional experience; workload; thematic discussion as a professional support; class observations as a professional support; demonstrative classes as a professional support received from your colleague - number of time documentation centres is used; number of week hours for documentation of professional and other activities; number of week hours for administrative activities; number of week hours for meetings with parents; and effectiveness planning of lesson.
- The significant parent-related variables are: parental involvement in studying; and number of hours spent in solving a child's problems.
- Out of the 18 variables reported to have contributed significantly to pupils' achievement in Life skills, effectiveness in planning lesson is the most potent (β = - 0.719); followed by class observations as a professional support (β = 0.621); followed by number of week hours for documentation of professional and other activities (β = 0.492).
- The least among the significant predictor variables is the parental involvement in helping children to study (β = -0.078).

Conclusion, Implications and Recommendations

- Since most parents indicated that they read romantic books, they are not morally justified to rebuke their children if the children also are reading such books instead of reading their school books. Therefore, for the sake of the children, parents should not read such books again.
- since children still have difficulties in learning, parents are encouraged to do more in helping children overcome the difficulties they (children) have in their learning.
- Fathers are more qualified academically than mothers, but the mothers always help the children in their homework. It is recommended that women

should date themselves through adult literacy centres.

- Teachers give homework more in literacy more than in other subject areas, teachers should endeavour to give more home work in numeracy since most students in higher schools run away from mathematics which is built on numeracy.
- Pupils do not have access to the library; library as a resource centre is important in developing pupils' reading culture, efforts should be made to have library in the schools. Where it is not possible to situate a library in each school, community library could be of assistance.
- More pupils have textbooks in numeracy than in other subject areas, parents should be encouraged to buy textbooks in all the subjects.
- There are less female folks in teaching profession than male folks. More females should be encouraged to update themselves and take up teaching appointment.
- Majority of the teachers are in their mid-age, and in the next ten years they will exit teaching service, it is therefore recommended that young and fresh blood should be injected into the teaching profession for continuity.
- Few teachers completed 1st. Year Pre- university course and the 4th year of university course, yet they are not young, it is therefore recommended that teaches should develop themselves and acquire more qualifications
- Inspectors never visited some schools in a whole year; inspectors are encouraged to visit each school at least once a term and if they can do more the better.
- The directors and the methodologists should therefore not be enthusiastic about visiting schools if they will not discuss with teachers about their findings and write reports to support their discussion. The methodologists and the directors may need training in developing format for inspection and writing reports after visitation.
- Large proportion of teachers were not satisfied with their jobs and are willing to change anytime there is opportunity but they will stay if there is an improvement in their living and working conditions. Government should address this issue before teacher drift from classrooms to banks and oil industries.
- The analyses of the literacy, numeracy and life skills tests are quite revealing. The findings tend to be at variance with the general belief that pupils' level of performance in literacy, numeracy and life skills tests at primary 4 in Sao Tome and Principe is generally low. We have explained the plausible reasons for this.
- In the next MLA study, teachers or data collectors should not be allowed to explain any item to pupils either as an individual or in group. This will give us an objective assessment of the pupils' ability in literacy test.

• The young immature pupils performed better than young and matured pupils. It is recommended that the bench mark age of 6 for children enrolling primary schools should be respected. Head-teacher is encouraged to enforce the legislation. Teaching also should reveal mastery, such that there would not be much difference between the ages of children in a class.

• As fathers' educational attainment is higher, their children's results tend to be poor. Educated parents are encouraged to find time to go through their children's work.

• The more teachers gives and assessed home work, the more pupils performed in Literacy test. Teachers are encouraged to give more homework, and the home work should be assessed by the teachers.

• The more teachers tend to be married, the pupils' performance tend to be better. It is therefore recommended that more married teachers should be employed.

• The higher the professional support a teacher receives, the higher the pupils' achievement in Literacy. Teachers should take note of challenges and best practices in their classes and share with their colleagues.

• The result reveals that the more teachers use the documentation centres, higher the pupils' performance in Literacy. Teachers are encouraged to visit documentation centres more.

