THE ACHIEVEMENT OF PRIMARY SCHOOL PUPILS AND TEACHERS IN UGANDA IN NUMERACY AND LITERACY IN ENGLISH

NATIONAL ASSESSMENT OF PROGRESS IN EDUCATION (NAPE)

2015 REPORT

Uganda National Examinations Board

ACHIEVEMENT OF PRIMARY SCHOOL PUPILS IN UGANDA IN NUMERACY AND LITERACY IN ENGLISH

NATIONAL ASSESSMENT OF PROGRESS IN EDUCATION

UGANDA NATIONAL EXAMINATIONS BOARD

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ACRONYMS AND ABBREVIATIONS

CCT	Coordinating Centre Tutor
DC	District Coordinator
DEO	District Education Officer
DES	Directorate of Education Standards
DIS	District Inspector of Schools
DTE	Diploma in Teacher Education
EFA	Education For All
EGRA	Early Grade Read Assessment
EMIS	Education Management Information System
EPPA	Education Planning and Policy Analysis
EPRC	Education Policy Review Commission
ESC	Education Service Commission
GPE	Global Partners in Education
HOTS	Higher Order Thinking Skills
LCM	Lowest Common Multiple
LG	Local Government
LOTS	Low Order Thinking Skills
MDGs	Millennium Development Goals
MoESTS	Ministry of Education, Science, Technology and Sports
MoLG	Ministry of Local Government
NAPE	National Assessment of Progress in Education
NCDC	National Curriculum Development Centre
PTA	Parents –Teachers' Association
P 3	Primary Three
P 6	Primary Six
PLE	Primary Leaving Examination
PTCs	Primary Teachers College
QEIs	Quality Enhancement Initiatives
S.E	Standard Error
SDGs	Sustainable Development Goals
SMCs	School Management Committees
TIET	Teacher Instructor Education and Training
TLs	Team Leaders
UNEB	Uganda National Examinations Board
UPE	Universal Primary Education
UTSEP	Uganda Teacher and School Effectiveness Project

A WORD FROM THE MINISTER

Education is one of the most important investments a country can make in its people and its future. In many countries around the world, schooling is associated with reduction in gender disparities and improved quality of life. Therefore, increased access to education should be poverty–alleviating and income–equalizing among different sections of Uganda. Education plays a critical role in national development as has been echoed at many international fora. This is the case for the Incheon World Education Forum (2015) whose objective was providing equitable and inclusive quality education and lifelong learning for all by 2030; and the Post – 2015 Sustainable Development Goals, whose fourth goal is to ensure inclusive and quality education for all and promote lifelong learning. The long-term economic, social and personal gains from education for individuals, families, communities and the development of a nation are immense. To achieve the long-term benefits of education, there must be a minimum standard of education and sufficient levels of literacy, numeracy and life skills to enable people to make reasonable social and economic development gains.

Of recent, the Government, through the Ministry of Education, Science, Technology and Sports, with assistance from Education Development Partners initiated the Uganda Teacher and School Effectiveness Project (UTSEP), which became effective in April 2015. The project development objective is to support Government in improving teacher and school effectiveness in the public primary education. Almost all stakeholders in education, including Uganda National Examinations Board (UNEB), have a role to play in this project. Some of the roles of UNEB are to conduct NAPE at P 3, P 6 and among pre-service teachers, in-service teachers and Primary Teacher College (PTC) tutors and to implement Early Grade Reading Assessment (EGRA). NAPE findings from these assessments will help to determine the improvement made in teacher and school effectiveness arising from the various interventions of the project. The findings will also help in identifying critical issues which may require urgent attention from the stakeholders.

The NAPE findings in this report are the outcome of the first NAPE to be conducted under UTSEP. They are, therefore, the baseline preceding the expected various interventions.

It is important to remember that NAPE findings are meant to highlight the health status of our education system and to offer guidance on the way forward. Indeed, it is gratifying to note that the NAPE findings of 2011 formed a basis for the design of UTSEP.

I urge you all to give careful consideration to the findings presented in this report so as to ensure improved teacher and school effectiveness. At the very least, it should provide a solid base from which to make informed decisions that will eventually lead to better policies and more effective implementation of the identified educational Quality and Enhancement Initiatives undertaken by various stakeholders. We need decisiveness and prompt action from all stakeholders.

FOR GOD AND MY COUNTRY

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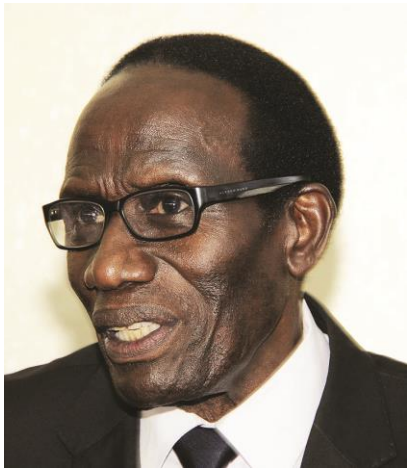
Hon. Major (Rtd) Jessica Rose Epel Alupo (MP)
Minister of Education, Science, Technology and Sport

FOREWORD



Enhancing continuous learning, early grade reading and development of learners' capacity to learn are crucial in the delivery of quality primary education in Uganda. The Government of Uganda has over the years continued to commit more funds to the Education sector with the aim of improving the quality of education, taking into account the quality of teachers as a key to quality education.

The Ministry of Education, Science, Technology and Sports has consistently registered positive transformation of the Education system through use of NAPE key indicator findings. Many interventions in critical areas have been undertaken to ensure efficiency and effectiveness of service delivery. Among the achievements at the Primary Education level is: efforts to improve children's reading through use of area local language in classroom instruction at the infant class level; improvement in the intake requirements for students joining Primary Teacher Colleges and the commencement of the Uganda Teacher and School Effectiveness Project (UTSEP).

The government, through Uganda National Examinations Board (UNEB), annually carries out national assessment to monitor learners' achievement levels in Literacy and Numeracy at the Primary Education level. This year, in addition to assessing subject area achievement, National Assessment of Progress in Education (NAPE) assessed pupils and teachers through use of non-cognitive (contextual) instruments. These instruments included a focus group discussion and a school inventory. The purpose of these instruments was to find out the level of pupils' involvement in learning, sanitation and hygiene in schools and other school factors likely to affect pupils' learning.

This report is the 13th annual publication of NAPE findings at the primary education level, in which assessment has continued to target P 3 and P 6 pupils in the subject areas of Numeracy and Literacy.

I hope that all stakeholders will find the report useful. We welcome your feedback.

M B B Bukenya
EXECUTIVE SECRETARY

EXECUTIVE SUMMARY

The rationale of 2015 NAPE Primary Assessment was to determine pupils' learning achievements and the context in which it occurs. This was done by determining the achievement of pupils in Numeracy and Literacy in English.

The instruments were administered to pupils of Primary 3 (P 3) and Primary 6 (P 6). In addition, the P 6 tests were administered to in-service teachers, pre-service teachers and PTC tutors. It should, however, be noted that in-service teachers and tutors were tested on the subject areas they teach while Pre-service teachers sat for tests in both subject areas.

Sample Size

The national sample size for the pupils and In-service teachers consisted of 1250 primary schools, with representation from all the 112 districts in the country. A random sample of 20 pupils was obtained from each of P 3 and P 6 classes in the selected schools while teachers of Numeracy and Literacy in English from both P 3 and P 6 classes comprised the national sample. In some cases, the teachers were the same for both classes, teaching either Literacy in English or Numeracy in P 3 and P 6. While in other cases, the same teachers handled Literacy in English and Numeracy in P 3 or P 6.

All the second year students (*pre-service teachers*) from all the 54 PTCs in the country and their respective tutors of Literacy in English and Numeracy were included in the sample.

Overall Level of Achievement

Overall, 71.7% of the P 3 pupils demonstrated that they had acquired the Numeracy competences as spelt out in the national curriculum and 60.2% attained a similar rating in Literacy in English.

The proportion of P 6 pupils who reached the defined proficiency levels in Numeracy and Literacy in English was 52.6% and 51.9%, respectively.

The respective proportions of PTC tutors, in-service teachers and pre-service teachers rated proficient in Numeracy were: 91.2%, 60.4% and 21.8%, respectively. There was a significant difference between the percentage of tutors and teachers reaching or exceeding the desired proficiency in Numeracy. Worse still about 1 in 5 pre-service teachers were rated proficient in Numeracy.

In Literacy in English 66.4% in-service teachers were rated proficient, followed by the PTC tutors (46.5%). Only 38.8% of the pre-service teachers reached the desired minimum proficiency level.

PUPILS' ACHIEVEMENT BY VARIOUS FACTORS

Age and Gender

The percentage of P3 and P 6 pupils rated proficient in both Numeracy and Literacy in English declined with age. Young pupils of about 8 – 9years at P3 and 10-11 years at P6 performed better. The performance of both boys and girls at both levels was comparable. This validates the fact that older pupils get distracted by non–academic affairs that impacts on their performance.

School ownership

Both P 3 and P 6 pupils in private schools performed better than their counterparts in government schools in the two subjects. However, the difference was greater for P6 than P3 in Literacy in English in comparison to Numeracy. Boys and girls in private schools performed at about the same level in both subjects, except P 6 Numeracy where the boys performed significantly better.

District

In both Numeracy and Literacy in English at P 3, just about a third (30%) of the districts had over 75% of their pupils rated proficient. Less than half (40%) of the districts had over a half but less than three–quarters of the pupils rated proficient. Less than a third (30.4%) of the districts rated had less than a half of their pupils rated proficient. Alebtong and Agago districts registered the lowest performance in Numeracy of just a third (30%) of pupils rated proficient. A similar performance was exhibited in Literacy in English in the eastern and northern regions as well as Kiryandongo and Masindi districts.

At P 6 only two districts, Kampala and Kalangala had more than 75% of their pupils rated proficient in Literacy in English. Less than a fifth (17.0%) of the total number of districts had over a half but less than three quarters of the pupils rated proficient. Most of the districts, (81.3%) had less than a half of their pupils rated proficient; of these, 46 districts had a quarter or less of their pupils rated proficient. In Numeracy, best performance was registered in Kampala and most districts in the Ankole region i.e. Mbarara, Bushenyi, Kiruhura, Mitooma, Rubirizi, and Sheema. These districts registered three quarters or above of their pupils rated proficient. Worst performance was registered in Bukwo (1.7%) and Kween (10.4%). The performance of girls and boys was comparable at P3. However at P6, more boys than girls were rated proficient in both Numeracy and Literacy in English.

School location

Urban schools performed significantly better than rural schools at both P 3 and P 6. There were no significant gender differences in performance by school location. Nevertheless, girls from rural schools performed better than boys in Numeracy.

Chapter 1

INTRODUCTION

1.1 BACKGROUND

Uganda is one of the Eastern Africa states lying mostly between latitudes 4^0 12'N and 1^0 29'S and longitudes 29^0 34'E and 35^0 0' E; astride the equator. It is about 1200m above sea level. Uganda's land area is 241,550.7 square kilometers of which 41,743.2 square kilometres is open water and swamps[1]. Uganda's climate is generally tropical in nature but differs markedly from one region to another. The climate is favourable for agriculture and has attracted most of the people into farming. The people of Uganda practice mostly subsistence farming, small scale units of commercial farming and very low levels of extensive farming.

The country is land locked, bordered by Kenya in the East, the Democratic Republic of Congo in the West, Tanzania in the South, Rwanda in the South West and the Republic of South Sudan in the North. It is vastly a plateau, whose fringes are marked by mountains and valleys. These, together with other physical features affect the provision of social services, like education in some areas. For instance, access to schools in the island district of Kalangala, which is composed of many small islands on Lake Victoria, poses a challenge, not only to pupils and teachers, but also to education administrators and inspectors. The same applies to the rocky and mountainous districts of: Bundibugyo and Kisoro in the West and Bukwo and Bududa in the East. Uganda is administratively divided into 112 districts which are administered by the Local Governments and supervised by the Central Government's Ministry of Local Government.

Uganda, with a population density of 126 per square kilometer, has a fast growing population of 3.3%; increasing from 24.2 million in 2002 to the estimated figure of 35.8 million people by 2015[2]. About a half of the population is below 15 years of age, which creates a high level of child dependence. The number of primary school pupils was expected to increase from 8.3 million in 2010 to 18.4 million in 2037. The high rate of population growth affects the country's effort to achieve and sustain quality education.

The population comprises about fifty ethnic groups, each with a different local language, which is supposed to be used as the medium of instruction in lower primary, while English is taught as a subject. However, English is the medium of instruction in upper primary and institutions of higher learning. Kiswahili is also taught in some primary and secondary schools.

A list of the districts in Uganda showing the zones and regions as well as the major languages is given in Table 1.01.

[1] Uganda Bureau of Statistics, 2013 Statistical Abstract, pg 1 http://www.ubos.org

[2] Uganda Bureau of Statistics, 2014 National Population and Housing Census 2014, Provisional Results, pg 16 http://www.ubos.org

TABLE 1.01: REGIONS, ZONES AND DISTRICTS IN UGANDA AND THE MAJOR LANGUAGES SPOKEN

REGION	ZONE	DISTRICTS	MAJOR LANGUAGES
Central	Central I	Buikwe, Butambala, Buvuma, Gomba, Kayunga, Mpigi, Mukono, Wakiso.	Luganda
	Central II	Kiboga, Kyankwanzi, Luweero, Mityana, Mubende, Nakaseke, Nakasongola.	Luganda, Lululi, Runyoro, Kinyarwanda
	Central III	Bukomansimbi, Kalangala, Kalungu, Lwengo, Lyantonde, Masaka, Rakai, Sembabule.	Luganda, Runyankore
East	Far East	Amuria, Bukedea, Kaberamaido, Katakwi, Kumi, Ngora, Soroti, Serere.	Ateso, Kumam
	Mid East I	Bududa, Bukwo, Bulambuli, Kapchorwa, Kween, Manafwa, Mbale, Sironko.	Kupsabiny, Lumasaba
	Mid East II	Budaka, Busia, Butaleja, Kibuku, Pallisa, Tororo.	Ateso, Dhopadhola, Kiswahili, Lugwere, Lunyole, Lusamya
	Near East	Bugiri, Buyende, Iganga, Jinja, Kaliro, Kamuli, Luuka, Mayuge, Namayingo, Namutumba.	Lusoga, Lusamya
Kampala		Kampala.	English, Kiswahili, Luganda
North	Mid North I	Alebtong, Amolatar, Apac, Dokolo, Kole, Lira, Otuke, Oyam.	Lango
	Mid North II	Agago, Amuru, Gulu, Lamwo, Kitgum, Nwoya, Pader.	Acoli
	North East	Abim, Amudat, Kaabong, Kotido, Moroto, Nakapiripirit, Napak.	Ngakarimojong, Thur
	West Nile	Adjumani, Arua, Koboko, Maracha, Moyo, Nebbi, Yumbe, Zombo.	Alur, Kakwa, Lugbarati, Madi
West	Far West	Kabale, Kanungu, Kisoro, Rukungiri.	Rukiga, Kinyarwanda, Rufumbira.
	Mid-West	Bundibugyo, Kabarole, Kamwenge Kasese, Kyegegwa, Kyenjojo, Ntoroko.	Kiswahili, Lukhonzo, Lwamba, Rutooro
	North West	Buliisa, Hoima, Kibaale, Kiryandongo, Masindi.	Kiswahili, Runyoro
	South West	Bushenyi, Buhweju, Ibanda, Isingiro, Kiruhura, Mbarara, Mitooma, Ntungamo, Rubirizi, Sheema.	Kinyarwanda, Runyankore

1.2 EDUCATION IN UGANDA

Formal education was introduced in Uganda at the end of the nineteenth century. In the early years of the twentieth century the first schools for formal education were built in the country. From that time, education continued to grow and develop. Today, the system of formal education in Uganda has a structure of 3 years of pre–primary education, 7 years of primary education, 6 years of secondary education (divided into 4 years of lower secondary education and 2 years of upper secondary education), and 3 to 5 years of post–secondary education[3]. Primary education, however, is still largely considered the first official level of formal education since government has not established any pre-primary schools for children[4].

Uganda has all along been committed to the various international initiatives aimed at improving the quality of education. For example, Education For All (EFA) first launched in Jomtien, Thailand in 1990 to bring benefits of education to every citizen in every society[5]. The country has also been committed to the Millennium Development Goals which have of recent metamorphosed into the Sustainable Development Goals. Goal number four of the Sustainable Development Goals (SDGs) is to "*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*". It is, therefore, essential for the country to provide quality and relevant education to all its citizens, irrespective of cultural, gender, regional, physical or social differences.

To improve the quality of education in schools, Government and its Development Partners have put in place a number of Quality Enhancement Initiatives (QEIs). Classrooms, libraries and laboratories have been constructed in many schools. The Primary School and Primary Teacher Colleges' curricula were reviewed to make them more relevant to the country's needs. Recently in 2015, the country launched a new project – Uganda Teacher and School Effectiveness Project (UTSEP) with assistance from Global Partnership for Education (GPE). The main objective of the project is: *to support Government in improving teacher and school effectiveness in the public primary schools.* It is expected that strengthening the school system, including the capacity of the teachers to deliver, would result into improved quality learning.

1.3 NATIONAL ASSESSMENT OF PROGRESS IN EDUCATION

The Education Policy Review Commission (EPRC, 1989) reported lack of reliable and up-to-date data on educational indicators. Back then, the only assessment information used for monitoring and evaluation was based on the end of cycle examination results and reports by examiners on the examinations. However, these examinations are designed to primarily

[3] Review of Education Policy in Uganda: working Paper submitted by Ojijo to the Young Leaders Think tank for policy alternative – Uganda, February 2012, page 2.
http://www.slideshare.net/ojijop/review-of-education-policy-in-uganda

[4] Status of Implementation of the ECD Policy in Uganda, Page 6
http://www.education.go.ug/files/downloads/Early%20Childhood%20Development%20Policy%20Review.pdf

[5] Count Down to 2015: Is Uganda on Track? Assessment of Progress To Attainment Of EFA goals In Uganda, page 1.
www.education.go.ug/files/downloads/ASSESSMENT OF PROGRESS ON EFA GOALS.pdf.

serve as tools for certification and selection to higher institutions of learning. National Assessment of Progress in Education (NAPE), therefore, was established to supplement the information from the examinations. NAPE is used to ascertain the level of pupils' learning achievement and to monitor changes in the achievement levels over time. It determines the skills that a cohort of pupils has acquired and is capable of acquiring in relation to the objectives of the curriculum. The first assessment in Uganda at primary level was conducted in P 3 and P 6 in 1996. Since then, NAPE has been conducted annually in the same classes. Uganda is one of the few African countries with a functional national assessment system.

1.3.1 Objectives of NAPE

The main objectives of NAPE are to:

1. Determine and monitor the level of achievement of pupils over time.
2. Generate information on what pupils know and can do in different curricular areas.
3. Evaluate the effectiveness of reforms in the education system.
4. Provide information on variables which affect learning achievement.
5. Suggest measures for the improvement of teaching and learning in schools.
6. Provide data for planning and research.

1.4 THE 2015 NAPE STUDY

This volume presents the results of the 2015 NAPE survey. The objectives of the study are presented in this chapter. Chapter 2 describes the instruments, their mode of administration and the procedures for selecting the sample. Findings about P 3 pupils' achievement in Numeracy and Literacy in English are presented in Chapters 3 and 4, respectively. In Chapters 5 and 6, P 6 pupils' achievement results in Numeracy and Literacy in English respectively are presented. Chapter 7 presents the performance of pre-service teachers, in-service teachers and PTC tutors in Numeracy. Chapter 8 is a presentation of the performance of pre-service teacher in-service teachers and tutors in Literacy in English. Chapter 9 presents finding about P 3 pupils' involvement in learning and the learning environment.

Finally, the conclusions and recommendations drawn from pupils' achievement in Numeracy and Literacy in English, pre-service teachers, in-service teachers and PTC tutors are presented in Chapter 10. The results are presented in terms of the overall mean scores and percentages of pupils achieving the desired levels of proficiency. Statistics are also provided by gender, age, school ownership (government or private), location (urban or rural) and by district.

The 2015 survey had the following objectives:

1. To determine the level of pupils' achievement in Numeracy and Literacy in English.

2. To examine pupils' performance in the competences of Numeracy and Literacy in English.

3. To examine the relationship between the achievement of pupils and gender, age, school ownership, location and district.

4. To compare the achievement of P 3 and P 6 pupils in Numeracy and Literacy in English over the years 2007 to 2015.

5. To determine the level of achievement of pre-service teachers, in-service teachers and PTC tutors in Numeracy and Literacy in English.

6. To examine the performance of pre-service teachers, in-service teachers and PTC tutors in the competences of Numeracy and Literacy in English.

7. To determine the relationship between P 3 pupils' achievement and their involvement in learning and pedagogical support.

8. To determine the availability of recommended sanitation facilities and hygiene practices in schools.

Chapter 2

SURVEY PROCEDURES

2.1 INTRODUCTION

This chapter gives a description of the instruments and procedures that were used in selecting the sample, collecting, capturing and analyzing the data.

2.2 INSTRUMENTS

2.2.1 TESTS

At both P 3 and P 6, there were written tests of Numeracy and Literacy in English. The tests were based on the national Uganda Primary Schools Curriculum and were developed according to test frameworks and detailed item specifications prepared by a team of experts. The item specifications allow for tests of comparable levels of difficulty over the years. All the items at P 3 were structured, but at P 6, the items were of restricted and free response forms. The tests were developed by experienced primary school teachers, tutors from Primary Teacher Colleges, staff from NCDC, TIET, DES and UNEB. The composition of the tests are given in Tables 2.01 to 2.04.