• The more teachers share their teaching time with the head teacher to do some administrative work, the lower the pupils' achievement in Literacy. Teachers should be allow to face teaching most of the time and less of administrative activities.

• The more parents are involved in getting information on the child, the higher the pupils' achievement. Parents should not wait until teachers initiate meetings with them, they too should initiate meetings with the teachers.

• The more parents check their children's books after school, the more the children perform in schools. Parents should endeavour to check their children's work after school.

• The more head-teachers visit classrooms, the more pupils perform well in Literacy. Head-teacher should find time to do unscheduled visits to the classrooms.

- The more the length of training teachers has the more the pupils' performance in Numeracy. This implies that teacher should date their training by acquiring more qualification.
- The more a teacher accumulates number of years in teaching the less pupils achieve in Numeracy. It is recommended that teachers should be allowed to face new challenges. They should also be promoted based on their pupils' performances.
- The more inspectors visit teachers in the classroom, the more teachers is

devoted to his work and this has a resultant effect on the pupils' achievement. Therefore, for teacher to benefit from the inspectors' visits, the inspectors should be versatile in the act of communicating the outcome of their visits to the teachers without delay.

- As the number of hours of remedial teaching increases, a corresponding increase in achievement in Numeracy achievement was recorded. Teachers are encouraged to identify weak pupils and arrange remedial teaching for them.
- The more feedbacks given to pupils after examinations or homework, the more pupils perform in Numeracy. Teachers should provide more feedbacks on pupils' examinations and homework.
- The higher the number of week hour devoted to documenting professional and other activities, the higher the pupils' achievement in Numeracy. Teachers are encouraged to be meticulous in documenting professional activities.
- The more teacher has meetings with the parents about the pupils' academic work, the more parents get involve in their children study and consequently, the higher the pupils' performance. Teachers should hold regular meetings with the parents of the children in their classes.
- The more we have male head-teachers the lower the performance of pupils in Numeracy. More females should be encouraged develop themselves academically and they should be encouraged to take leadership positions in primary schools.
- The more there are functional computers and printers, the higher the pupils' achievement in Numeracy. More computers and printers should be provided in schools.

• The higher the teacher becomes effective in his/her lesson preparation, the lower the pupils' achievement in Life skills, or the lower the lesson preparation the higher the pupils' achievement in Life skills. This variable is a strong determinant of pupils' achievement; hence, teachers should be encouraged to prepare their lessons in such a way that it will boost their pupils' achievement.

• The higher the professional support a teacher receives, the higher the pupils' achievement in Life skills. Teachers are encouraged to meet within the school, within the district and nationally to share ideas on new innovation of teaching.

• The higher the number of week hour devoted to record keeping, the higher the pupils' achievement in Life skills. Head-teacher should see to it that teachers complete their record promptly and correctly.

• The higher the teacher spent more time on his job, the less effective he becomes and therefore the lower the pupils' achievement in Life skills. Teachers should be made to be creative and develop new and innovative ways of teaching and other activities the classroom. Head-teacher should visit the

school regularly to see if the teachers are up to the task.

- The mature pupils performed better than younger pupils. The official age of 6 years before a child starts primary school should be respected and the head-teacher should enforce the law when children are brought to register or when children are transferred from one school to the other.

Pupils who speak other languages (language of the immediate environment) at home apart from Portuguese performed less in Life skills than pupils who shift from speaking the language of the immediate environment to Portuguese. Parents are encouraged to speak the official language of instruction at home to their children. Class teachers and head-teachers should also enforce speaking the official language at school.

Father or guardian's highest qualifications were found to predict pupils' achievement in Life skills. Illiterate parents should take advantage of adult literacy class by enrolling in the one closest to them and they should participate fully in the class activities.

The children whose parents helped them to study performed better in Life skills than the children whose parent did not help them to study. Parents are encouraged to assist their children in their study. They should as the children what they did in school, any assignment, project, tests, quiz, etc. This is likely to help the children to learn better.