TABLE 2.01: COMPOSITION OF THE P 3 NUMERACY TEST BY COMPETENCES

COMPETENCES	WEIGHT (%)
Counting objects	20
Matching	9
Writing number symbols from words and vice versa	3
Identifying place values	11
Adding numbers	12
Subtracting numbers	6
Multiplying numbers	6
Dividing numbers	6
Completing sequences	6
Sorting shapes	2
Drawing shapes	2
Telling the time on a clock face	1
Solving sums involving money and selling	1
Applying capacity in real life situations	2
Interpreting and drawing graphs	8
Writing and drawing fractions and forming sets	5
TOTAL	100

TABLE 2.02: COMPOSITION OF THE P 3 LITERACY TEST BY COMPETENCES

SKILL AREA	COMPETENCES	WEIGHT (%)	
Reading Comprehension	• Describing	10	52
	• Recognizing	6	
	• Comprehension	5	
	• Identifying	6	
	• Associating objects to their use	4	
	• Associating words to the same words	4	
	• Completing words	5	
	• Completing sentences	4	
	• Completing a story	8	
Writing	• Naming	10	48
	• Reading and drawing	6	
	• Writing letters of the alphabet	4	
	• Writing words	9	
	• Writing patterns	4	
	• Writing sentences	10	
	• Copying a story	5	
TOTAL			100

TABLE 2.03: COMPOSITION OF THE P 6 NUMERACY TEST BY TOPICAL AREAS

TOPICAL AREA	WEIGHT
Operations on Numbers:	
– Addition of numbers	6
– Subtraction of numbers	6
– Multiplication of numbers	6
– Division of numbers	5
– Use of symbols >, < to compare numbers	1
– Use brackets to show order in which combined operations (x, +) must be performed	2
Number systems and place values	10
Number patterns and sequence	13
Measures	18
Statistics: Graphs and Interpretations	12
Fractions	28
Geometry	13
TOTAL	120

TABLE 2.04: COMPOSITION OF THE P 6 LITERACY IN ENGLISH TEST BY COMPETENCES

SKILL AREA	COMPETENCES	WEIGHT (%)	
Reading Comprehension	• Associating words to pictures or actions to pictures	3	
	• Describing the activities in a picture	8	
	• Reading and interpreting a timetable	7	
	• Reading and answering questions on a poem	10	42
	• Reading and answering questions on a story	10	
	• Telling the time/Reading the clock	2	
	• Naming objects	2	
Writing	• Drawing and naming objects	3	
	• Writing words correctly	2	
	• Copying sentences with correct punctuation	3	
	• Writing sentences	6	38
	• Copying a story	4	
	• Writing a personal letter	10	
	• Writing a short composition	10	
Grammar	• Using descriptive words in sentences	5	
	• Using given vocabulary	3	
	• Using given structures	4	20
	• Giving correct plurals of words	2	
	• Using the correct tense	6	
TOTAL			100

2.2.2 CONTEXTUAL INSTRUMENTS

Focus group discussion (FGD) guides were developed to aid discussions with P 3 pupils and stakeholders (practicing teachers of Literacy in English and Numeracy, PTC tutors, staff from: TIET, NCDC, DES and Basic Education). The FGD guide for P 3 pupils was helpful in determining the nature of pupils' involvement in learning by their teachers, while the guide for stakeholders' workshop was instrumental in explaining the findings as well as putting forward recommendations.

The structured observation guide was instrumental in documenting the learning environment of the primary schools. The learning environment observed included; sanitation and hygiene, and educational support supervision by relevant stakeholders. The information collected through focus group discussions and structured observations was used to augment the findings from pupils', teachers' and tutors' assessments.

2.2.3 THE ATTENDANCE REGISTER

The register was used to obtain information on the pupil and pre-service teacher enrolment as well as actual attendance of pupils and pre-service teachers, by gender in each of the sampled schools and Primary Teacher Colleges (PTCs), respectively. Contacts of the Head teachers and Principals were also obtained to help UNEB in cross-checking the correctness of information provided about schools and colleges.

2.3 SURVEY DESIGN

2.3.1 SURVEY POPULATION

The target population consisted of pupils in P 3 and P 6 in all the primary schools (both government and private) in Uganda by July 2015.

2.3.2 SAMPLING DESIGN

A two-stage stratified cluster sampling design was used. The first stage involved selecting a random sample of schools, stratified by district. Schools in all the 112 districts of Uganda were included in the sampling frame. In the second stage, a random sample of pupils present in the school on the day of the survey was selected from each of P 3 and P 6 classes. Random selection of schools within a district and of pupils within a school was done to minimize selection bias.

2.3.3 SELECTION OF SCHOOLS

A list of primary schools from the Education Management Information System (EMIS) 2015, showing the school total enrolment as well as the enrolment figures for P 3 and P 6, specifically, provided the sampling frame for schools. As in previous years, it was found appropriate that schools would be selected basing on P 6 enrolment, because the number of pupils in P 6 in a school is usually less than that of P 3. This, therefore, ensures that the number of pupils in P 3 is big enough to meet the minimum sample size.

The number of schools selected from a particular district was proportional to the P 6 enrolment in that district, but each district had to have at least 10 schools in the sample. The schools for the Blind and the Deaf were included, but not considered as part of the district quota.

2.3.4 SELECTION OF TESTEES

A simple random sample of 20 pupils was obtained from each of P 3 and P 6 classes in the selected schools, while teachers of Literacy in English and Numeracy from both P 3 and P 6 classes comprised the national sample of in-service teachers. In some cases, the teachers were the same for both classes, teaching either Literacy in English or Numeracy in P 3 and P 6, while in other cases, the same teachers taught Numeracy and Literacy in English in P 3 or P 6.

All the second year students (*pre-service teachers*) from all the 54 PTCs all over the country and their respective tutors of Numeracy and Literacy in English were included in the sample of pre-service teachers.

2.3.5 SAMPLE SIZE

The national sample size for the pupils and in-service teachers consisted of pupils and teachers from 1250 primary schools, with representation from all the 112 districts in the country. The sample of schools represents 3.4% of the primary schools in Uganda. The distribution of P 3 and P 6 pupils and teachers by gender is given in Table 2.05.

TABLE: 2.05 NUMBER OF PUPILS AND TEACHERS IN THE ACHIEVED SAMPLE, BY GENDER

TESTEES	BOYS		GIRLS		ALL	
	N	Percentage	N	Percentage	N	Percentage
P 3	12,446	51.8	11,597	48.2	24,043	100
P 6	11,448	50.4	11,284	49.6	22,732	100
In-service teachers	2,723	65.0	1,467	35.0	4,190	100
Pre-service teachers	3,482	42.7	4,673	57.3	8,155	100
Tutors	115	70.1	49	29.9	164	100

TABLE 2.06: NUMBER OF SCHOOLS IN THE SAMPLE AND IN THE SAMPLING FRAME, BY DISTRICT

REGION	ZONE	DISTRICTS
Central (259; 4519)	Central I (102; 2031)	Buikwe (10; 278), Butambala (10; 86), Buvuma (10; 20), Gomba (10; 110), Kayunga (10; 232), Mpigi (10; 150), Mukono[Y] (15; 383), Wakiso (28; 772).
	Central II (75; 1430)	Kiboga (9; 108), Kyankwanzi (10; 133), Luweero (14; 316), Mityana (10; 236), Mubende (12; 315), Nakaseke (10; 138), Nakasongola (10; 184).
	Central III (82;1058)	Bukomansimbi (10; 93), Kalangala (10; 27), Kalungu (10; 98), Lwengo (10; 157), Lyantonde (10; 46), Masaka (10; 147), Rakai (12; 269), Sembabule (10; 221).
East (347; 3903)	Far East (81; 774)	Amuria (10; 121), Bukedea (10; 88),Kaberamaido (10; 99), Katakwi (10; 76), Kumi (10; 95), Ngora[Y] (11; 63), Serere (10; 56), Soroti[Y] (11; 176).
	Mid East I (85; 837)	Bududa (10; 120), Bukwo (10; 64), Bulambuli (10; 59), Kapchorwa (10; 64), Kween 10; 60), Manafwa[6Y] (12; 167), Mbale (14; 182), Sironko (10; 121).
	Mid East II (71; 748)	Budaka[Y] (11; 68), Busia (10; 145), Butaleja (10; 115), Kibuku (10; 60), Pallisa (12; 145), Tororo (18; 215).
	Near East (110; 1544)	Bugiri (12; 213), Buyende (10; 100), Iganga[Y] (16; 192), Jinja (10; 185), Kaliro (10; 124), Kamuli (12; 223), Luuka (10; 104), Mayuge (11; 180), Namayingo (10; 104), Namutumba (10; 119).
North (314; 2598)	Mid North I (85; 688)	Alebtong (11; 78), Amolatar (10; 58), Apac[Y] (11; 131), Dokolo (10; 71), Kole (10; 62), Lira[Y] (12; 128), Otuke (9; 47), Oyam (12; 113).
	Mid North II (71; 670)	Agago (10; 116), Amuru (10; 56), Gulu (12; 160), Kitgum (10;110), Lamwo (9; 73), Nwoya (10; 44), Pader (10; 111).
	North East (70; 252)	Abim (10; 48), Amudat (10; 11), Kaabong (10; 63), Kotido (10; 26), Moroto (10; 24), Nakapiripirit (10; 44), Napak (10; 36).
	West Nile (88; 988)	Adjumani (10; 77), Arua (18; 293), Koboko (10; 68), Maracha (10; 65), Moyo (10; 76), Nebbi (10; 185), Yumbe (10; 128), Zombo (10; 96).
West (298; 5461)	Far West (44; 967)	Kabale (14; 353), Kanungu (10; 190), Kisoro (10; 157), Rukungiri (10; 267).
	Mid West (76; 1228)	Bundibugyo (10; 111), Kabarole (10; 167), Kamwenge (10; 225), Kasese (16; 432), Kyegegwa (10; 86), Kyenjojo (10; 166),Ntoroko (10; 41).
	North West (57; 1029)	Buliisa (10; 35), Hoima (11; 223), Kibaale (16; 561), Kiryandongo (10; 95), Masindi (10; 115).
	South West (121; 2237)	Buhweju (10; 73), Bushenyi (10; 196), Ibanda (13; 235), Isingiro (26; 316), Kiruhura (10; 290), Mbarara (12; 379), Mitooma (10; 150), Ntungamo (10; 354), Rubirizi (10; 69), Sheema (10; 175)
Kampala	Kampala	Kampala[Y] (25; 635).
Uganda		(1,247; 17,116)

Note: *The first figure in the brackets shows the number of primary schools in the sample. The second figure is the number of primary schools in the district.*

[Y]District with schools for the Deaf and Blind pupils.

2.3.6 DISTRIBUTION OF SAMPLED PUPILS BY SELECTED FACTORS

This section presents the distribution of P 3 and P 6 pupils in the achieved sample according to their gender, age, school ownership, location and district.

2.3.6.1 DISTRIBUTION OF P 3 PUPILS IN THE ACHIEVED SAMPLE

The distribution of P 3 pupils in the achieved sample according to gender, age, school ownership, location, district and zone are presented in Tables 2.07 to 2.10.

TABLE 2.07: DISTRIBUTION OF P 3 PUPILS IN THE ACHIEVED SAMPLE BY AGE AND GENDER

AGE (Years)	BOYS		GIRLS		ALL	
	N	Percentage	N	Percentage	N	Percentage
6 - 7	113	0.91	215	1.85	328	1.36
8	881	7.08	1,380	11.90	2,261	9.41
9	1,905	15.31	2,419	20.86	4,324	17.98
10	3,563	28.63	3,459	29.83	7,022	29.21
11	2,226	17.89	1,832	15.80	4,058	16.88
12	2,177	17.49	1,519	13.10	3,696	15.37
12+	1,581	12.70	773	6.67	2,354	9.79
TOTAL	12,446	100.0	11,597	100.0	24,043	100.0

The mean age at P 3 was 10.3 years: boys 10.6 years and girls 10.1 years.

TABLE 2.08: DISTRIBUTION OF P 3 PUPILS IN THE ACHIEVED SAMPLE BY SCHOOL OWNERSHIP AND GENDER

SCHOOL OWNERSHIP	BOYS		GIRLS		ALL	
	N	Percentage	N	Percentage	N	Percentage
Government	10,330	83.00	9,507	81.98	19,837	82.51
Private	2,116	17.00	2,090	18.02	4,206	17.49
Total	12,446	100.0	11,597	100.0	24,043	100.0

TABLE 2.09: DISTRIBUTION OF P 3 PUPILS IN THE ACHIEVED SAMPLE BY SCHOOL LOCATION AND GENDER

SCHOOL LOCATION	BOYS		GIRLS		ALL	
	N	Percentage	N	Percentage	N	Percentage
Urban	1,917	15.40	1,823	15.72	3,740	15.56
Rural	10,529	84.60	9,774	84.28	20,303	84.44
Total	12,446	100.0	11,597	100.0	24,043	100.0

TABLE 2.10: THE DISTRIBUTION OF P 3 PUPILS IN THE ACHIEVED SAMPLE BY DISTRICT AND GENDER

REGION	ZONE	DISTRICTS
Central (4817;2348)	Central I (1915;929)	Buikwe (195; 98), Butambala (193; 105) Buvuma (190;90), Gomba (193; 94), Kayunga (179; 75), Mpigi (179; 84), Mukono (266; 129), Wakiso (520; 254).
	Central II (1363;638)	Kiboga (176; 81), Kyankwanzi (172;80), Luweero(269; 134), Mityana (176; 79), Mubende (210; 88), Nakaseke (160; 84), Nakasongola (200; 92).
	Central III (1539;781)	Bukomansimbi (199; 115), Kalangala (194; 94), Kalungu (191; 97), Lwengo (177; 97), Lyantonde (194; 98), Masaka (191; 84), Rakai (229; 115), Sembabule (164; 81)
East (6830;3359)	Far East (1613;782)	Amuria (200; 110), Bukedea (199; 83), Kaberamaido (200;105), Katakwi (200;98), Kumi (200; 106), Ngora (215; 111), Serere (200; 96), Soroti (199; 73).
	Mid East I (1685;805)	Bududa (196; 107), Bukwo (190; 83), Bulambuli (200; 100), Kapchorwa (200; 98), Kween (200; 86), Manafwa (220; 108), Mbale (279; 133), Sironko (200; 90).
	Mid East II (1355;653)	Budaka (196; 110), Busia (200; 90), Butaleja (200; 91), Kibuku (191; 96), Pallisa (209; 95), Tororo (359;171).
	Near East (2177;1109)	Bugiri (235; 100), Buyende (199; 102), Iganga (299; 150), Jinja (193; 109), Kaliro (200; 106), Kamuli (240; 122), Luuka (200; 103), Mayuge (211; 109), Namayingo (200; 97), Namutumba (200; 111).
North (6166;2796)	Mid North I (1672;816)	Alebtong (210;101), Amolatar (200; 92), Apac (208; 105), Dokolo (200; 102), Kole (200; 90), Lira (234; 116), Otuke (180; 84), Oyam (240; 126).
	Mid North II (1401;669)	Agago (200; 98), Amuru (200; 82), Gulu (240; 128), Lamwo (177; 85), Kitgum (200; 101), Nwoya (200; 90), Pader (184;85).
	North East (1898;767)	Abim (200; 84), Amudat (188; 82), Kaabong (199; 54), Kotido (178; 72), Moroto (200; 96), Nakapiripirit (178; 70), Napak (199; 71).
	West Nile (1751;782)	Adjumani (200; 102), Arua (352; 163), Koboko (200; 94), Maracha (200; 85), Moyo (199; 92), Nebbi (200; 80), Yumbe (200; 73), Zombo (200; 93).
West (5767;2844)	Far West (829;424)	Kabale (253; 132), Kanungu (177; 83), Kisoro (200;107), Rukungiri (199; 102).
	Mid-West (1502;752)	Bundibugyo (189; 95), Kabarole (200; 104), Kamwenge (200; 89), Kasese (318; 174), Kyegegwa (200; 109), Kyenjojo (198; 93), Ntoroko (197; 88).
	North West (1090;513)	Buliisa (200;91), Hoima (219; 110), Kibaale (288; 125), Kiryandongo (192; 94), Masindi (191; 93).
	South West (2346;1155)	Buhweju (200; 101), Bushenyi (200; 93), Ibanda (249; 128), Isingiro (495; 236), Kiruhura (199; 94), Mbarara (237; 114), Mitooma (197; 103), Ntungamo (198; 106), Rubirizi (200; 95), Sheema (171;85).
Kampala		Kampala (463; 250).
Uganda		(24,043; 11,597)

Note: *The first figure shows the number of pupils in the sample.*
The second figure shows the number of girls in the sample.

2.3.6.2 DISTRIBUTION OF P 6 PUPILS IN THE ACHIEVED SAMPLE

The distribution of P 6 pupils in the achieved sample by gender, age, school ownership, location, district and zone are presented in Tables 2.11 to 2.14.

TABLE 2.11: DISTRIBUTION OF P 6 PUPILS IN THE ACHIEVED SAMPLE BY AGE AND GENDER

AGE (Years)	BOYS		GIRLS		ALL	
	N	Percentage	N	Percentage	N	Percentage
9 - 10	91	0.79	132	1.17	223	0.98
11	454	3.97	727	6.44	1,181	5.20
12	1,488	13.00	1,919	17.01	3,407	14.99
13	2,539	22.18	2,968	26.30	5,507	24.23
14	3,072	26.83	3,020	26.76	6,092	26.80
15	2,363	20.64	1,866	16.54	4,229	18.60
15+	1,441	12.59	652	5.78	2,093	9.21
TOTAL	11,448	100.00	11,284	100.00	22,732	100.01

TABLE 2.12: DISTRIBUTION OF P 6 PUPILS IN THE ACHIEVED SAMPLE BY SCHOOL OWNERSHIP AND GENDER

SCHOOL OWNERSHIP	BOYS		GIRLS		ALL	
	N	Percentage	N	Percentage	N	Percentage
Government	9,572	83.61	9,297	82.39	18,869	83.01
Private	1,876	16.39	1,987	17.61	3,863	16.99
Total	11,448	100.00	11,284	100.00	22,732	100.00

TABLE 2.13: DISTRIBUTION OF P 6 PUPILS IN THE ACHIEVED SAMPLE BY SCHOOL LOCATION AND GENDER

SCHOOL LOCATION	BOYS		GIRLS		ALL	
	N	Percentage	N	Percentage	N	Percentage
Urban	1,838	16.06	1,964	17.41	3,802	16.73
Rural	9,610	83.94	9,320	82.59	18,930	83.27
Total	11,448	100.00	11,284	100.00	22,732	100.00

TABLE 2.14: DISTRIBUTION OF P 6 PUPILS IN THE ACHIEVED SAMPLE BY DISTRICT AND GENDER

REGION	ZONE	DISTRICTS
Central (4450;2387)	Central I (1815; 932)	Buikwe (187;90), Butambala (171;100), Buvuma (165; 81), Gomba (177; 99), Kayunga (175; 80), Mpigi (179; 103), Mukono (270; 139), Wakiso (491; 240).
	Central II (1287; 691)	Kiboga (169; 94), Kyankwanzi (138; 74), Luweero (280; 151), Mityana (161;92), Mubende (184; 91), Nakaseke (155; 89), Nakasongola (200; 100).
	Central III (1348; 764)	Bukomansimbi (195; 110), Kalangala (146; 76), Kalungu (182; 99), Lwengo (161; 87), Lyantonde (111; 64), Masaka (189;131), Rakai (212; 102), Sembabule (152; 95).
East (6634;3338)	Far East (1575; 761)	Amuria (196; 99), Bukedea (180; 98), Kaberamaido (199; 100), Katakwi (199; 85), Kumi (192; 90), Ngora (215;116), Serere (195; 85), Soroti (199; 88).
	Mid East I (1543; 800)	Bududa (154; 74), Bukwo (174; 87), Bulambuli (198; 88), Kapchorwa (196; 119), Kween (200; 91), Manafwa (180; 101), Mbale (269; 143), Sironko (172; 97).
	Mid East II (1360; 667)	Budaka (203; 111), Busia (200; 103), Butaleja (199; 88), Kibuku (191; 97), Pallisa (211; 90), Tororo (356; 178).
	Near East (2156; 1110)	Bugiri (238; 106), Buyende (190; 94), Iganga (300; 165), Jinja (190; 103), Kaliro (200; 101), Kamuli (240; 132), Luuka (179, 92), Mayuge (202; 106), Namayingo (197; 94), Namutumba (200; 107).
North (5891;2564)	Mid North I (1649; 751)	Alebtong (219; 90), Amolatar (189; 87), Apac (204; 84), Dokolo (200;101), Kole (200; 84), Lira (240; 122), Otuke (175; 87), Oyam (222; 96).
	Mid North II (1357; 677)	Agago (200; 92), Amuru (190; 88), Gulu (231; 122), Lamwo (159; 83), Kitgum (197; 106), Nwoya (200; 100), Pader (180; 86).
	North East (1266; 485)	Abim (193; 83), Amudat (166; 72), Kaabong (183; 61), Kotido (183; 69), Moroto (192; 76), Nakapiripirit (165;54), Napak (184; 70).
	West Nile (1619; 651)	Adjumani (198; 84), Arua (298; 119), Koboko (172; 63), Maracha (200; 84), Moyo (195; 93), Nebbi (180; 63), Yumbe (200; 70), Zombo (176; 75).
West (5293;2748)	Far West (688; 371)	Kabale (209; 116), Kanungu (109; 59), Kisoro (183; 94), Rukungiri (187; 102).
	Mid West (1401; 710)	Bundibugyo (150; 69), Kabarole (197; 100), Kamwenge (197; 100), Kasese (306; 156), Kyegegwa (196; 110), Kyenjojo (193; 105), Ntoroko (163; 70).
	North West (975; 495)	Buliisa (196; 104), Hoima (210; 105), Kibaale (184; 82), Kiryandongo (191; 91), Masindi (194; 113).
	South West (2229; 1172)	Buhweju (195; 102), Bushenyi (199; 103), Ibanda (247; 145), Isingiro (424; 223), Kiruhura (197; 97), Mbarara (206; 116), Mitooma (197; 86), Ntungamo (196; 110), Rubirizi (196; 100), Sheema (172; 90).
Kampala		(464; 247).
Uganda		(22,732; 11,284).

Note: *The first figure in the brackets shows the number of pupils in the sample. The second figure in the brackets is the number of girls in the sample.*

2.3.7 SAMPLING WEIGHTS

Sampling weights were computed to reflect the probability of pupils sampled and adjustments for non-responses, as well as post-stratification adjustments. These weights were applied to the data to obtain un-biased estimates of the levels of proficiency and mean scores in Numeracy and Literacy in English.

2.4 DATA COLLECTION

A total of 542 officers were appointed to work as District Coordinators (DCs) and Team Leaders (TLs) for the data collection process in schools. These officers included Secondary School teachers and personnel from UNEB, DES, NCDC, Makerere University, Kyambogo University, Primary Teachers Colleges (PTCs) and officials from the headquarters of the Ministry of Education, Science, Technology and Sports (MoESTS).

The DCs and TLs had a one-day training in Kampala. The training followed a pre-prepared Test Administration manual, which detailed the procedures for the administration of the instruments. The officers exhaustively discussed what was outlined in the manual, which included among others, how to obtain a random sample of 20 pupils per class of P 3 and P 6 in each school and how to conduct the tests.

Each TL deployed to work in a district was assigned two Test Administrators (TAs) selected from among tutors of PTCs, primary and secondary school teachers within the district, or from the professional staff in the District Education Office. Where there were schools for the Deaf and the Blind, there were two additional test administrators, selected from among teachers trained in special needs education. All the TAs in a district had a one-day training at the District headquarters, facilitated by the DC. Equipped with the training, each team conducted the assessment in one school per day. In each school visited, the TL and one team member attended to the P 3, class while the other team member attended to the P 6 class.

There was a team of monitors and supervisors comprising senior officers from UNEB, TIET, Basic and Secondary Education departments, EPPA, DES and retired educationists. The team monitored and supervised the data collection process in selected districts.

2.5 STATISTICAL DATA ANALYSIS

The tests were scored by primary school teachers and tutors from PTCs at a central venue in Kampala. The test scores and other relevant information from the field were captured using EpiDATA (version 3.02), and analysis was done using the STATA (version 13.0) statistical package.

Data analysis for each class was done at different levels. The first level of analysis involved determining the overall achievement level in each subject area in terms of mean score and the percentage of pupils reaching the desired level of proficiency. Then the proportion of

pupils rated proficient in selected competences of the subject area was determined. Finally, performance was analyzed by pupils' gender, age, school ownership, location and district.
Pupils' overall achievement in each of the tests was described using one of four levels: *'Advanced', 'Adequate', 'Basic' and 'Inadequate',* which were set at the time of preparing the tests. Detailed description of the categorization of the competences, by performance levels is given in Section 2 of Chapters 3–6. The performance levels were defined as follows:

Advanced level:	indicates superior performance. A pupil with this rating demonstrates complete mastery of the subject matter.
Adequate level:	demonstrates competence in the subject matter. This is the desired minimum performance level that was required of all the pupils.
Basic level:	demonstrates competence in elementary concepts and skills. The pupil is performing at a level below his/her class.
Inadequate level:	demonstrates competence in only rudimentary concepts and skills and the pupil is performing far below the expected level of his/her class.

A pupil was rated proficient if he/she reached the 'Advanced' or 'Adequate' level of proficiency.

Chapter 3

ACHIEVEMENT OF P 3 PUPILS IN NUMERACY

3.1 INTRODUCTION

In this Chapter, the achievement of P 3 pupils in Numeracy is presented. First, the overall mean score and the proportions of pupils reaching the various proficiency levels are given. Secondly, the proportions of pupils attaining the threshold proficiency in each competence are presented. Finally, the mean scores and proportions of pupils rated proficient by gender, age, school ownership, location and district is given. The competences which constitute each proficiency level are highlighted in the next section.

3.2 DESCRIPTION OF THE COMPETENCES ASSESSED BY PROFICIENCY LEVEL

This section is a description of the competences within each proficiency level.

Note: *A pupil at a given proficiency level is assumed to have mastered all the competences specified at his/her level and the competences below the level.*

ADVANCED LEVEL
A pupil is able to:
- Apply addition or subtraction in novel situations.
- Carry out buying and selling of common items.
- Interpret a pictograph.
- Draw a pictogram.
- Write numbers from number names.

ADEQUATE
A pupil is able to:
- Complete a sequence.
- Add up to two 2–digit numbers with carrying.
- Subtract up to a 3–digit number from a 3–digit number without borrowing.
- Divide a 2–digit number by a 1–digit number.
- Multiply a 2–digit number by a 1–digit number with carrying.
- Draw a unit fraction.
- Count numbers in ones, fives and tens.
- Share equally a number of objects.
- Identify the place value of a number up to hundreds.
- Fill in multiplication tables.

BASIC
A pupil is able to:
- Show a 3–digit number on an abacus.
- Add up to three 3–digit numbers without carrying.
- Subtract a 1–digit number from a 1–digit number without borrowing.
- Form sets.
- Sort objects (geometrical shapes).

- Multiply up to a 2–digit number by 1–digit number without carrying.

INADEQUATE
A pupil is able to:
- Count objects or figures in ones, fives and tens.
- Associate objects to objects or objects to figures.
- Read a unit fraction.

Note: *A pupil is rated proficient if she/he has reached the 'Advanced' or 'Adequate' level of proficiency.*

3.3 OVERALL LEVEL OF ACHIEVEMENT OF P 3 PUPILS IN NUMERACY

The overall level of performance of P 3 pupils in Numeracy is presented in this section. The mean score was 62.7% (S.E: 3.12). The respective mean scores of the boys and girls were 63.6% (S.E: 2.58) and 61.9% (S.E: 3.70), indicating that the means were comparable. The proportions of P 3 pupils reaching or exceeding the threshold proficiency in Numeracy are given in Table 3.01.

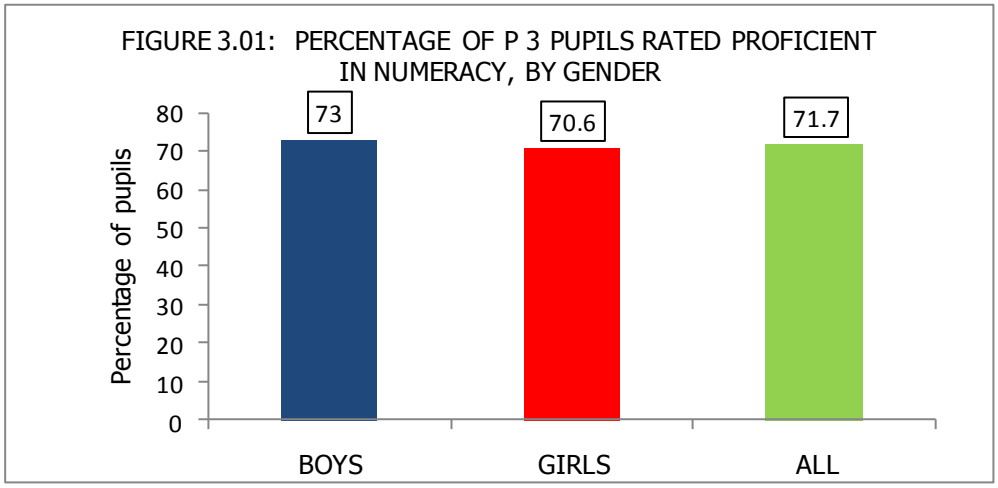
TABLE 3.01: PERCENTAGE OF P 3 PUPILS REACHING THE VARIOUS PROFICIENCY LEVELS IN NUMERACY, BY GENDER

PROFICIENCY LEVELS	BOYS	GIRLS	ALL
Advanced	21.9	20.3	21.0
Adequate	51.1	50.4	50.7
Basic	25.1	25.5	25.3
Inadequate	1.9	3.9	3.0
TOTAL	100.0	100.1	100.0

About one in five pupils (21.0%) were rated 'Advanced'. These were the pupils who had a mastery of the concepts and skills expected of P 3 pupils by the national curriculum standard. For instance, they could not only carry out buying and selling of common items but were also able to tell the number names from their symbols and vice versa.

The second category of pupils rated 'Adequate' comprised 50.7%. These were the group of pupils who demonstrated satisfactory performance in the concepts and skills of P 3 Numeracy. They could not only carry out the four basic operations on whole numbers but also draw unit fractions and count numbers in ones, fives and tens.
The third category of P 3 learners rated 'Basic' constituted 25.3%. This category of pupils demonstrated partial understanding of the concepts and skills at the level. They could at least sort out geometrical shapes as well as show a 3–digit number on an abacus.

The last group of pupils rated 'Inadequate' comprised 3.0%. These were the pupils who demonstrated little understanding of the concepts at that level. For instance, they had difficulty in adding or subtracting similar objects as well as counting objects in ones. The proportion of boys and girls at each level of proficiency were comparable. Figure 3.01 shows the percentage of P 3 pupils rated proficient in Numeracy, by gender.



Nearly three quarters of the pupils (71.7%) reached or exceeded the threshold proficiency level. These were pupils who demonstrated competence over challenging subject matter and skills appropriate to the concepts. There was no significant difference in the proportion of boys and girls attaining the desired proficiency levels.

3.4 ACHIEVEMENT OF P 3 PUPILS IN NUMERACY BY TOPICAL AREAS OF NUMERACY

A description of the performance of P 3 pupils in Numeracy by topical area and gender is made in this section.

The arrows used were assigned the colours 'Green', 'Yellow', or 'Red' where: 'Green' represents competences in which at least three quarters of pupils were rated proficient. 'Yellow' represents the competences in which at least a half, but less than three quarters of the pupils reached the desired proficiency. Lastly 'Red' shows competences in which less than a half of the pupils attained the desired rating.

Table 3.02 is a presentation of the proportions of pupils attaining the desired rating by topical area and gender.

TABLE 3.02: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN DIFFERENT TOPICAL AREAS

TOPICAL AREA	BOYS	GIRLS	ALL
Associating	↑ 99.1	↑ 99.2	↑ 99.2
Counting	↑ 98.2	↑ 98.1	↑ 98.1
Identifying place value	↑ 82.7	↑ 81.7	↑ 82.2
Completing sequences & sorting	→ 70.7	→ 69.3	→ 69.9
Graphs and Interpretation	→ 56.7	→ 58.9	→ 57.8
Statistics	→ 56.7	→ 58.9	→ 57.8
Fractions and Forming sets	→ 51.5	→ 56	→ 53.8
Measures	↓ 49.7	↓ 42.6	↓ 46

P 3 pupils performed best in the topic of 'Associating' where nearly all the pupils (99.2%) reached or exceeded the desired proficiency level. This was followed by 'counting' objects and figures in ones, fives and tens with 98.1%. In the other topics, apart from 'identifying place values', fewer than 3 in 4 pupils attained the desired rating.

The boys and girls performance was comparable in most of the topics. However, while the girls performed significantly better than the boys in 'Fractions and Forming sets' the converse was true in the topic of 'Measures'.

3.5 ACHIEVEMENT OF P 3 PUPILS IN SELECTED COMPETENCES OF NUMERACY

In this section, the performance of P 3 pupils in selected competences assessed in Primary 3 Numeracy test is discussed. Tables 3.03 – 3.06 show the proportions of P 3 pupils rated proficient in different competences of Numeracy.

TABLE 3.03: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN ASSOCIATING, COUNTING AND PLACE VALUE

COMPETENCE	BOYS	GIRLS	ALL
Associating objects to an equal number of objects	↑99.3	↑98.3	↑99
Counting objects in ones	↑97.7	↑98	↑97.8
Counting objects in tens	↑97.8	↑98	↑97.8
Associating objects to their corresponding number in figures	↑96.6	↑97.5	↑97
Counting in fives	↑92.8	↑90	↑91.3
Showing a three digit number on an abacus	↑90.4	↑88.5	↑89.4
Associating figures to their names in words	↑84	↑85.6	↑84.8
Identifying place value on an abacus	→68.5	→69.3	→69
Identifying place value on a number	→66.8	→66.5	→66.7
Counting in words	→55.1	→56.8	→56
Writing number symbols from words and vice versa	↓48.8	↓49	↓48.8

Nearly all the P 3 pupils, 99%, were able to associate objects to an equal number of objects, as well as count objects in ones and tens. Whereas over three quarters of the pupils (89.4%) could show a three–digit number on an abacus, fewer than 3 in 4 could identify place values on an abacus/number as well as count in words.

P 3 pupils exhibited the lowest achievement in writing number symbols from words and vice versa, where only 48.8% reached the desired proficiency level. The proportions of boys and girls reaching or exceeding the threshold proficiency were comparable.

TABLE 3.04: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN OPERATIONS ON NUMBERS

COMPETENCE	BOYS	GIRLS	ALL
Adding a 2-digit number to at least a 1-digit number	↑88.4	↑81.5	↑84.8
Subtracting a 1-digit number from a 1-digit number without borrowing	↑78.5	→69.9	→74
Sharing objects	→57.7	→60.4	→59.1
Multiplying a 1-digit number by a 1-digit number vertically/ horizontally	→61	→56.5	→58.7
Dividing a number less/ greater than 20 by a 1-digit number	→56.4	→52.8	→54.5
Applying addition in daily life	↓31.7	↓26.7	↓29.1
Adding two 2-digit numbers with carrying	↓32.2	↓25.1	↓28.5
Applying subtraction in novel situations	↓30.4	↓23.3	↓26.7
Multiplying using multiplication tables	↓22.2	↓19.8	↓21

In 'operations on numbers', best performance (84.8%) was exhibited in 'adding a 2-digit number to at least a 1-digit number'. This was followed by 'subtracting a 1-digit number from a 1-digit number without borrowing' (74%). Fewer than 1 in 3 pupils (29.1%) could apply addition in daily life, 28.5% could add two 2-digit numbers with carrying and 26.7% could apply subtraction in novel situations. Only 21.0% of the pupils demonstrated competence in multiplying using multiplication tables.

Apart from 'sharing of objects', where more girls than boys were rated proficient, more boys than girls reached or exceeded the threshold proficiency in all the competences of operation on numbers.

TABLE 3.05: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN GRAPHS, SORTING, TELLING TIME AND MEASURES.

COMPETENCE	BOYS	GIRLS	ALL
Representing information on pictograms	↑77	→72.3	→74.5
Sorting shapes	→74.7	→69.8	→72.1
Telling time to the hour on a clock face	→62.2	→69.4	→66
Interpreting pictograms	→52.4	→51.4	→52
Applying capacity in novel situations	↓44.7	↓38.5	↓41.5
Adding money up to 10,000 shillings	↓35.1	↓25.1	↓30.1

Nearly 3 in 4 pupils could represent information on a pictogram as compared to less than a third (30.1%) who could add money. The majority of the pupils (72.1%) were able to sort geometrical shapes. Likewise, over a half of the P 3 pupils (52.0%) and (66.0%) could interpret pictograms and tell time to the hour on a clock face, respectively.

Whereas the girls performed significantly better than boys in 'Telling time on a clock face', the converse was true in all the remaining competences considered in Table 3.05.

TABLE 3.06: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN FRACTIONS AND SETS

COMPETENCE	BOYS	GIRLS	ALL
Writing and drawing unit fractions	↑83.3	↑83	↑83
Forming sets	↓44	→50.1	↓47.2

Overall, 83.0% of P 3 pupils were rated proficient in 'writing and drawing unit fractions' (with a denominator less than 10). Less than a half of the pupils (47.2%) attained a similar rating in 'forming sets'. Girls performed significantly better than the boys in 'forming sets'.

3.6 ACHIEVEMENT OF P 3 PUPILS IN NUMERACY BY AGE

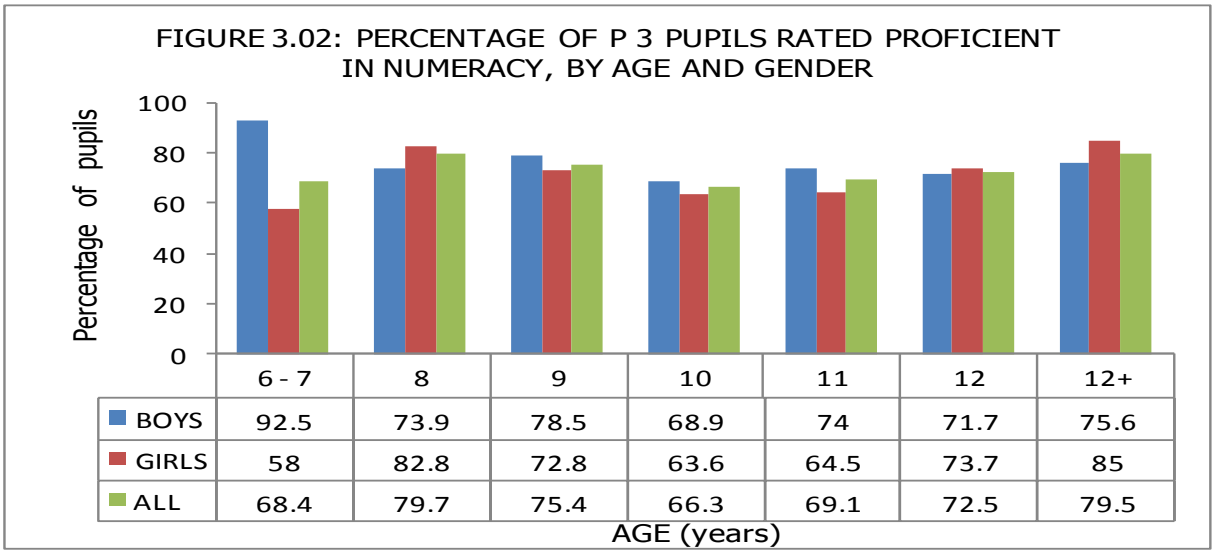
The performance of P 3 pupils in Numeracy by age and gender is presented in this section. Table 3.07 shows the mean scores of P 3 pupils by age and gender.

TABLE 3.07: MEAN SCORES OF P 3 PUPILS IN NUMERACY BY AGE AND GENDER

AGE (years)	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
6 - 7	72.7	4.40	57.6	13.41	62.1	9.76
8	66.8	6.61	69.9	4.96	68.8	5.08
9	67.0	2.15	64.3	2.04	65.5	1.95
10	61.5	4.62	56.7	5.94	59.1	5.06
11	63.1	1.77	62.4	3.27	62.8	2.16
12	61.8	1.59	62.1	1.20	61.9	1.16
12+	63.6	1.13	60.8	3.15	62.4	1.48

The mean scores increased with age from 62.1% for the 6 – 7 year-olds to 68.8% for the 8 year olds. Then the mean scores gradually decreased to 59.1% for the 10 year-olds. Apart from the 8 year olds where the girls performed better than the boys, the boys performed better than the girls at all the other ages.

Figure 3.02 shows the proportions of P 3 pupils rated proficient in Numeracy by age and gender.



	6 - 7	8	9	10	11	12	12+
BOYS	92.5	73.9	78.5	68.9	74	71.7	75.6
GIRLS	58	82.8	72.8	63.6	64.5	73.7	85
ALL	68.4	79.7	75.4	66.3	69.1	72.5	79.5

The proportions of P 3 pupils reaching the desired rating in Numeracy by age increased from 68.4% for the 6 - 7 year-olds to 79.7% for the 8 year-olds. Then gradually decreasing to 66.3% for the 10 year olds; and then increasing again to 79.5% for the 12+ year-olds. The proportion of girls reaching at or above the threshold proficiency was significantly higher than the boys for the 8 and 12+ year-olds.

3.7 ACHIEVEMENT OF P 3 PUPILS IN NUMERACY BY SCHOOL OWNERSHIP

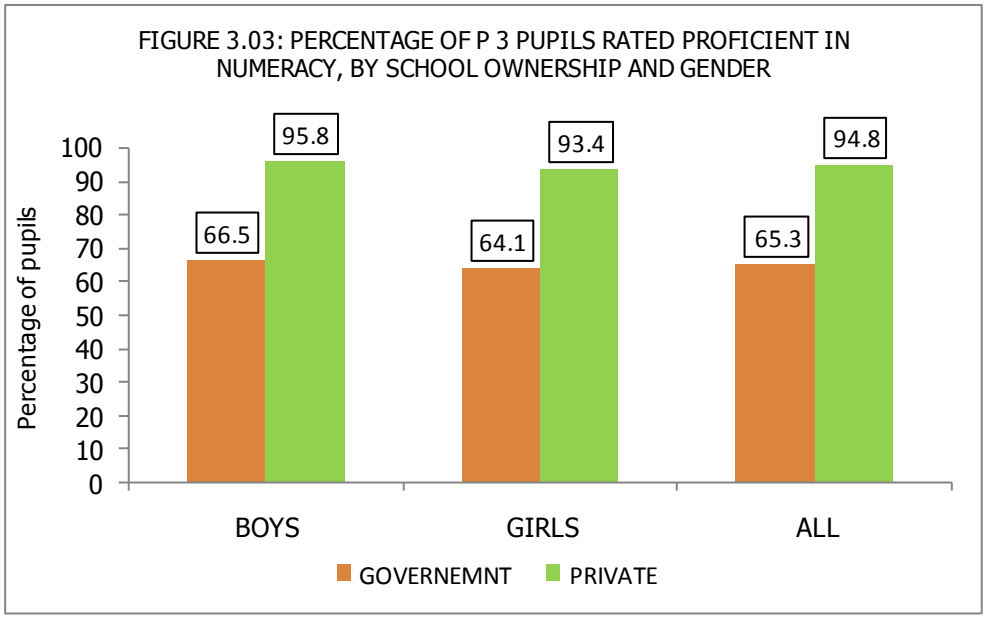
In this section, a description of the performance of P 3 pupils in Numeracy by school ownership and gender is made. Table 3.08 shows the mean scores of P 3 pupils in Numeracy by school ownership and gender.

TABLE 3:08: MEAN SCORES (PERCENTAGE) OF P 3 PUPILS IN NUMERACY BY SCHOOL OWNERSHIP

OWNERSHIP	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
Government	59.0	2.25	57.3	3.49	58.1	2.85
Private	79.8	1.99	77.9	0.83	78.8	1.04

Pupils from private schools obtained a significantly higher mean score (78.8%) than their counter parts from government schools with 58.1%. Within each school ownership category, the boys and girls obtained comparable mean scores.

Figure 3.03 shows the proportions of P 3 pupils rated proficient in Numeracy by school ownership and gender.



Whereas over 3 in 4 pupils (94.8 %) were rated proficient in private schools, only 65.3% attained a similar rating in government schools. In either school setting, the proportions of boys and girls reaching or exceeding the threshold proficiency were comparable.

3.8 ACHIEVEMENT OF P 3 PUPILS IN NUMERACY BY SCHOOL LOCATION

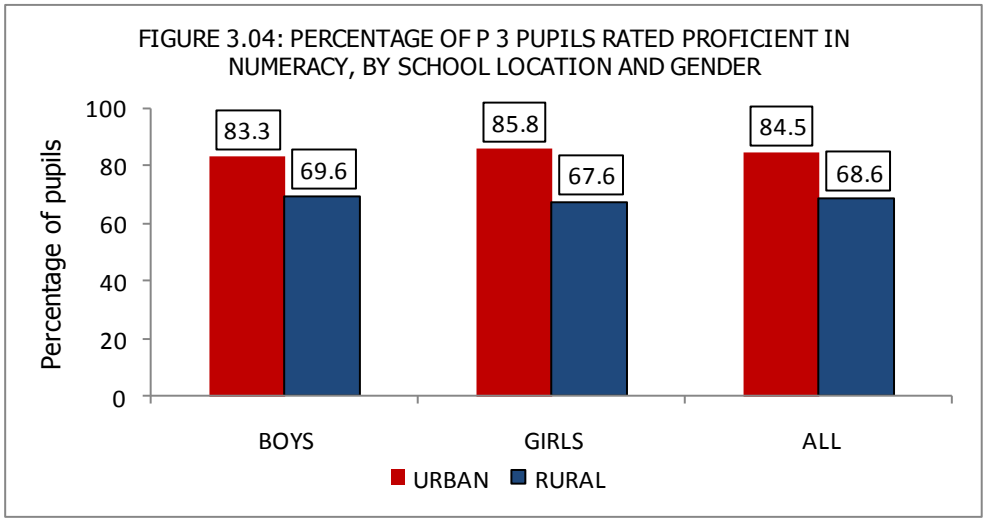
This section is a presentation of the performance of P 3 pupils in Numeracy by school location. Table 3.09 shows the mean scores of P 3 pupils in Numeracy by school location and gender.

TABLE 3:09: MEAN SCORES OF P 3 PUPILS IN NUMERACY BY SCHOOL LOCATION AND GENDER

SCHOOL LOCATION	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
URBAN	73.4	2.17	71.4	3.72	72.3	2.89
RURAL	61.4	3.06	60.0	4.37	60.7	3.70

Pupils from urban schools obtained a significantly higher mean score (72.3%) than that obtained by their counterparts from rural schools (60.7%). Within each school location, boys and girls obtained comparable mean scores.

Figure 3.04 shows the percentage of pupils rated proficient in Numeracy by school location and gender.



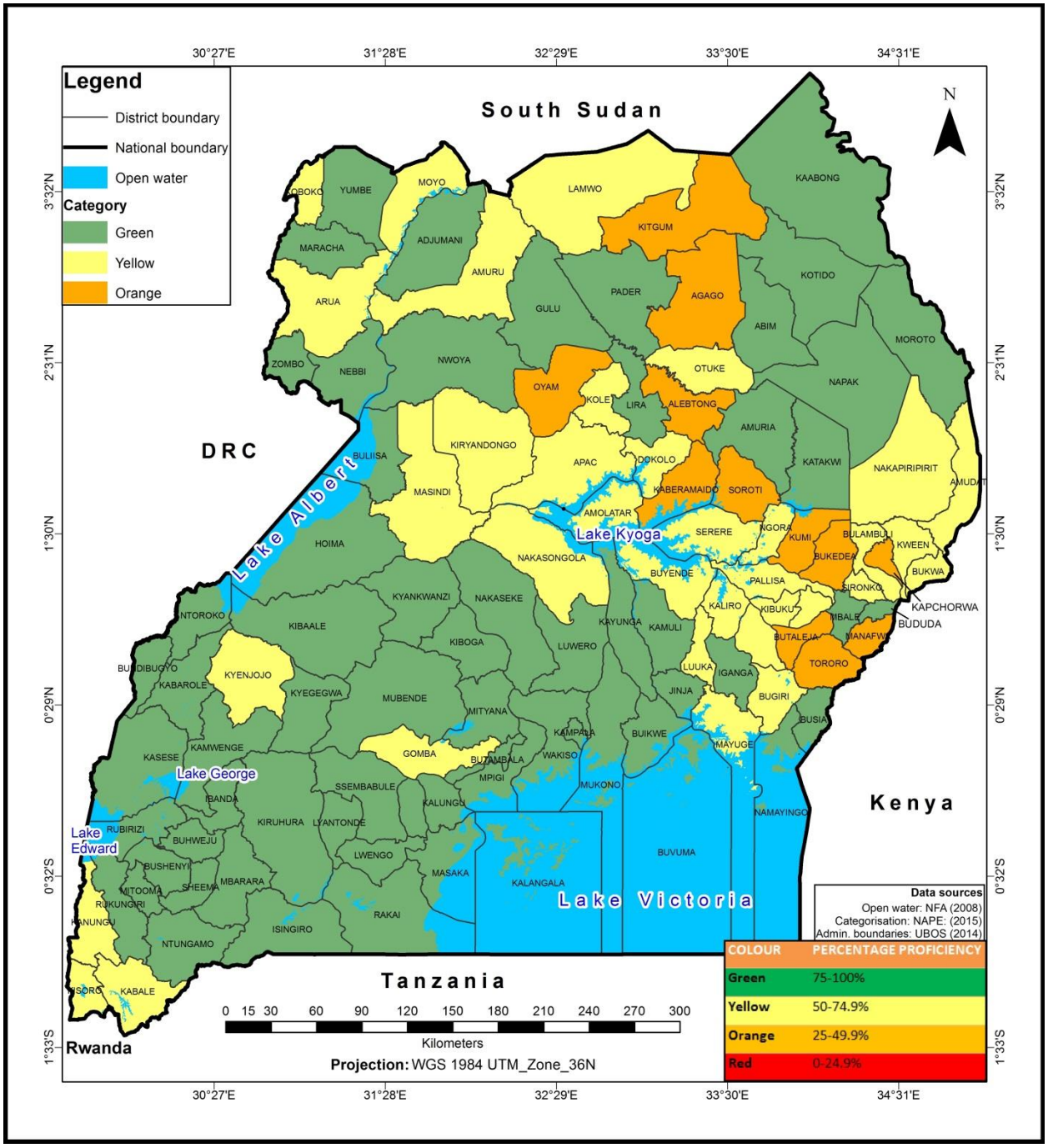
The proportions of P 3 pupils rated proficient from urban and rural schools were 84.5% and 68.6%, respectively; implying that significantly more pupils from urban schools reached or exceeded the threshold proficiency. In the urban setting, more girls than boys were rated proficient whereas the converse was true in the rural setting.

3.9 ACHIEVEMENT OF P 3 PUPILS IN NUMERACY BY DISTRICT

This section is a description of the performance of P 3 pupils in Numeracy by district. The districts were grouped using the following colours: 'Green', 'Yellow', 'Orange' and 'Red'.
The 'Green' colour is for those districts where 75% and above of the P 3 pupils were rated proficient. The districts categorized as 'Yellow' are those in which at least a half, but less than three quarters of the P 3 pupils attained the desired rating. The districts categorized as 'Orange' are those in which at least a quarter, but less than a half of the pupils attained the desired rating. Districts in 'Red' are those where less than a quarter of the pupils reached the desired proficiency level. The list of districts with their corresponding percentages of P 3 pupils rated proficient in Numeracy is shown in Appendix 1.

The categorization of the districts according to the percentages of pupils rated proficient in Numeracy is shown in Figure 3.05.

FIGURE 3.05: CATEGORIZATION OF DISTRICTS ACCORDING TO PERCENTAGES OF P 3 PUPILS RATED PROFICIENT IN NUMERACY

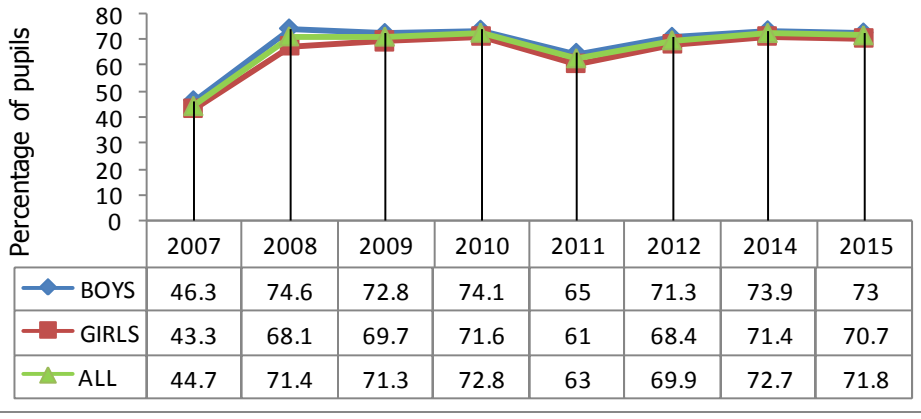


Sixty five districts out of 112 were categorized as 'Green' constituting a percentage of 58.0%. 35 districts were categorized as 'Yellow' and 10.7% of the districts were categorized as 'Orange'.

3.10 ACHIEVEMENT OF P 3 PUPILS IN NUMERACY OVER THE YEARS 2007 – 2015

In this section, a presentation of the performance pattern of P 3 pupils in Numeracy from 2007 – 2012, and then 2014-2015 is given. The proportions of pupils rated proficient in Numeracy over the years 2007–2015 is shown in Figure 3.06.

FIGURE 3.06: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN NUMERACY OVER THE YEARS 2007-2015, BY GENDER



	2007	2008	2009	2010	2011	2012	2014	2015
BOYS	46.3	74.6	72.8	74.1	65	71.3	73.9	73
GIRLS	43.3	68.1	69.7	71.6	61	68.4	71.4	70.7
ALL	44.7	71.4	71.3	72.8	63	69.9	72.7	71.8

The proportions of P 3 pupils rated proficient in Numeracy markedly increased from 44.7% in 2007 to 71.4% in 2008, and it remained nearly constant up to 2010. In 2011, the proportion dropped to 63.0% and in 2012 it rose to about its previous constant value up to 2015. More boys than girls reached or exceeded the threshold proficiency in Numeracy each year.

3.11 CONCLUSION

In Numeracy P 3 pupils performed best in the topics of 'Association' and 'Counting'. 'Measures' registered lowest percentage of pupils rated proficient.

Whereas 89.4% of P 3 pupils could identify the place value of a three digit number on an abacus, only 69.8% could show a 3–digit number on an abacus. While over a half of the P 3 pupils could multiply a 1–digit number by a 1–digit number either vertically or horizontally, fewer than 1 in 4 pupils could use the multiplication tables to carry out multiplication.

On the whole, boys and girls are performing more or less at the same level in P 3 Numeracy. Girls (69.4%) seem to have mastered the reading of the clock 'to the hour' than the boys (62.2%). The age difference at P 3 plays a lesser role since there is no significant difference in the proportions of pupils rated proficient between any two ages.

Chapter 4

ACHIEVEMENT OF P 3 PUPILS IN LITERACY IN ENGLISH

4.1 INTRODUCTION

The achievement of P 3 pupils in Literacy in English is presented in this chapter. The presentation begins with a description of the skill areas and competences that were assessed. This is followed by a presentation of the overall level of performance and the achievement of pupils in various competences. The performance is then presented by age and gender, school ownership, school location and district.

4.2 DESCRIPTION OF THE COMPETENCES ASSESSED BY PROFICIENCY LEVEL

This section is a description of the competences assessed within each proficiency level.

Note: *A pupil at a given proficiency level is assumed to have mastered all the competences below his/her level, plus the competences specified at his/her level.*

ADVANCED LEVEL	
Reading Comprehension	Writing
A pupil is able to: • Describe the activities in a picture using meaningful, correct sentences and form of words. • Read and complete sentences correctly. • Read and answer questions about a story, including those which require deeper understanding of the story. • Read and complete a story correctly.	A pupil is able to: • Write a sentence with the correct spelling, spacing, capitalization and punctuation. • Copy a story neatly, legibly and with the correct spelling, spacing, and punctuation.
ADEQUATE LEVEL	
A pupil is able to: • Describe parts of an activity in a picture using meaningful, correct sentences and form of words. • Associate objects to phrases describing their use. • Identify the missing parts on an object and draw them correctly. • Complete words correctly. • Recognise objects and write their correct name with the correct spelling. • Read a story and answer questions that	A pupil is able to: • Draw pictures of named objects correctly. • Copy words correctly. • Name objects found at home, school and environment correctly. • Write the letters of the alphabet with the correct shape and placement. • Write patterns with the correct size, shape and rhythm. • Write words correctly. • Write sentences, but makes some errors in spelling, spacing, capitalization and

require short and direct answers. • Read and complete most parts of the story correctly.	punctuation. • Copy a story, but makes some errors in spelling, spacing, capitalization and punctuation.
BASIC LEVEL	
Reading Comprehension	Writing
A pupil is able to: • Describe parts of an activity in a picture, using phrases. • Associate an object to the same object. • Identify some of the missing parts of objects and draw them correctly. • Complete common words of up to three letters. • Recognise objects but write some of their names incorrectly. • Read and complete just a small part of the story correctly.	A pupil is able to: • Draw pictures of some named objects in their immediate surroundings. • Name pictures of some objects in the home, school and environment with simple and familiar names. • Write the letters of the alphabet, but with incorrect shape or position. • Write patterns with varying sizes and rhythms. • Copy a story, but makes many errors in spelling, spacing and punctuation.
INADEQUATE LEVEL	
Reading Comprehension	Writing
A pupil is able to: • Describe parts of a picture using single words which are at times not related to the picture. • Associate some of the objects to the same objects. • Identify some of the missing parts of an object, but draws them in the wrong positions. • Recognise some of the objects but writes their names incorrectly. • Complete only a few parts of the story incorrectly.	A pupil is able to: • Copy some familiar words, but the writing is nearly illegible. • Write the letters of the alphabet, but some in the mirror image form. • Write single letters repeatedly instead of a pattern.

Note: *A pupil is rated proficient if she/he has reached the 'Advanced' or 'Adequate' level of proficiency.*

4.3 OVERALL LEVEL OF ACHIEVEMENT OF P 3 PUPILS IN LITERACY IN ENGLISH

The overall mean score of P 3 pupils in Literacy in English was 53.1% (S.E: 3.92). The mean scores by gender were 52.7% (S.E: 3.27) and 53.6% (S.E: 4.63) for the boys and girls, respectively. There were no significant gender differences in the achievement by

mean scores. The percentage of P 3 pupils reaching the various proficiency levels in Literacy in English, by gender is shown in Table 4.01.

TABLE 4:01: PERCENTAGE OF P 3 PUPILS REACHING THE VARIOUS PROFICIENCY LEVELS IN LITERACY IN ENGLISH, BY GENDER

PROFICIENCY LEVELS	BOYS (%)	GIRLS (%)	ALL (%)
Advanced	32.5	33.8	33.2
Adequate	26.5	27.5	27.0
Basic	30.0	25.6	27.7
Inadequate	11.0	13.1	12.1
TOTAL	100.0	100.0	100.0

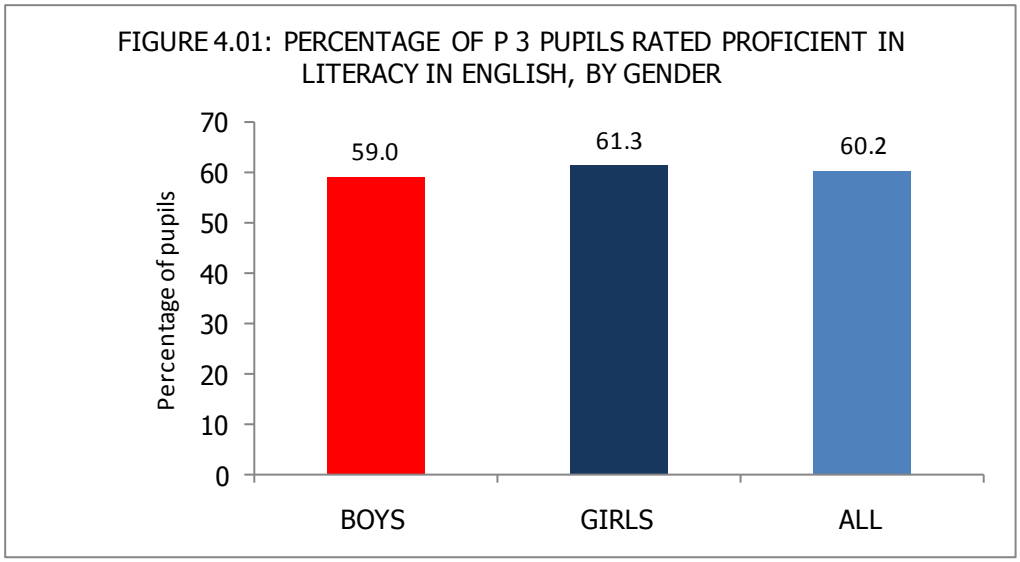
The categorization of P 3 pupils by proficiency levels shows that a third (33.2%) of P 3 pupils reached the 'Advanced Level' of proficiency. This is the level of complete masterly of the competences specified at P 3 level. The pupils at this level could ably describe activities in a picture and write sentences correctly, among others.

More than a quarter 27.0%, of the P 3 pupils were rated 'Adequate'. This is the minimum desired level of proficiency. The pupils under the adequate level have acquired the satisfactory skills expected at the P 3 level. The pupils could complete words correctly as well as write the letters of the alphabet correctly, among others.

A similar proportion, 27.7% of the P 3 pupils were rated 'Basic'. Pupils at this level have acquired only the elementary skills in Literacy in English at P 3 level. Such pupils are able to associate similar objects and to write patterns correctly.

Just slightly more than a tenth of the P 3 pupils (12.1%) were rated 'inadequate'. These are pupils whose performance is below their P 3 class level.

The overall percentage of P 3 pupils who were rated proficient by gender is presented in Figure 4.01.



Overall, 60.2% of the P 3 pupils were rated proficient in Literacy in English. The percentages of boys (59.0%) and girls (61.3%) rated proficient were not significantly different.

4.4 ACHIEVEMENT OF P 3 PUPILS IN VARIOUS COMPETENCES

The P 3 pupils' achievement in Literacy in English by various competences is presented in this section. The percentage of P 3 pupils rated proficient in the competences of 'Reading Comprehension' is shown in Table 4.02.

TABLE 4.02: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN VARIOUS COMPETENCES OF READING COMPREHENSION

COMPETENCES	BOYS	GIRLS	ALL
Associating	99.5	99.1	99.2
Completing words	60.8	64.7	62.8
Identifying	58.5	52.1	55.2
Comprehension	51.2	56.4	53.9
Describing	45.6	47.9	46.7
Recognizing	43.8	47.7	45.8
Completing sentences	41.3	42.5	41.9
Completing a story	34.3	35.3	33.4

More P 3 pupils were rated proficient in the competences of 'Associating' 99.2%, followed by 'completing words' 62.8%, 'identifying' 55.2%, and 'comprehension' 53.9%. They exhibited

lowest performance in the competences of 'completing a story', with only 33.4% rated proficient.

There were significant gender differences in P 3 pupils' performance in the competence of 'Recognizing', with the girls performing better than the boys. On the other hand, boys performed significantly better than the girls in the competence of 'identifying'.

The percentage of P 3 pupils who associated various items correctly is presented in Table 4.03.

TABLE 4.03: PERCENTAGE OF P 3 PUPILS WHO ASSOCIATED DIFFERENT ITEMS CORRECTLY

COMPETENCES	BOYS	GIRLS	ALL
Associating object to similar object	99.8	99.5	99.6
Associating objects to their uses	64.6	67.3	66

Nearly all the P 3 pupils (99.6%) could associate similar objects. However, a smaller proportion of 66% were able to associate objects to their uses. The percentages of P 3 pupils who were rated proficient in the various competences of 'Writing' are presented in Table 4.04.

TABLE 4.04: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN VARIOUS COMPETENCES OF WRITING

COMPETENCES	BOYS	GIRLS	ALL
Writing patterns	92.6	94.5	93.6
Writing words	86.7	85.3	85.9
Writing letters	87.9	83.8	85.7
Drawing	74.8	75	74.9
Writing stories	62.1	61.7	61.9
Writing sentences	49.7	52.5	51.1
Naming	34.9	32.9	33.6

Over three quarters of the pupils were rated proficient in the competences of 'writing patterns' (93.6%), 'writing words' (85.9%) and 'writing letters' (85.7%). 'Naming' registered the lowest percentage (33.6%) of pupils rated proficient. There were no significant gender differences in performance in all the competences.

4.5 ACHIEVEMENT OF P 3 PUPILS IN LITERACY IN ENGLISH BY AGE

The performance of P 3 pupils in Literacy in English by age and gender is presented in this section. The mean scores of P 3 pupils in Literacy in English by age and gender is presented in Table 4.05.

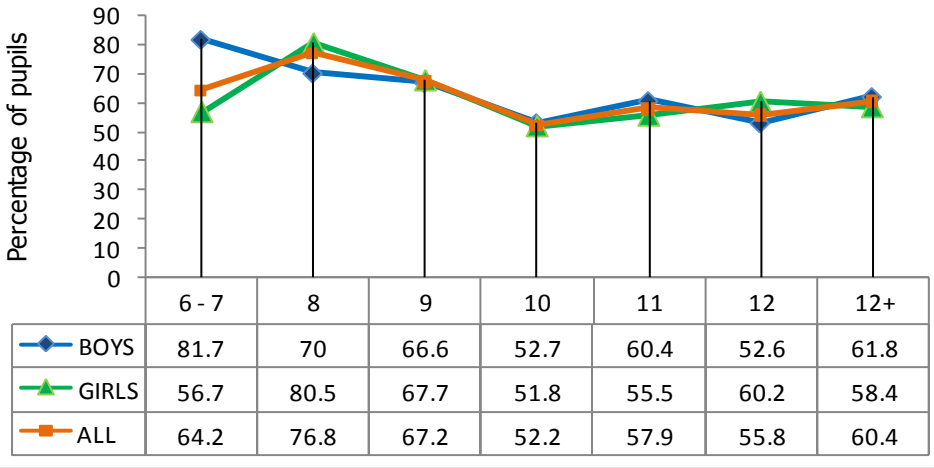
TABLE 4.05: MEAN SCORES (PERCENTAGE) OF P 3 PUPILS IN LITERACY IN ENGLISH BY PUPILS' AGE AND GENDER

AGE (years)	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
6 – 7	69.4	6.17	58.3	14.6	61.6	10.17
8	62.8	8.19	66.1	4.32	64.9	5.46
9	58.2	3.26	56.9	3.79	57.5	3.36
10	49.9	5.78	48.3	6.55	49.1	6.02
11	51.5	1.77	49.5	4.43	50.4	2.64
12	47.2	1.66	50.6	1.44	48.7	1.13
12+	50.0	1.27	50.3	3.42	50.4	1.57

The mean score of P 3 pupils varied by age. The pupils aged 8 years obtained the highest mean score of 64.9% (S.E: 5.46). They were followed by the 6 – 7 year-olds with a mean of 61.6% (S.E: 10.17). Pupils' aged 12 years registered the lowest mean score of 48.7% (S.E: 1.13). Significant gender differences in mean scores were only exhibited by the 6 – 7 year-olds with the boys in the lead.

The percentage of P 3 pupils rated proficient in Literacy in English by age and gender is shown in Figure 4.02.

FIGURE 4.02: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN LITERACY IN ENGLISH, BY AGE AND GENDER



	6 - 7	8	9	10	11	12	12+
BOYS	81.7	70	66.6	52.7	60.4	52.6	61.8
GIRLS	56.7	80.5	67.7	51.8	55.5	60.2	58.4
ALL	64.2	76.8	67.2	52.2	57.9	55.8	60.4

More pupils aged 8 years were rated proficient compared to each of the other age groups. The percentages of pupils rated proficient declined from the age of 10. Thereafter, the proportions fluctuated after every age group. There were significant gender differences in performance at almost all age groups except for the pupils aged 9 and 10.

4.6 ACHIEVEMENT OF P 3 PUPILS IN LITERACY IN ENGLISH BY SCHOOL OWNERSHIP

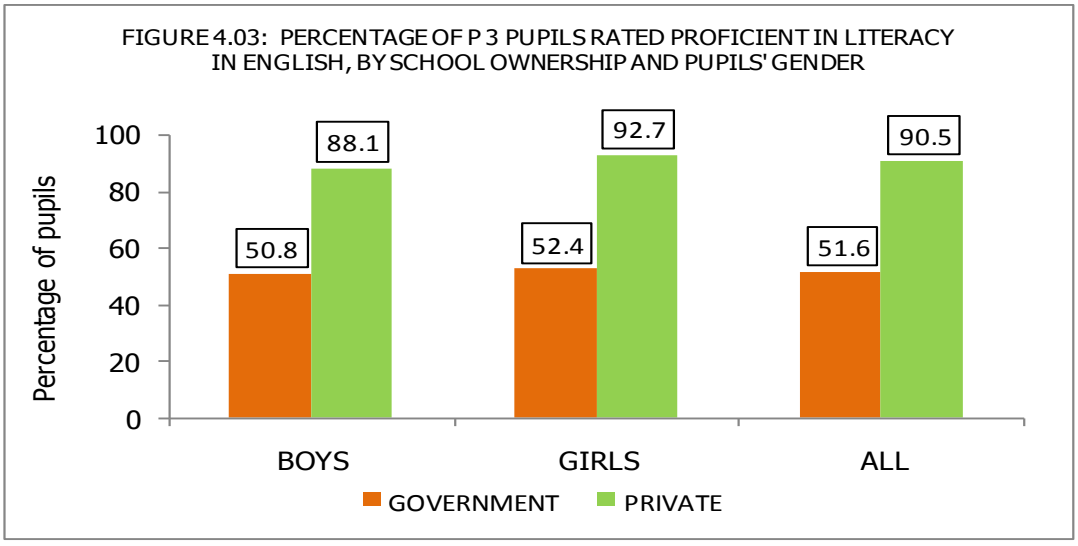
The performance of P 3 pupils in Literacy in English by school ownership is presented in this section. The mean scores of P 3 pupils in Literacy in English by school ownership and gender are presented in Table 4.06.

TABLE 4.06: MEAN SCORES (PERCENTAGE) OF P 3 PUPILS IN LITERACY IN ENGLISH BY SCHOOL OWNERSHIP AND PUPILS' GENDER

SCHOOL OWNERSHIP	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
Government	46.6	2.85	47.2	4.21	46.9	3.48
Private	74.4	2.37	75.7	2.19	75.0	1.42

P 3 pupils from private schools obtained the highest mean score of 75.0% (S.E: 1.42) compared to those from the government schools with a mean of 46.9% (S.E: 3.48). There were no significant gender differences in mean scores within each school ownership category. The percentage of P 3 pupils rated proficient by school ownership and gender is presented in Figure 4.03.

FIGURE 4.03: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN LITERACY IN ENGLISH, BY SCHOOL OWNERSHIP AND PUPILS' GENDER



Over 90% of the P 3 pupils from private schools reached the desired level of proficiency. Their counter parts from the government schools who acquired the same level of proficiency were 51.6%. There were no significant gender differences in performance within either category of school ownership.

4.7 ACHIEVEMENT OF P 3 PUPILS IN LITERACY IN ENGLISH BY SCHOOL LOCATION

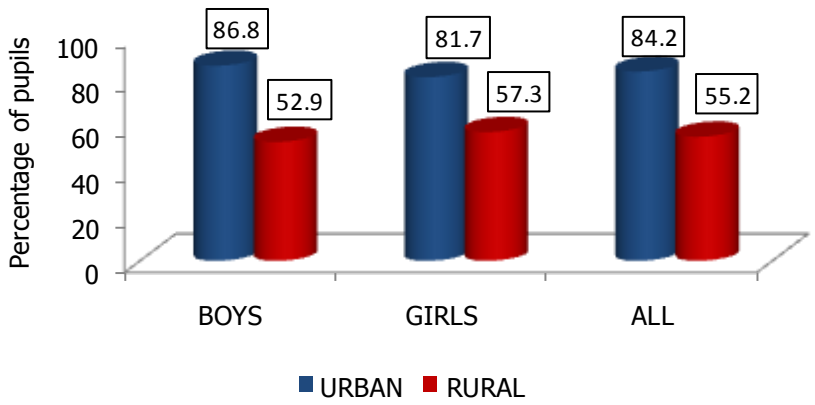
The P 3 pupils' performance in Literacy in English by school location is presented in this section. The mean scores of P 3 pupils in Literacy in English by school location and pupils' gender are shown in Table 4.07.

TABLE 4.07: MEAN SCORES (PERCENTAGE) OF P 3 PUPILS IN LITERACY IN ENGLISH BY SCHOOL LOCATION AND PUPILS' GENDER

SCHOOL LOCATION	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
Urban	67.7	3.13	70.4	4.98	69.0	3.99
Rural	49.5	3.86	50.2	5.38	49.8	4.59

Pupils from the urban schools obtained a higher mean of 69.0% (S.E: 3.99). On the other hand, the mean of P 3 pupils from the rural schools was 49.8% (S.E: 4.59). There were no significant gender differences in mean scores within each category of school location. The percentage of P 3 pupils rated proficient in Literacy in English by school location and gender is shown in Figure 4.04.

FIGURE 4.04: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN LITERACY IN ENGLISH, BY SCHOOL LOCATION AND PUPILS' GENDER



Over three quarters (84.2%) of the pupils from the urban schools were rated proficient in Literacy in English, while just over two quarters (55.2%) from the rural schools reached a similar level. There were no significant gender differences in performance by school location.

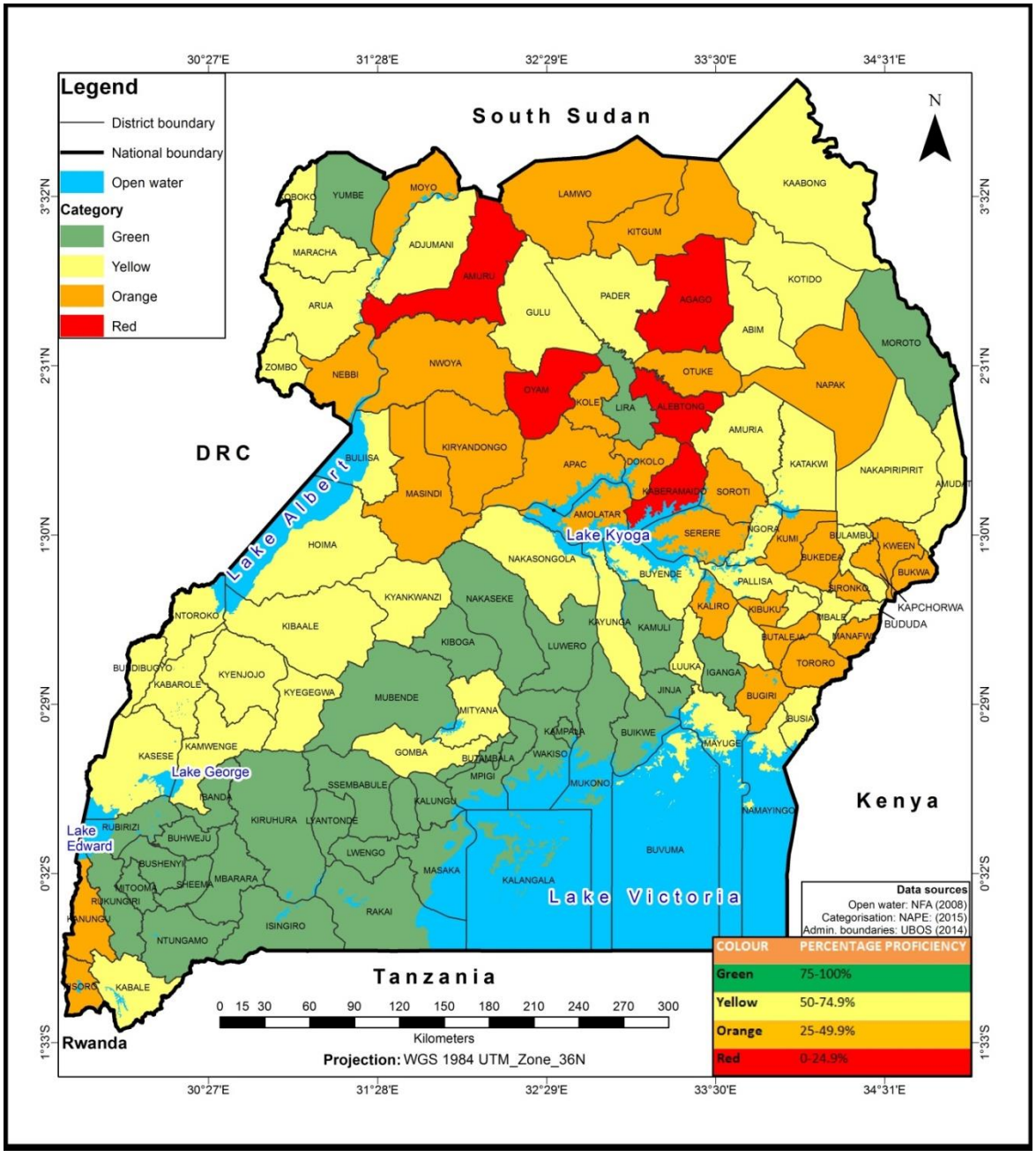
4.8 ACHIEVEMENT OF P 3 PUPILS IN LITERACY IN ENGLISH BY DISTRICT

This section is a description of the achievement of P 3 pupils in Literacy in English by district.

The list of districts with corresponding percentages of P 3 pupils rated proficient in Literacy in English is shown in Appendix 1.

The categorization of the districts according to the percentages of P 3 pupils rated proficient in Literacy in English is shown in Figure 4.05.

FIGURE 4.05: CATEGORIZATION OF DISTRICTS ACCORDING TO PERCENTAGES OF P 3 PUPILS RATED PROFICIEN IN LITERACY IN ENGLISH



Just about a third (31.2%) of the districts were categorized as 'Green'. Majority (38.4%) of the districts were categorized 'Yellow'. A quarter (25.9%) of the districts were categorized as 'Orange' and only 4.5% of the districts were categorized as 'Red'.

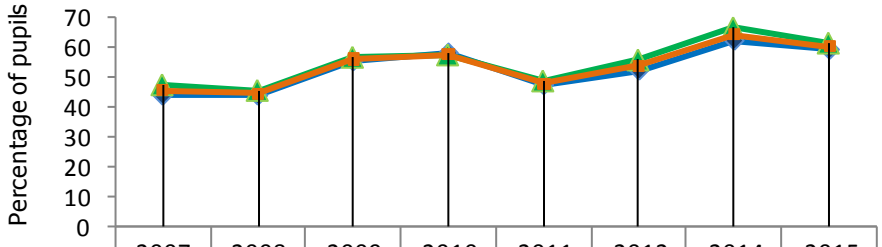
Most of the districts categorized as 'either Orange or Red' with the exception of Kiryandongo and Masindi are from the Eastern and Northern regions.

Five districts in the 'Red' category had less than a quarter of the pupils rated proficient (Appendix 1). The districts are Kaberamaido from the Far East zone and Alebtong and Oyam from the Mid-North I zone. Others are, the districts of Agago and Amuru from Mid North II zone. More girls than boys were rated proficient in 73 out of 112 districts.

4.9 ACHIEVEMENT OF P 3 PUPILS IN LITERACY IN ENGLISH OVER THE YEARS 2007 – 2015

In this section a presentation of the performance pattern of P 3 pupils in Literacy in English from 2007 – 2012, and then 2014-2015 is given. The proportions of pupils rated proficient in Literacy in English over the years 2007–2015 is shown in Figure 4.06.

FIGURE 4.06: PERCENTAGE OF P 3 PUPILS RATED PROFICIENT IN LITERACY IN ENGLISH OVER THE YEARS 2007 - 2015, BY GENDER



	2007	2008	2009	2010	2011	2012	2014	2015
BOYS	43.8	43.8	55.2	57.9	47.3	52.1	62.0	59.0
GIRLS	47.2	45.3	56.5	57.3	48.5	55.6	66.5	61.3
ALL	45.5	44.5	55.9	57.6	47.9	53.8	64.2	60.2

The proportions of P 3 pupils rated proficient in Literacy in English decreased from 45.5% in 2007 to 44.5% in 2008, and it increased between 2009 and 2010. In 2011, the proportion dropped to 47.9% and it rose to more than two-thirds between 2012 and 2015. More girls than boys reached or exceeded the threshold proficiency in Literacy in English each year except in 2010.

4.10 CONCLUSION

Under 'Reading Comprehension', the P 3 pupils performed best in the competence of 'Associating'. They also performed better in 'completing words'. They did not perform as well in other competences especially 'completing a story'. This is no surprise because 'completing a story' requires basic comprehension skills, but the pupils' performance in 'comprehension' is already indicating that they have low skills in this competence.

In 'writing' skill, P 3 pupils performed relatively well in most of the competences. However, they experienced much difficulty in 'naming objects'. The assessment required them to name some objects selected from their environment.

Chapter 5

ACHIEVEMENT OF P 6 PUPILS IN NUMERACY

5.1 INTRODUCTION

The performance of P 6 pupils in Numeracy is presented in this Chapter. First, the overall mean score and the percentage of pupils reaching the desired minimum proficiency is given. Secondly, the percentages of P 6 pupils rated proficient in each selected competence are presented. Lastly, the mean scores and proportions of pupils reaching or exceeding the threshold proficiency by gender, age, school ownership, school location and district is given. The competences which constitute each level of proficiency are highlighted in the next section.

5.2 DESCRIPTION OF THE COMPETENCES ASSESSED BY PROFICIENCY LEVEL

This section is a description of the competences within each proficiency level.

Note: *A pupil at a given proficiency level is assumed to have mastered all the competences specified at his/her level and the competences below the level.*

ADVANCED LEVEL
A pupil is able to:
- apply the four basic operations on numbers in novel situations.
- round off decimal numbers to the nearest whole number.
- apply the concepts of capacity and fractions in novel situations.
- find the number of small containers/surface areas of a liquid/solid which can fill/cover a larger one.
- interpret bar graphs/pictographs.
- draw a bar graph.
- construct a triangle whose dimensions are given.
- recognize and complete a sequence.

ADEQUATE LEVEL
A pupil is able to:
- add up to a 3–digit number to a 3–digit number with carrying.
- subtract up to a 3-digit number from a 3-digit number with borrowing.
- multiply a 2–digit by up to a 2–digit number.
- use brackets to work out a combined operations of addition and multiplication.
- find the lowest common multiple of up to three numbers each less than 50.
- find the square root of a number less than 300.
- construct special angles (30° or 45° or 60°).
- identify and draw lines of symmetry on a regular polygon.
- carry out house–hold budgeting.
- construct a circle of given radius.
- apply the four basic operations on fractions with same/different denominators.

BASIC

A pupil is able to:

- add up to three 2–digit numbers without carrying.
- subtract a 2–digit number from a 2–digit number without borrowing.
- change a fraction to a decimal and vice versa.
- tell time on a clock face to the hour.
- identify a prime number.
- arrange numbers from the smallest to the largest.
- measure lengths and angles.
- compute the area/perimeter of a regular polygon.

INADEQUATE

A pupil is able to:

- write a number shown on an abacus.
- write a 3-digit number in words.
- write a number in expanded form.
- write the place value of a number up to thousands.

Note: *A pupil is rated proficient if he/she has reached the 'Advanced' or 'Adequate' level of proficiency.*

5.3 OVERALL ACHIEVEMENT OF P 6 PUPILS IN NUMERACY

A description of the performance of P 6 pupils in Numeracy is made in this section. The overall mean score was 47.1% (S.E:1.54.). Boys and girls obtained respective mean scores of 48.7% (S.E:1.63) and 45.4% (S.E:1.45). Table 5.01 is a presentation of the proportions of P 6 pupils reaching different levels of proficiency in Numeracy by gender.

TABLE 5.01: PERCENTAGE OF P 6 PUPILS REACHING THE VARIOUS PROFICIENCY LEVELS IN NUMERACY BY GENDER

PROFICIENCY LEVELS	BOYS	GIRLS	ALL
Advanced	24.3	18.7	21.6
Adequate	32.6	29.5	31.0
Basic	33.6	40.3	36.8
Inadequate	9.5	11.5	10.5
TOTAL	100.0	100.0	100.0

The proportion of P 6 pupils reaching or exceeding the 'Advanced' level of proficiency was 21.6%. These were the pupils who had complete mastery of the concepts and the associated skills specified by the national curriculum at that level. For instance, they could not only compute how many bed sheets could be cut off from a roll of cloth but could also apply the concepts of fractions in real life situations.

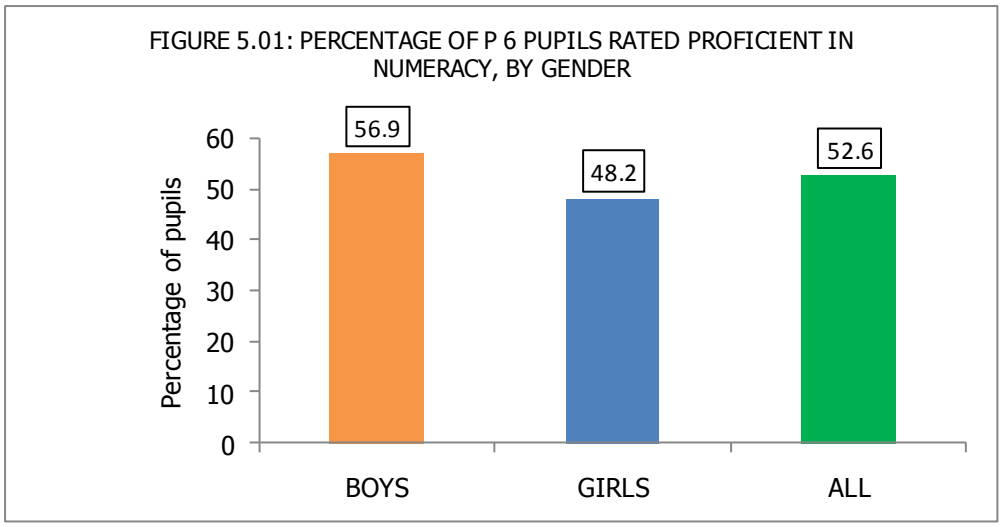
The second category of pupils rated 'Adequate' constituted 31.0%. These were the pupils who demonstrated the minimum desired academic performance at P 6 and displayed accurately the associated skills. For instance, they could neatly construct a triangle whose dimensions are given, as well as accurately interpret a pictogram.

The third group, of pupils rated 'Basic' comprised 36.8%. These were the pupils who demonstrated marginal academic performance, with limited display of the associated skills. For instance, they could list the multiples of numbers and yet had difficulty in finding the lowest common multiple of two or more numbers. They could also recognize the operation to compute the number of coins in a shilling note, but could not divide two numbers.

The last category of pupils rated 'Inadequate' constituted 10.5%. These were the category of pupils with low comprehension of the concepts at their level and showed minimal display of the skills specified in the curriculum. For instance, they could write a number shown on an abacus but could not give its place value.

Figure 5.01 is a presentation of the percentage of P 6 pupils rated proficient in Numeracy.

FIGURE 5.01: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN NUMERACY, BY GENDER



More than a half of the P 6 pupils (52.6%) reached or exceeded the threshold proficiency level in Numeracy. The proportion of boys (56.9%) rated proficient in Numeracy was significantly higher than that (48.2%) of the girls.

5.4 ACHIEVEMENT OF P 6 PUPILS IN NUMERACY BY TOPICAL AREAS

A description of the performance of P 6 pupils in Numeracy by topical area and gender is given in this section. The arrows used were assigned the colours: 'Green', 'Yellow' and 'Red', where 'Green' represents the competences in which at least, three quarters of the pupils were rated proficient. 'Yellow' represents the competences in which at least a half, but less than three quarters of the pupils reached the desired proficiency. Lastly, 'Red' represents the competences in which less than a half of the pupils were rated proficient.

Table 5.02 is a presentation of the proportions of pupils attaining the desired rating by topical area and gender.

TABLE 5.02: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT BY TOPICAL AREAS

TOPICAL AREA	BOYS	GIRLS	ALL
Operation on numbers	↑85.4	↑81.4	↑83.4
Number system and place value	↑82.4	↑75.6	↑79.0
Interpretation of graphs	→53.6	↓44.4	↓49.1
Fractions	↓40.8	↓36.5	↓38.6
Measures	↓36.9	↓27.4	↓32.2
Geometry	↓31.3	↓26.5	↓28.7
Number patterns and sequences	↓27.7	↓24.7	↓26.2

Over 3 in 4 pupils reached or exceeded the minimum desired proficiency level in 'Operation on numbers' and 'Number system and place value'. These are the topics where the pupils exhibited best performance. These were followed by 'Interpretation of graphs' where nearly a half of the pupils (49.1%) were rated proficient. Fewer than 1 in 3 pupils were rated proficient in 'Geometry' and 'Number patterns and sequences'.

Except for 'Number patterns and sequences' where the gap was closest, the proportion of boys who attained the desired rating in each topical area in Numeracy was significantly higher than that of the girls.

5.5 ACHIEVEMENT OF P 6 PUPILS IN THE COMPETENCES OF NUMERACY

In this section, a presentation of the achievement of P 6 pupils in each of the competences assessed in the test is given. The proportions of P 6 pupils rated proficient in the competences grouped in their respective topics are shown in Tables 5.03 – 5.09.

TABLE 5.03: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN VARIOUS COMPETENCES OF OPERATIONS ON NUMBERS

COMPETENCE	BOYS	GIRLS	ALL
Subtraction of two 3-digit numbers without borrowing	95.4	96	95.6
Addition of two 3-digit numbers without carrying	94.8	94.7	94.8
Addition of two 3-digit numbers with carrying	95.1	94	94.5
Application of addition in novel situations	92.0	89.7	90.8
Subtraction of two 3–digit numbers with borrowing	88.2	86.8	87.5
Multiplication of natural numbers by a 1–digit number	87.0	85.0	86.0
Division of a 2-digit number by a 1-digit number	75.0	73.0	74.0
Application of subtraction in real life situations	76.1	69.7	73.0
Application of multiplication in novel situations	74.7	69.4	72.1
Multiplication of natural numbers by a 2-digit number	73.0	70.2	71.7
Application of division in real life situations	67.8	59.6	63.4
Use of symbols <, > to compare numbers	63.7	57.2	60.5
Use of brackets to show the order in which combined operations(x, +) must be performed	30.9	32.2	31.5

More than 3 in 4 of the P 6 pupils reached or exceeded the threshold proficiency in 'Addition', 'Subtraction', and 'Multiplication' of two 3-digit numbers as well as 'Application of addition in novel situations'.

Over two thirds of the P 6 pupils could carry out and 'apply the basic operations on numbers in real life situations' apart from 'applying division' where a slightly lower proportion (63.4%) attained a similar rating. Less than a third of the P 6 pupils were proficient in the 'use of brackets to show combined operations'.

The proportion of boys and girls rated proficient was comparable in all the four basic operations.

TABLE 5.04: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN NUMBER SYSTEM AND PLACE VALUE

COMPETENCE	BOYS	GIRLS	ALL
Showing a number on an abacus	↑ 92.5	↑ 92.4	↑ 92.5
Writing a number in expanded form and vice versa	↑ 89.6	↑ 87.4	↑ 88.5
Writing in words numbers given in figures and vice versa	↑ 89.3	↑ 85.4	↑ 87.3
Writing the place value of a digit in a given number up to thousands	↑ 85.4	↑ 81.2	↑ 83.4
Converting Roman numerals into Hindu-Arabic and vice versa	↑ 79.5	→ 71.0	↑ 75.3
Rounding off numbers to the nearest value	↓ 41.7	↓ 42.7	↓ 42.2

Whereas over 75% of the pupils could show a number on an abacus, write a number in expanded form and vice versa, write in words a number given in figures and vice versa, fewer than 1 in 2 of the pupils were able to correct a decimal number to the nearest hundredth. More boys than girls were rated proficient in most of the competences of 'Number system and place value'.

TABLE 5.05: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN THE COMPETENCES OF 'INTERPRETATION OF GRAPHS'

COMPETENCE	BOYS	GIRLS	ALL
Drawing bar graphs	→ 71.3	→ 69.7	→ 70.5
Computing the mean mark	↓ 41.7	↓ 39.2	↓ 40.5
Interpreting pictograms	↓ 42.0	↓ 33.4	↓ 37.8

Whereas over 2 in 3 pupils reached or exceeded the desired rating in 'drawing of bar graphs', fewer than a half of the pupils attained a similar rating in 'computing of the mean mark' and 'interpreting of the pictograms'. Apart from the 'interpretation of pictograms' where the boys performed significantly better than the girls, the proportions of the boys and girls rated proficient was comparable in all the other competences of 'Interpretation of graphs'.

TABLE 5.06: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN 'FRACTIONS'

COMPETENCE	BOYS	GIRLS	ALL
Adding decimal fractions up to thousandths	85.6	81.8	83.7
Drawing unit and non-unit fractions	83.5	81.0	82.2
Adding fractions with same denominators	79.2	82.0	80.5
Subtracting fractions with same denominators	80.0	81.7	80.4
Subtracting decimal fractions up to thousandths	77.8	76.2	77.0
Multiplying fractions by fractions	58.5	56.2	57.4
Multiplying fractions by natural numbers	47.8	41.3	44.6
Adding/Subtracting fractions with different denominators	42.7	39.6	41.2
Dividing fractions by fractions	23.0	19.4	21.2
Changing fractions to decimals and vice versa	42.1	39	40.5
Applying fractions in novel situations	5.0	5.4	5.2

Whereas best performance (83.7%) was exhibited in 'adding decimal fractions up to thousandths without carrying', good performance was also demonstrated in 'drawing unit and non-unit fractions' and 'adding/subtracting fractions with the same denominator', where over 3 in every 4 of the P 6 pupils were rated proficient.

In most of the competences of fractions, fewer than 50% of the pupils attained the desired rating. Lowest performance was exhibited in 'Applying fractions in novel situations'. There was no significant difference in the proportion of boys and girls reaching or exceeding the threshold proficiency level in almost all the competences except 'Multiplying fractions by natural numbers'.

TABLE 5.07: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN 'MEASURES'

COMPETENCE	BOYS	GIRLS	ALL
Solving problems involving money (buying and selling)	81.8	79.0	80.4
Carrying out money calculations (bills)	63.8	59.3	61.5
Changing a smaller unit to a larger one and vice versa	46.0	32.2	39.1
Finding the perimeter of a rectangle	38.0	33.2	35.6
Solving problems involving time and distance	38.0	33.2	35.6
Telling time on a clock face	43.0	21.2	32.3
Finding the number of smaller areas/ volumes that fill a larger one	23.1	18.5	20.8

Whereas over two thirds of the P 6 pupils (80.4%) demonstrated best performance in the competences of buying and selling of common objects, fewer than 2 in 5 pupils reached or exceeded the minimum desired proficiency in the rest of the competences of 'Measures' assessed. Lowest performance was exhibited in the computation of the number of smaller areas required to cover a larger surface. The proportion of boys rated proficient was significantly higher than that of the girls in nearly all the competences of 'Measures'.

TABLE 5.08: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN 'GEOMETRY'

COMPETENCE	BOYS	GIRLS	ALL
Drawing an angle less than 180°	75.6	76.4	76.0
Constructing a circle	70.2	76.0	73.0
Drawing lines of symmetry	47.0	48.0	47.5
Measuring a given length	45.7	40.8	43.3
Identification of parallel lines	41.2	39.3	40.3
Constructing a triangle	21.7	19.3	20.5
Measuring an obtuse angle	9.1	6.0	7.6

Whereas over 2 in every 3 pupils reached or exceeded the desired minimum proficiency in 'drawing an angle of less than 180^0' (acute angle) and 'constructing a circle', using of a pair of compasses, a protractor and a ruler, fewer than 10% obtained a similar rating in the use of a protractor to measure an obtuse angle. Over 2 in 5 pupils demonstrated competence in 'measuring a given length' and stating its units correctly as opposed to only 20.5% who could construct a triangle whose dimensions are given.
More girls than boys were rated proficient in all the three competences of 'Geometry' that involved drawing.

TABLE 5.09: PERCENTAGE OF PUPILS RATED PROFICIENT IN NUMBER PATTERNS AND SEQUENCES

COMPETENCE	BOYS	GIRLS	ALL
Finding the lowest common multiple of up to 3 numbers each of which is less than 50	48.5	45.4	47.0
Forming number patterns of triangle numbers	47.0	43.1	45.0
Identifying an odd number	41.1	40.6	40.8
Finding the squares of a number less than 50	27.1	29.3	28.2
Finding multiples of numbers less than 20	29.2	25.0	27.2
Completing a number sequence	10.5	5.5	8.0
Finding the square roots of numbers up to 300	6.7	5.3	6.0

Best performance (47.0%) was exhibited in 'Finding the lowest common multiple (LCM) of numbers'. This was followed by 'Forming number patterns of triangle numbers' where 45.0% of the learners were rated proficient. Likewise, the proportion of pupils who were able to compute the squares of a numbers less than 50 (28.2%) was nearly five times that of pupils, who could find the square roots of numbers (6.0%). Lowest performance was exhibited in the competence of 'completing a number sequence' and the competence of 'finding the square root of a number'. Apart from 'completing a number sequence' and 'forming number patterns of triangle numbers', the proportions of boys and girls rated proficient in all the competences of 'number patterns and sequences' were comparable.

5.6 ACHIEVEMENT OF P 6 PUPILS IN NUMERACY BY AGE

This section is a description of the performance of P 6 pupils in Numeracy by age and gender. Table 5.10 is a presentation of the mean scores of P 6 pupils in Numeracy by age and gender.

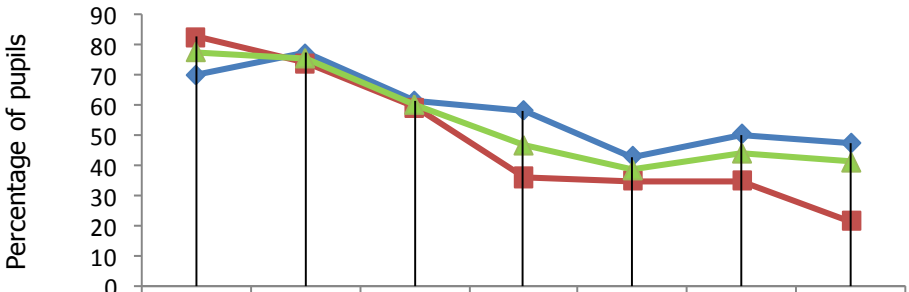
TABLE 5.10: MEAN SCORES (PERCENTAGE) OF P 6 PUPILS IN NUMERACY, BY AGE AND GENDER

AGE	BOYS		GIRLS		ALL	
	MEAN	S.E	MEAN	S.E	MEAN	S.E
9 -10	59.3	6.33	63.4	6.41	61.8	6.09
11	60.6	4.02	56.6	2.12	58.6	2.59
12	52.6	1.72	50.6	2.04	51.5	1.69
13	46.5	1.24	40.1	0.94	43.1	0.94
14	42.7	1.41	38.3	1.30	40.4	0.98
15	43.4	1.34	40.1	1.27	42.0	1.32
15+	45.0	5.61	33.1	1.41	42.2	4.48

The mean scores of P 6 pupils in Numeracy decreased gradually from 61.8% for the 9 – 10 year-olds to 40.4% for the 14 year-olds. Then they remained nearly constant at about 42.0% for the 15 and 15+ year-olds. Apart from the 9 – 10 year-old pupils where the girls' mean score was significantly higher than the boys', the boys obtained higher mean scores than the girls in the rest of the age groups.

The proportions of P 6 pupils who reached or exceeded the threshold proficiency in Numeracy by age are shown in Figure 5.02.

FIGURE 5.02: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN NUMERACY, BY PUPILS' AGE AND GENDER



	9 - 10	11	12	13	14	15	15+
BOYS	70.1	77.3	61.4	58.2	42.8	50.3	47.2
GIRLS	82.8	74.2	59.4	35.9	34.8	34.8	21.4
ALL	77.9	75.8	60.3	46.7	38.4	44	41.0

The proportion of P 6 pupils attaining the desired rating decreased gradually from 77.9% for the 9 – 10 year-olds to 38.4% for the 14 year-olds. Thereafter, the proportion of pupils reaching the desired proficiency rose up slightly and then declined again. With the exception of the 9 – 10 year-olds where the proportion of girls rated proficient was significantly higher than the boys, more boys than girls attained the desired minimum proficiency in the rest of the age groups.

5.7 ACHIEVEMENT OF P 6 PUPILS IN NUMERACY BY SCHOOL OWNERSHIP AND GENDER

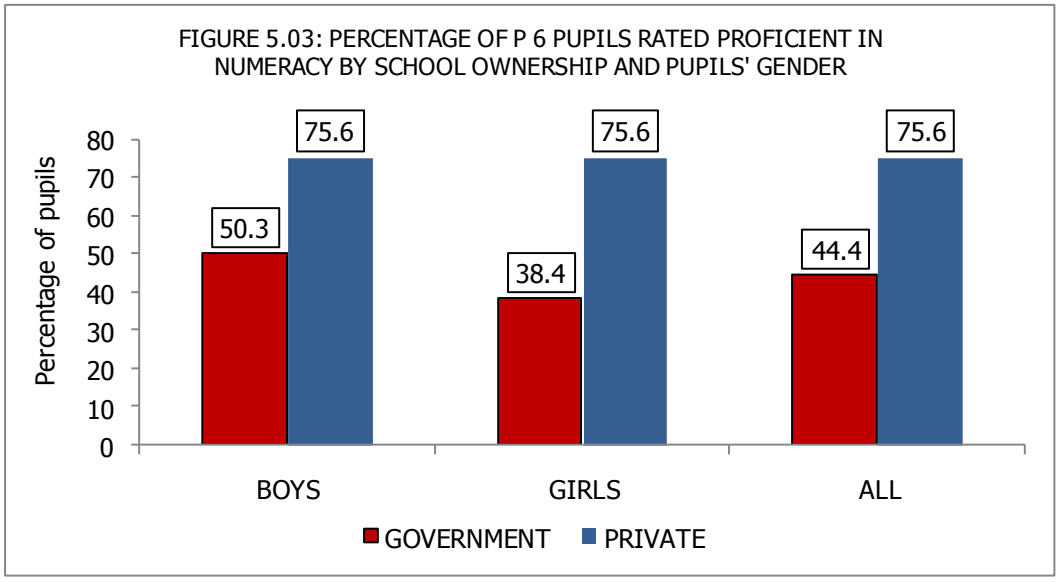
The achievement of P 6 pupils in Numeracy by school ownership and gender is presented in this section. The mean scores of P 6 pupils in Numeracy by school ownership are shown in Table 5.11.

TABLE 5.11: MEAN SCORES (PERCENTAGE) OF P 6 PUPILS IN NUMERACY BY SCHOOL OWNERSHIP AND GENDER

OWNERSHIP	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
GOVERNMENT	45.2	2.34	41.6	1.99	43.4	2.20
PRIVATE	58.7	2.53	55.8	2.10	57.3	2.21

The respective mean scores of P 6 pupils in Numeracy from the private and government schools were 57.3% and 43.4%. There was a significant performance gap of 13.9 points. Within each school set up, the boys' mean scores were slightly higher than the girls'.

The percentages of pupils rated proficient in Numeracy by school ownership and gender are shown in Figure 5.03.



The difference in the performance of the pupils (75.6%) from private schools and their counterparts (44.4%) from government schools was highly significant. Whereas the proportion of boys and girls from private schools was similar, the boys from government schools were significantly 11.6 points above the girls from the same setting.

5.8 ACHIEVEMENT OF P 6 PUPILS IN NUMERACY BY SCHOOL LOCATION

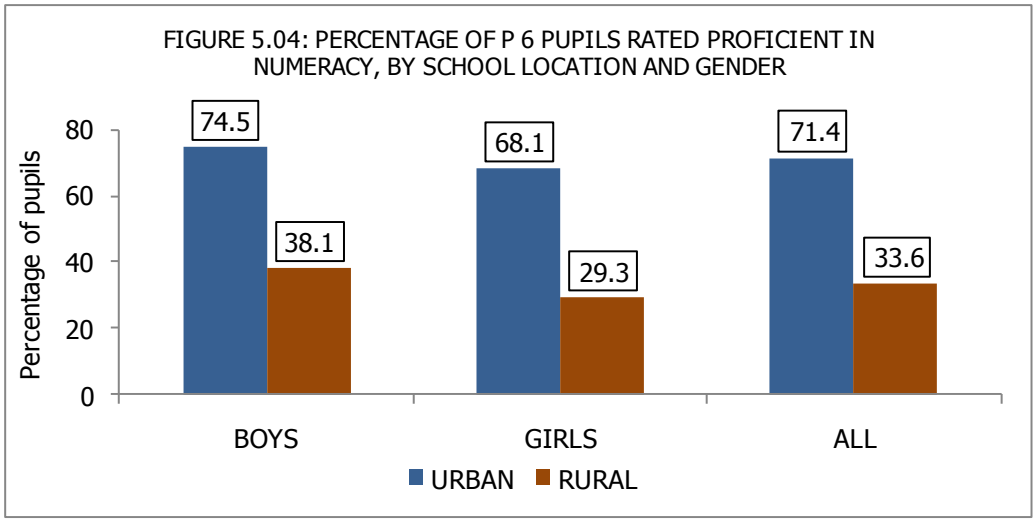
The performance level of the P 6 pupils in Numeracy by school location and gender is given in this section. The mean scores of P 6 pupils in Numeracy by school location and gender are shown in Table 5.12.

TABLE 5.12: MEAN SCORES (PERCENTAGE) OF P 6 PUPILS IN NUMERACY BY SCHOOL LOCATION AND GENDER

LOCATION	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
URBAN	56.6	2.04	53.9	2.3	55.3	2.08
RURAL	40.3	0.67	37.3	0.69	38.8	0.63

Pupils from urban schools obtained a mean score of 55.3% which was 16.5 points significantly above that of pupils from rural schools. Within each school set up, boys' mean scores were higher than those of the girls.

The proportions of pupils rated proficient in Numeracy, by school location and gender are shown in Figure 5.04.

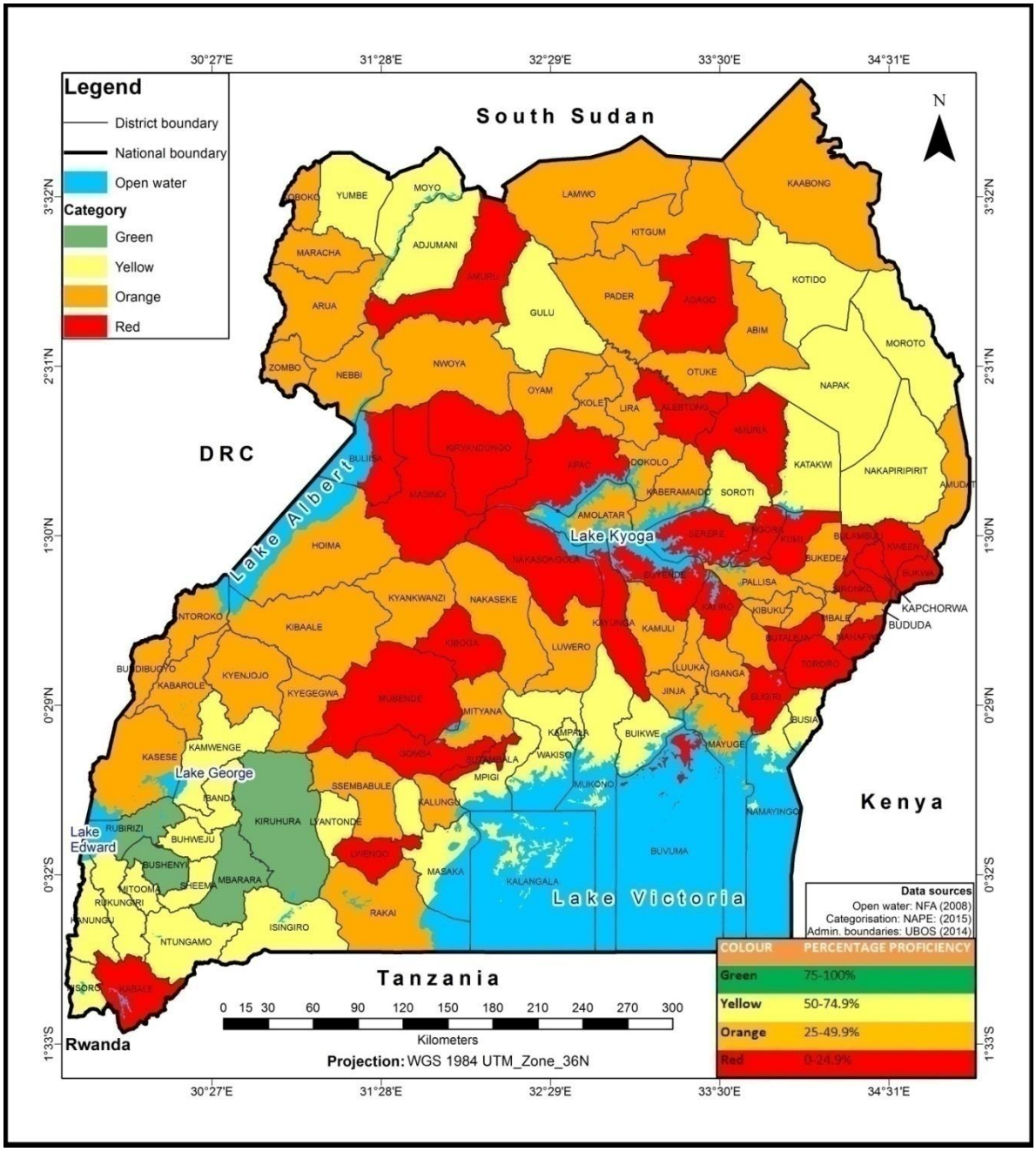


The percentage of pupils (71.4%) rated proficient in Numeracy in the urban schools was more than double that of pupils (33.6%) from rural schools. The proportion of boys rated proficient was significantly higher than the girls who obtained a similar rating in each school location.

5.9 ACHIEVEMENT OF P 6 PUPILS IN NUMERACY BY DISTRICT

This section describes the achievement of P 6 pupils in Numeracy by district. The list of districts with corresponding percentages of P 6 pupils rated proficient in Numeracy is shown in Appendix 1. The categorization of the districts according to the percentages of P 6 pupils rated proficient in Numeracy is shown in Figure 5.05.

FIGURE 5.05: CATEGORIZATION OF DISTRICTS ACCORDING TO PERCENTAGES OF P 6 PUPILS RATED PROFICIENT IN NUMERACY

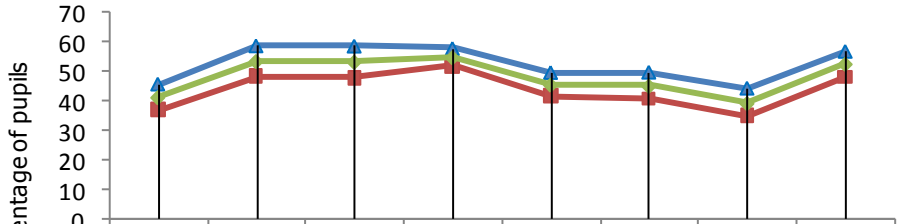


Three districts (2.7%) were categorized as 'Green', 28.6% of the districts were in 'Yellow', while most of the districts (62) were in 'Orange' constituting a percentage of 55.4%. Fifteen (15) districts were categorized as 'Red'. Bukwo had 1.7% of the pupils rated proficient (*Appendix 1*).

5.10 ACHIEVEMENT OF P 6 PUPILS IN NUMERACY OVER THE YEARS 2007 – 2015

In this section a presentation of the performance of P 6 pupils in Numeracy over the years 2007 – 2012 and then 2014–2015 is given. The proportions of pupils rated proficient in Numeracy over the years 2007 – 2015 are shown in Figure 5.06.

FIGURE 5.06: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN NUMERACY OVER THE YEARS 2007 - 2015, BY GENDER



	2007	2008	2009	2010	2011	2012	2014	2015
BOYS	45.6	58.8	58.7	57.9	49.6	49.7	44.2	56.9
GIRLS	37.2	48.4	48.1	52.1	41.7	40.9	35.0	48.2
ALL	41.4	53.5	53.3	54.8	45.6	45.2	39.4	52.6

The proportion of pupils rated proficient increased from 41.4% in 2007 to 53.5% in 2008, and then remained constant for about 3 years. It then dropped to 45.6% in 2011 remaining nearly the same in 2012. However, in 2015, it rose to 52.6%; slightly above its previous constant value.

5.11 CONCLUSION

Primary six pupils performed best in the topic of 'Operations on Numbers' where over 8 in 10 pupils reached or exceeded the threshold level of proficiency. This was followed by 'Number system and place value' where over 3 in 4 pupils attained the desired rating.

Lowest performance was exhibited in the topics of 'Measures', 'Geometry' and 'Number patterns and sequences', where less than a third of the pupils were rated proficient.

Whereas over 60% of the pupils reached the desired rating in almost all the competences of 'Operations on Numbers', a mere 5.0% of the P 6 pupils demonstrated competence in the use of number symbols to compare numbers. Whereas over two thirds of the P 6 pupils demonstrated best performance in the competences of buying and selling of common objects, they exhibited worst performance in the computation of the number of smaller areas required to cover a larger surface.

In the topic of 'Fractions', whereas the pupils could adequately 'add' or 'subtract' decimal fractions, they generally had some difficulty in the four operations on fractions.

The pupils demonstrated the lowest performance in 'application of fractions in novel life situations'. In performance by school ownership, there is a significant gap between the two school ownerships.

Chapter 6

ACHIEVEMENT OF P 6 PUPILS IN LITERACY IN ENGLISH

6.1 INTRODUCTION

The achievement of P 6 pupils in Literacy in English is presented in this chapter. The presentation begins with a description of the skill areas and competences that were assessed. This is followed by a presentation of the overall level of performance and the achievement of pupils in various competences. The performance is then presented by age and gender, school ownership, school location and district.

6.2 DESCRIPTION OF THE COMPETENCES ASSESSED BY PROFICIENCY LEVEL

This section is a description of the competences assessed within each proficiency level.

Note: *A pupil at a given proficiency level is assumed to have mastered all the competences below his/her level, plus the competences specified at his/her level.*

ADVANCED LEVEL		
Reading Comprehension	Writing	Elements of Grammar
A pupil is able to: ▪ read a text and answer questions requiring making predictions, inferences and deriving lessons from the text.	A pupil is able to: ▪ write an informal letter with the correct format. ▪ write a well sequenced composition relevant to the topic.	A pupil is able to: ▪ use the future tense. ▪ use given structures correctly. ▪ use descriptive words in sentences.
ADEQUATE LEVEL		
Reading Comprehension	Writing	Elements of Grammar
A pupil is able to: ▪ name objects and spell them correctly. ▪ tell the time on a clock face. ▪ describe the activities in a picture using full sentences. ▪ read a text and derive the meaning of words as used in the text.	A pupil is able to: ▪ write correct sentences from jumbled words. ▪ copy a story correctly. ▪ write an informal letter, but with errors in the format. ▪ write a composition relevant to the topic but lacking in sequence. ▪ copy simple sentences with correct punctuation.	A pupil is able to: ▪ use a given vocabulary item in a full sentence. ▪ use the present continuous tense correctly. ▪ use most structures correctly. ▪ Use most descriptive words in sentences correctly.

BASIC LEVEL		
Reading Comprehension	Writing	Elements of Grammar
A pupil is able to: ▪ describe the activities in a picture using short phrases. ▪ associate actions to pictures. ▪ read simple texts and answer questions requiring direct responses from the texts.	A pupil is able to: ▪ draw and label objects. ▪ copy a story but with some errors in punctuation. ▪ copy simple sentences but with errors in punctuation. ▪ write some correct sentences from jumbled words. ▪ write an informal letter, but with many errors and omissions. ▪ Write a short composition, with many errors.	A pupil is able to: ▪ give the plurals of common words. ▪ use a given vocabulary in a sentence with grammatical errors. ▪ use the simple past tense. ▪ use a few simple structures correctly. ▪ Use a few of the descriptive words in sentences.
INADEQUATE LEVEL		
Reading Comprehension	Writing	Elements of Grammar
A pupil is able to: ▪ name some objects correctly. ▪ describe the activities in a picture using single words. ▪ associate words to objects.	A pupil is able to: ▪ draw and label common objects. ▪ write simple words from jumbled letters. ▪ copy simple sentences but with errors in spelling and punctuation.	A pupil is able to: ▪ give the plurals of words that need adding 's'. ▪ use a given vocabulary but in phrases or incomplete sentences and other errors in grammar. ▪ use the present tense.

Note: *A pupil is rated proficient if he/she has reached 'Advanced' or 'Adequate' level of proficiency.*

6.3 OVERALL LEVEL OF ACHIEVEMENT OF P 6 PUPILS IN LITERACY IN ENGLISH

The overall mean score of P 6 pupils in Literacy in English was 50.8% (S.E: 1.94). The boys and girls scored means of 50.5% (S.E: 2.17) and 51.2% (S.E: 1.82), respectively. The gender difference was not significant. The percentage of P 6 pupils who reached the various levels of proficiency in Literacy in English is shown in Table 6.01.

TABLE 6:01: PERCENTAGE OF P 6 PUPILS REACHING THE VARIOUS PROFICIENCY LEVELS IN LITERACY IN ENGLISH, BY GENDER

PROFICIENCY LEVELS	BOYS (%)	GIRLS (%)	ALL (%)
Advanced	18.1	19.7	18.9
Adequate	33.5	32.4	33.0
Basic	32.4	32.3	32.3
Inadequate	16.0	15.6	15.8
TOTAL	100.0	100.0	100.0

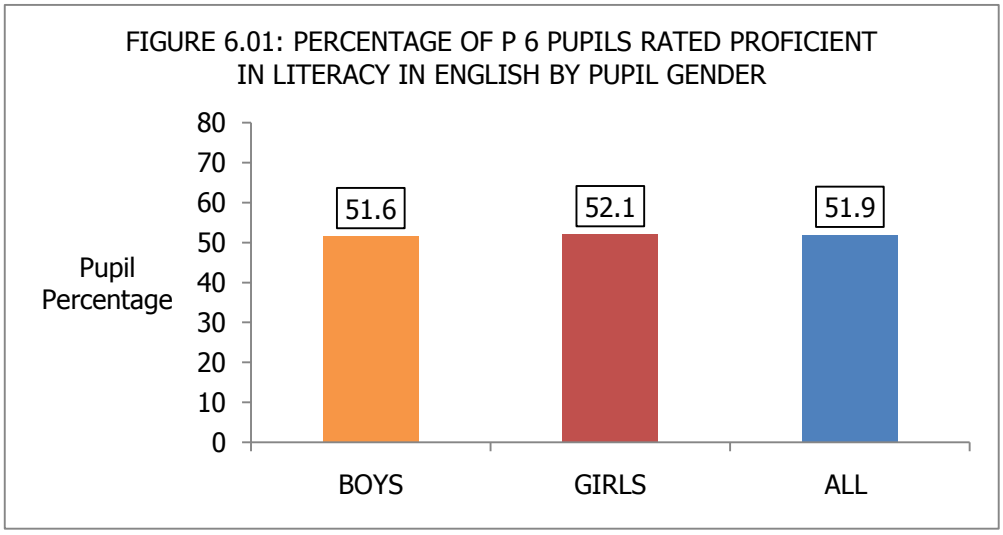
Out of all the P 6 pupils assessed, just about a fifth (18.9%) were rated 'Advanced'. These are pupils who had satisfactorily acquired the competences expected of them at the P 6 class level. They could, among other things, read a text and answer all questions about it, write a well sequenced composition relevant to the topic and use descriptive words in sentences correctly.

A third of the pupils (33.0%) were rated 'Adequate'. This is the minimum desired level of proficiency for a P 6 pupil. Pupils in this category could, among other things, tell the time on a clock face correctly, write simple sentences from jumbled words and use the present continuous tense correctly.

Nearly a third of the pupils (32.3%) were rated 'Basic'. These are pupils whose performance is below the 'adequate' category. Their performance exhibited mere acquisition of elementary skills of Literacy in English. The pupils could, among other things, associate actions to pictures, draw and label objects and use the simple past tense.

Less than a fifth of the pupils (15.8%) were categorized 'Inadequate'. These are pupils whose performance is a class below the expected P 6 class performance. The pupils could, among other things, associate words to objects, write simple words from jumbled letters and use the present tense.

The overall percentage of P 6 pupils who were rated proficient in Literacy in English by gender is shown in Figure 6.01.



Overall, more than a half of the P 6 pupils (51.9%) were rated proficient in Literacy in English. The boys and girls attaining the same level of proficiency were 51.6% and 52.2%, respectively. The gender difference was not significant, though more girls than boys were rated proficient.

6.4 ACHIEVEMENT OF P 6 PUPILS IN LITERACY IN ENGLISH BY SKILL AREA

This section is a presentation of the achievement of P 6 pupils in Literacy in English by skill area; sub-skill areas and competences of Reading Comprehension, Writing and Grammar. The achievement of P 6 pupils in Literacy in English by skill areas is shown in Table 6.02.

TABLE 6.02: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN LITERACY IN ENGLISH BY SKILL AREA

SKILL AREA	BOYS	GIRLS	ALL
Reading Comprehension	59.0	57.5	58.3
Grammar	52.0	51.6	51.8
Writing	49.7	53.5	51.6

Over a half of the P 6 pupils 58.3%, 51.6% and 51.8% were rated proficient in the skill areas of 'Reading comprehension', 'Writing', and 'Grammar', respectively. The gender differences were not significant.

6.4.1 Achievement of P 6 Pupils in Reading Comprehension

This sub-section is a description of P 6 pupils in the sub-skill areas and competences of 'Reading comprehension'. The percentages of P 6 pupils rated proficient in the sub-skill areas of Reading Comprehension are shown in Table 6.03.

TABLE 6.03: PERCENTAGE OF P 6 PUPILS ATTAINING THE DESIRED PROFICIENCY LEVELS IN VARIOUS SUB-SKILL AREAS OF READING COMPREHENSION

SUB-SKILL AREAS OF READING COMPREHENSION	BOYS	GIRLS	ALL
Associating words to pictures	96.2	96.6	96.3
Naming objects	88.5	87.0	87.8
Describing activities in a picture	75.2	77.0	76.1
Telling time	73.8	63.4	68.7
Reading a story	58.7	58.2	58.4
Reading a Poem	57.0	53.3	55.2
Reading and interpreting tabular information	53.0	52.6	52.8

Nearly all the P 6 pupils (96.3%) were rated proficient in 'Associating words to pictures', while more than three quarters, 87.8% and 76.1% were rated proficient in 'Naming objects' and 'Describing activities in a picture', respectively. The gender differences were not significant for most of the skill areas except 'Telling time' where the boys performed significantly better than the girls.

The percentage of pupils who responded correctly to items on selected competences of 'Reading Comprehension' are shown in Table 6.04.

TABLE 6.04: PERCENTAGE OF P 6 PUPILS WHO RESPONDED CORRECTLY TO ITEMS ON SELECTED COMPETENCES OF 'READING COMPREHENSION'.

COMPETENCES	BOYS	GIRLS	ALL
Reading a story			
Read a story and answer direct questions about it	86.9	86.6	86.7
Read a story and answer questions by making inferences	29.9	29.3	29.6
Reading a poem			
Read a poem and interpret its message	75.2	70.9	73.1
Read a poem and form own opinion based on the text	30.2	31.2	30.7
Reading Tabular information			
Read a timetable and answer direct questions about it	55.9	56.0	55.9
Read a timetable and form own opinion based on the timetable	31.7	23.4	27.6

The first competence under each reading text is a knowledge competence (of recall nature) which requires the child to pick the answer direct from the text. The second competence requires a pupil to apply knowledge in the text in new situations (higher cognitive abilities). More pupils were rated proficient on items that required picking direct responses from the texts i.e. 86.7%, 73.1% and 55.9% for 'Reading a story', 'Reading a poem' and 'Reading tabular information', respectively.

6.4.2 Achievement of P 6 Pupils in Writing

The achievement of P 6 pupils in the sub-skill areas and selected competences of 'Writing' is described in this sub-section. The percentage of pupils rated proficient in the sub-skill areas of 'Writing' are shown in Table 6.05.

TABLE 6.05: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN VARIOUS SUB-SKILL AREAS OF WRITING

SUB-SKILL AREAS OF WRITING	BOYS	GIRLS	ALL
Drawing and labeling	90.9	87.2	89.1
Copying a story	83.3	87.1	85.1
Writing words correctly	73.9	74.5	74.2
Copying sentences with correct punctuation	66.7	78.1	72.3
Writing a personal letter	50.9	59.1	54.9
Writing sentences	41.6	42.9	42.3
Writing a short composition	37.4	35.1	36.3

Over three quarters of the pupils 89.1% and 85.1% were rated proficient in 'Drawing and labeling' and 'Copying a story' respectively. However, just 42.3% and 36.3% could write sentences and a composition correctly, respectively. Girls performed better than boys in most of the sub-skill areas of 'Writing'. However, boys were better than girls in 'Drawing and labeling' and 'Writing a short composition'.

6.4.3 Achievement of P 6 Pupils in Grammar

The achievement of the pupils in the competences of 'Grammar' is described in this sub-section. The achievement of P 6 pupils in the selected competences of Grammar is shown in Table 6.06.

TABLE 6.06: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN VARIOUS SUB-SKILL AREAS OF GRAMMAR

SUB-SKILL AREAS OF GRAMMAR	BOYS	GIRLS	ALL
Give plurals of given nouns	91.9	93.4	92.6
Use given vocabulary in sentences	81.0	81.2	81.1
Use descriptive words in sentences	66.8	70.8	68.7
Use given sentence structures	51.4	50.6	51.0
Use the correct tense	47.3	46.7	47.0

Over three quarters of the pupils 92.6% and 81.1% reached the minimum desired proficiency in 'Giving plurals' and 'using given vocabulary'. On the other hand, just 51.0% and 47.0% reached a similar proficiency in 'using given structures' and 'using the correct tense', respectively.

6.5 ACHIEVEMENT OF P 6 PUPILS IN LITERACY IN ENGLISH BY AGE

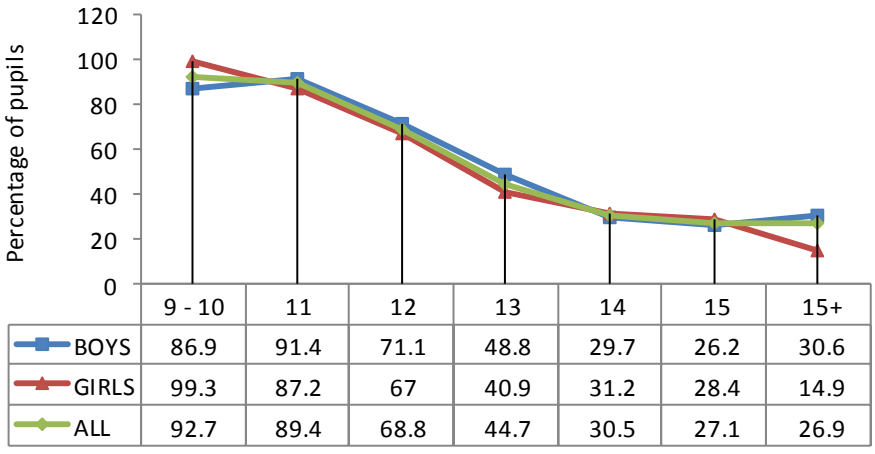
This section is a presentation of the achievement of P 6 pupils in Literacy in English by age. The mean scores of P 6 pupils in Literacy in English by pupil's age and gender are shown in Table 6.07.

TABLE 6.07: MEAN SCORES (PERCENTAGE) OF P 6 PUPILS IN LITERACY IN ENGLISH BY PUPILS' AGE AND GENDER

AGE (years)	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
9 – 10	68.6	3.40	79.1	2.95	75.1	3.40
11	71.1	3.40	69.0	2.65	70.1	2.27
12	59.4	2.29	48.7	1.74	59.6	1.91
13	48.7	1.75	45.0	1.45	46.8	1.44
14	40.2	1.58	39.7	2.18	39.9	1.41
15	38.0	1.80	38.7	2.43	38.3	1.85
15+	39.1	4.96	29.9	1.82	37.0	3.94

The mean scores of pupils declined with increase in age from the mean of 75.1% (S.E: 3.40) for the 9 – 10 year-olds to 37.0% (S.E: 3.94) for the 15+ year – olds. The gender differences in mean scores were significant for pupils at the age of 9 – 10 years with the girls obtaining a higher mean score; while boys aged 12 and 15+ years got significantly higher mean scores than the girls. The percentages of P 6 pupils rated proficient in Literacy in English by age and gender are shown in Figure 6.02.

FIGURE 6.02: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN LITERACY IN ENGLISH, BY PUPILS' AGE AND GENDER



	9 - 10	11	12	13	14	15	15+
BOYS	86.9	91.4	71.1	48.8	29.7	26.2	30.6
GIRLS	99.3	87.2	67	40.9	31.2	28.4	14.9
ALL	92.7	89.4	68.8	44.7	30.5	27.1	26.9

The percentage of P 6 pupils rated proficient in Literacy in English by age declined with age. More of the pupils aged 9 – 10 were rated proficient. Pupils aged 15 years and 15+ years had almost the same rating i.e. 27.1% and 26.9%, respectively. There were significant gender differences in performance of pupils aged: 9 – 10, 13 and 15+ years.

6.6 ACHIEVEMENT OF P 6 PUPILS IN LITERACY IN ENGLISH BY SCHOOL OWNERSHIP

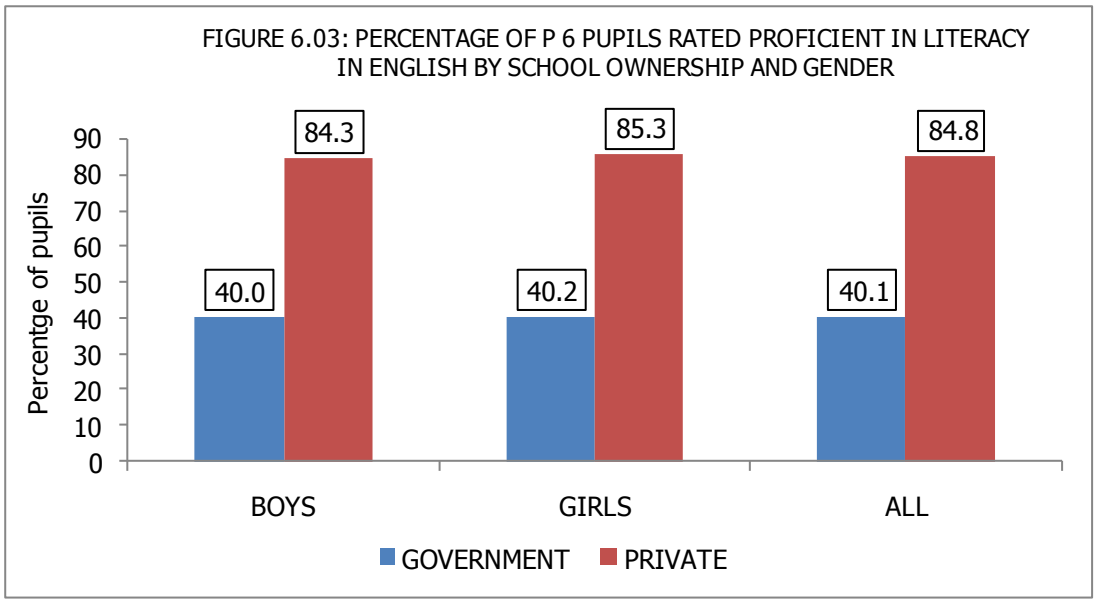
This section presents the achievement of P 6 pupils in Literacy in English by school ownership and gender. The mean scores of P 6 pupils in Literacy in English by school ownership and gender are shown in Table 6.08.

TABLE 6.08: MEAN SCORES (PERCENTAGE) OF P 6 PUPILS IN LITERACY IN ENGLISH BY SCHOOL OWNERSHIP AND PUPILS' GENDER

SCHOOL OWNERSHIP	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
Government	44.6	3.37	45.1	2.63	44.8	2.92
Private	66.9	2.40	68.5	2.03	67.7	2.13

The P 6 pupils from private schools attained a mean score, 67.7% (S.E: 2.13), higher than their Government school counterparts with a mean score of 44.8% (S.E: 2.92). The mean scores for boys and girls were nearly the same in both categories of school ownership.

The percentage of P 6 pupils rated proficient in Literacy in English by school ownership and gender is shown in Figure 6.03.



Over three quarters of the P 6 pupils (84.8%) in the private schools were rated proficient in Literacy in English. The pupils who attained a similar rating from the government schools were less than a half (40.1%). The gender differences were not significant.

6.7 ACHIEVEMENT OF P 6 PUPILS IN LITERACY IN ENGLISH BY SCHOOL LOCATION

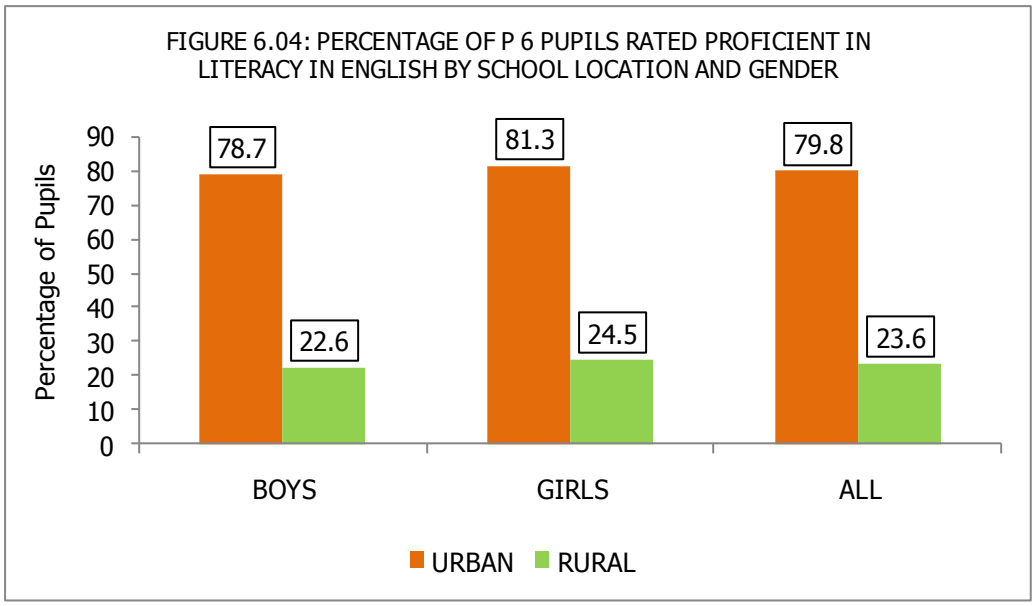
This section presents the achievement of P 6 pupils in Literacy in English by school location. The mean scores of P 6 pupils in Literacy in English by gender are shown in Table 6.09.

TABLE 6.09: MEAN SCORES (PERCENTAGE) OF P 6 PUPILS IN LITERACY IN ENGLISH BY SCHOOL LOCATION AND GENDER

SCHOOL LOCATION	BOYS		GIRLS		ALL	
	Mean	S.E	Mean	S.E	Mean	S.E
Urban	63.2	2.43	65.8	2.50	64.4	2.32
Rural	36.7	1.15	37.4	1.47	37.1	1.29

P 6 pupils from the urban schools obtained a significantly higher mean score of 64.4% (S.E: 2.32) compared to those from the rural schools whose mean score was 37.1% (S.E: 1.29). The gender differences in both categories of school location were not significant.

The percentages of P 6 pupils rated proficient in Literacy in English by school ownership are shown in Figure 6.04.



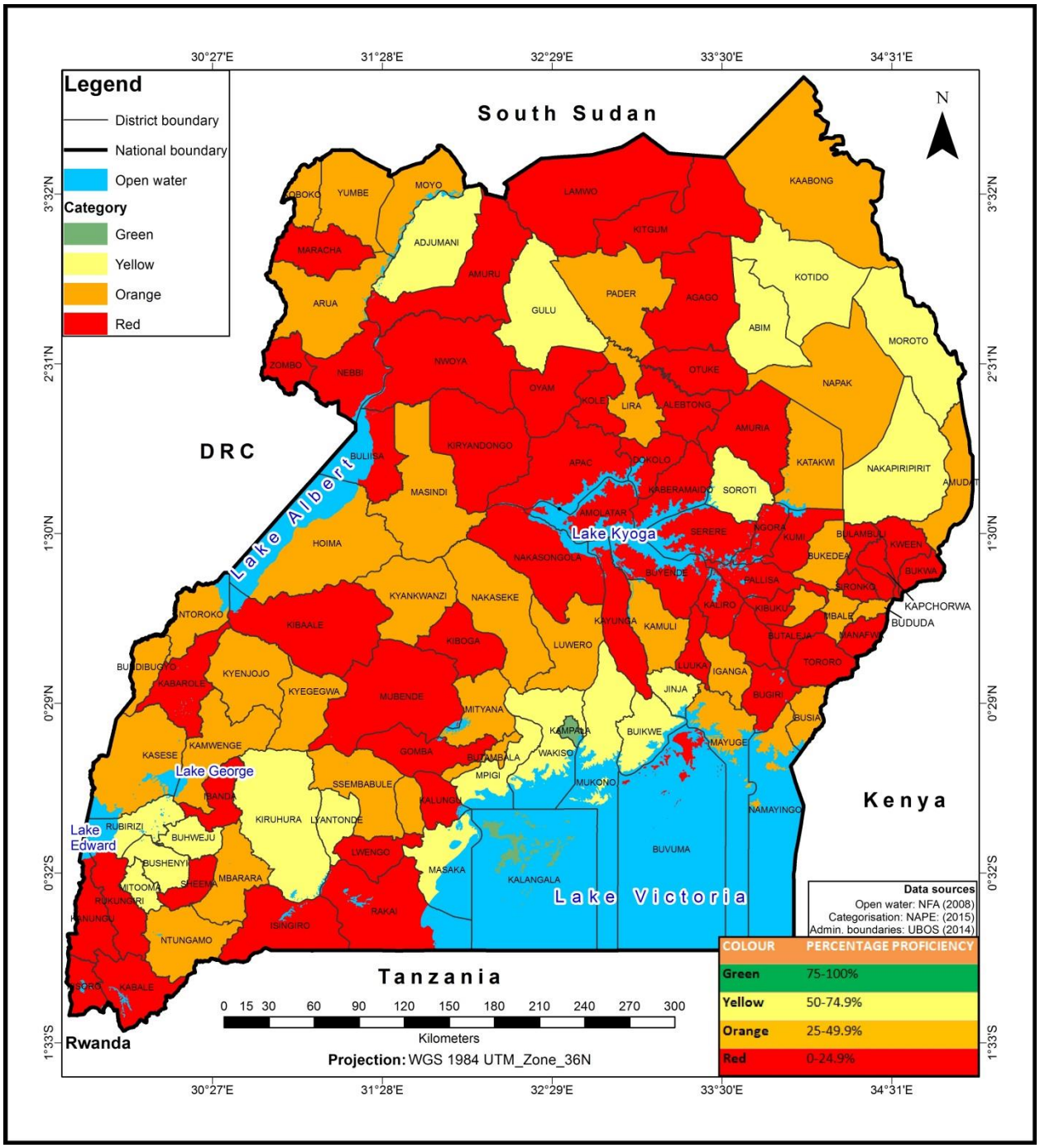
More than three quarters of the P 6 pupils, (79.8%) from the urban schools were rated proficient in Literacy in English. Just over a fifth (23.6%) of the pupils in the rural schools reached a similar rating. The gender differences in each category of school locations were not significant.

6.8 ACHIEVEMENT OF P 6 PUPILS IN LITERACY IN ENGLISH BY DISTRICT

This section presents a description of the achievement of P 6 pupils in Literacy in English by district. The list of districts with corresponding percentages of P 6 pupils rated proficient in Literacy in English is shown in Appendix 1.

The percentages of P 6 pupils rated proficient in Literacy in English by district are presented in Figure 6.05.

FIGURE 6.05: CATEGORIZATION OF DISTRICTS ACCORDING TO PERCENTAGES OF P 6 PUPILS RATED PROFICIENT IN LITERACY IN ENGLISH



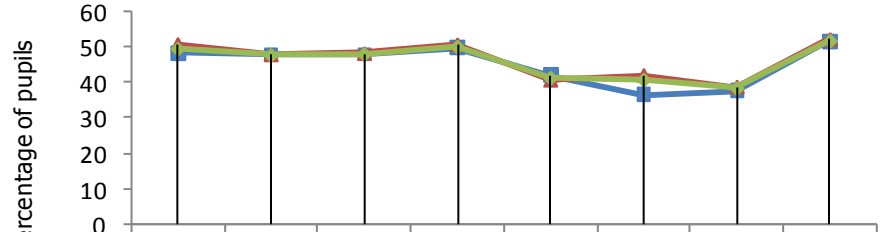
Just two districts: Kampala and Kalangala were categorized as 'Green'. Nearly a fifth (17.0%) of the districts were categorized as 'Yellow'. The category 'Orange and Red' had most of the districts i.e. (81.2%). Of these, 46 districts were categorized as 'Red'.

The following districts had less than 10% of their P 6 pupils rated proficient; Bukwo, Kween, Bugiri, Buyende, Alebtong, Apac, Otuke, Maracha and Kabale.

6.9 ACHIEVEMENT OF P 6 PUPILS IN LITERACY IN ENGLISH OVER THE YEARS 2007 – 2015

This section is a presentation of the achievement of the P 6 pupils in the years 2007 – 2015. The percentages of P 6 pupils rated proficient in Literacy in English over the years 2007 – 2015 are shown in Figure 6.06.

FIGURE 6.06: PERCENTAGE OF P 6 PUPILS RATED PROFICIENT IN LITERACY IN ENGLISH OVER THE YEARS 2007 - 2015, BY GENDER



	2007	2008	2009	2010	2011	2012	2014	2015
BOYS	48.2	47.9	47.9	49.7	42.1	36.6	37.8	51.6
GIRLS	50.8	47.8	48.2	50.7	40.6	42	38.7	52.2
ALL	49.6	47.8	48.1	50.2	41.3	40.8	38.3	51.9

Overall, the percentage of P 6 pupils rated proficient in the years 2007 – 2010 remained almost constant. From 2010 – 2011, there was a significant decline from 50.2% to 41.3%. Between the years 2011 – 2014, the performance of the pupils rated proficient declined from 41.3% in 2011 to 38.3% in 2014. However, in 2015 the percentage rose to 51.9% close to 2007 – 2010 position. In 2015 P 6 pupils' performance was rated at 51.9%. There was a significant gender difference in performance in 2012. However, for the years 2011, 2014 and 2015 the gender differences were not significant though the girls remained in the lead.

6.10 CONCLUSION

Generally, P 6 pupils performed well in the competences of 'Reading Comprehension', followed by 'Writing'.

Among the competences of 'Reading Comprehension', pupils performed best in 'Associating words to pictures' followed by 'Naming objects'. However, they experienced difficulty in the competences of 'Telling time' and 'Reading a poem and answering questions about it'.

The best performance in the competence of 'Writing', was in 'Drawing and labeling' an object, followed by 'Copying a story' correctly. The pupils performed poorly in the competences of 'Writing sentences' and 'Writing a short composition'.

Under 'Grammar', whereas 'Giving plurals' of given nouns proved easy for the pupils, followed by 'Use of descriptive words', only a small percentage could 'Use the correct tenses' in sentences.

Chapter 7

ACHIEVEMENT OF PRE-SERVICE TEACHERS, IN–SERVICE TEACHERS AND PTC TUTORS IN NUMERACY

7.1 INTRODUCTION

This chapter is a presentation of the achievement of pre-service teachers, in-service teachers and PTC tutors in Numeracy. The presentation begins with a display of the overall level of achievement of the three categories of testees. This is followed by achievement by topical areas and finally competences within each topical area.

The description of the competences assessed is shown in Section 5.2 of Chapter 5.

7.2 OVERALL ACHIEVEMENT OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS IN NUMERACY

This section describes, first, the overall achievement of pre-service teachers, in-service teachers and tutors in Numeracy. This is followed by the achievement in specific domains and competences in the P 6 curriculum.

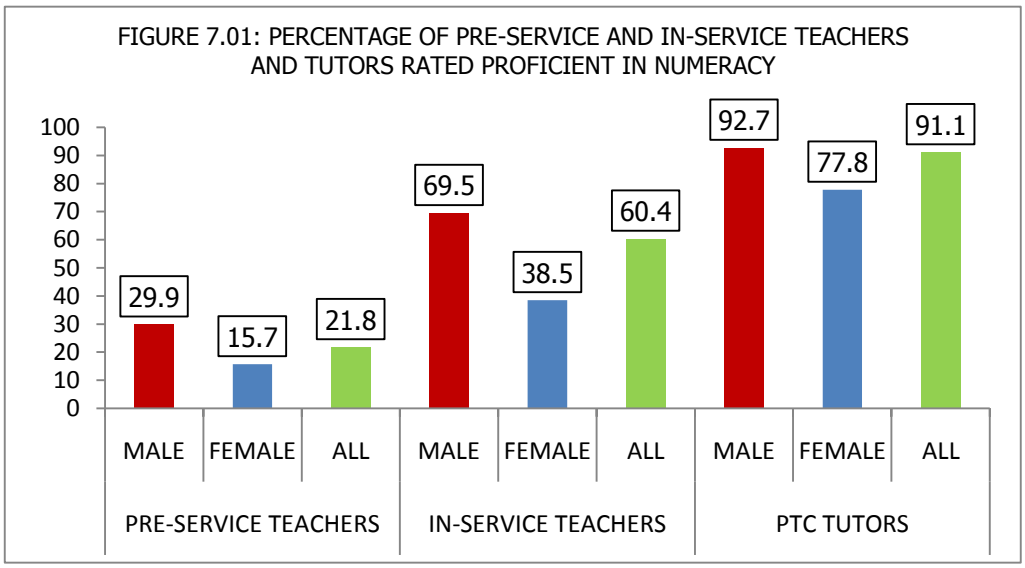
The overall mean scores obtained by the trio in the same test of Numeracy at P 6 level is shown in Table 7.01.

TABLE 7.01: OVERALL MEAN SCORES OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS IN NUMERACY BY GENDER

TESTEES	MALE		FEMALE		ALL	
	Mean	SE	Mean	SE	Mean	SE
Pre-service Teachers	74.5	0.18	69.9	0.16	71.8	0.12
In-service Teachers	82.4	0.59	73.7	1.32	79.9	0.58
Tutors	87.4	0.45	86.4	2.34	87.3	0.47

The respective mean scores of PTC tutors, in-service teachers and pre-service teachers were 87.3%, 79.9% and 71.8%. The tutors obtained 7 points significantly above the in-service teachers who also obtained 8 points significantly above the pre-service teachers. A similar pattern was exhibited in terms of gender.

The percentages of pre-service teachers, in-service teachers and tutors rated proficient in Numeracy by gender are presented in Figure 7.01.



The respective proportions of tutors, in-service teachers and pre-service teachers rated proficient in Numeracy were: 91.1%, 60.4% and 21.8% respectively. There was a significant difference between the percentage of tutors and teachers reaching or exceeding the desired proficiency in Numeracy. Only about 1 in 5 pre-service teachers were rated proficient in Numeracy. Likewise, the percentages of male teachers and tutors rated proficient in Numeracy were significantly higher than for the females.

7.3 THE ACHIEVEMENT OF TUTORS AND TEACHERS IN NUMERACY BY TOPICAL AREAS

In this section, a description of the achievement of tutors and teachers by topical areas and gender is made. The proportions of pre-service teachers, in-service teachers and tutors rated proficient in Numeracy by topical areas are shown in Table 7.02.

TABLE 7.02: PERCENTAGES OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND TUTORS RATED PROFICIENT IN NUMERACY BY TOPICAL AREAS

	PRE-SERVICE TEACHERS			IN-SERVICE TEACHERS			TUTORS		
TOPICAL AREA	MALE	FEMALE	ALL	MALE	FEMALE	ALL	MALE	FEMALE	ALL
Operations on numbers	91.8	87.8	89.5	95.5	94.1	95.1	97.2	88.9	96.3
Measures	69.8	46.8	56.6	87.3	61.4	79.7	94.3	100	95.0
Number system and place value	51.8	36.9	43.3	77.2	58.3	71.6	91.4	100	92.5
Geometry	39.7	33.5	36.1	72.5	46.4	64.8	82.9	77.8	82.5
Fractions	56.1	40.7	47.3	82.7	54.0	74.2	78.6	88.9	80.0
Number patterns and sequences	12.0	6.4	8.8	38.3	14.1	31.2	37.2	55.6	38.8
Graphs and interpretation	5.3	6.0	5.7	6.6	11.3	8.0	20.6	11.1	19.2

The proportion of tutors rated proficient in Numeracy was highest in the topic of 'Operations on numbers', followed by 'Measures', and they performed much better than the pre-service and in-service teachers in all the topical areas of Numeracy. The lowest performance was exhibited in the topics of 'Graphs and interpretation'.

TABLE 7.03: PERCENTAGES OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND TUTORS RATED PROFICIENT IN THE COMPETENCIES OF 'GRAPHS AND INTERPRETATION'

	PRE-SERVICE TEACHERS			IN-SERVICE TEACHERS			TUTORS		
COMPETENCE	MALE	FEMALE	ALL	MALE	FEMALE	ALL	MALE	FEMALE	ALL
Interpreting pictograms	57.2	47.0	51.3	70.0	63.1	68.0	80.6	77.8	80.5
Computing the mean mark	70.9	66.0	68.1	84.0	69.4	79.8	94.1	88.9	93.6
Drawing bar graphs	1.4	1.7	1.6	1.6	3.3	2.1	7.4	11.1	7.7

The respective proportions of tutors, in-service and pre-service teachers rated proficient in 'Interpreting pictograms' were 80.5%, 68.0% and 51.3%; whereas in 'Drawing bar graphs' they were 7.7%, 2.1% and 1.6%, respectively. This shows that the tutors' and teachers' major weakness in 'Graphs and interpretation' was in drawing of graphs. Their weakness was mainly in *labeling* and *naming* of the horizontal and vertical axes of the graphs they drew.

7.4 THE ACHIEVEMENT OF TUTORS AND TEACHERS IN SELECTED COMPETENCES OF NUMERACY BY GENDER

This section is a presentation of the performance of the tutors and teachers in the selected competences of Numeracy. The percentages of pre-service teachers, in-service teachers and tutors rated proficient in Numeracy by selected competences is shown in Table 7.03.

TABLE 7.04: PERCENTAGES OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND TUTORS RATED PROFICIENT IN SELECTED COMPETENCES OF NUMERACY

COMPETENCE	PRE-SERVICE TEACHERS			IN-SERVICE TEACHERS			TUTORS		
	MALE	FEMALE	ALL	MALE	FEMALE	ALL	MALE	FEMALE	ALL
Subtraction without borrowing	99.2	99.2	99.2	98.6	99.4	98.9	100	100	100
Writing numbers in expanded form	99.5	99.3	99.4	99.3	99.3	99.2	100	100	100
Multiplying fraction by fraction	84.9	79.0	81.5	93.2	81.6	89.8	100	100	100
Application of subtraction in real life	96.7	96.7	96.7	97.2	97.7	97.4	98.6	100	98.8
Dividing fraction by fraction	78.8	70.0	73.7	89.5	64.6	82.4	98.6	100	98.8
Application of addition in real life	97.8	97.4	97.5	99.4	99.3	99.2	100	88.9	98.7
Rounding off numbers	64.7	55.3	59.3	88.3	65.5	78.1	97.1	100	97.5
Use of symbols to compare numbers	82.5	73.7	77.4	92.7	88.3	91.4	91.4	88.9	91.3
Identifying even or odd numbers	92.8	92.2	92.4	97.3	95.9	96.9	84.3	77.8	83.8
Finding square roots of numbers up to 300	37.4	29.5	32.9	62.6	29.1	52.8	80.0	66.7	78.8
Finding the L.C.M.	77.6	69.9	73.2	84.7	62.9	78.4	72.9	88.9	73.8
Showing a number on an abacus	16.2	13.1	14.4	36.5	32.3	35.3	44.3	44.4	43.8
Applying fractions in novel situations	3.6	2.1	2.8	7.4	3.5	6.3	30.0	33.3	31.3

In general, more tutors than pre-service and in-service teachers reached or exceeded the threshold proficiency levels in almost all the Numeracy competences. However, best performance was exhibited in the competences of the four operations on numbers and writing numbers in expanded form. Similarly, whereas the tutors and teachers could manipulate addition, subtraction, multiplication and division of fractions, they had difficulty in applying fractions in novel situations. In addition, over a half of the tutors and teachers had a misconception of the concept 'abacus' and, consequently failed to represent numbers on the abacus.

With the exception of a few competences such as 'Finding the L.C.M', 'Finding square roots of numbers', 'Rounding off numbers to the nearest decimal point' and 'Multiplying fractions with fractions', the performance of the male and female tutors and both categories of teachers was comparable in most of the competences.

Chapter 8

ACHIEVEMENT OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND TUTORS IN LITERACY IN ENGLISH

8.1 INTRODUCTION

This chapter is a presentation of the achievement of the pre-service teachers, in-service teachers and PTC tutors in Literacy in English. The presentation begins with a display of the overall achievement of the three categories of testees. This is followed by achievement by skill areas of 'Reading Comprehension', 'Writing' and 'Grammar'. Then, their performance is discussed by competences within each of the skill areas. Finally, the performance of each PTC in Numeracy and Literacy in English is presented.

The description of the competences assessed is shown in Section 6.2 of Chapter 6.

8.2 OVERALL LEVEL OF ACHIEVEMENT OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS IN LITERACY IN ENGLISH

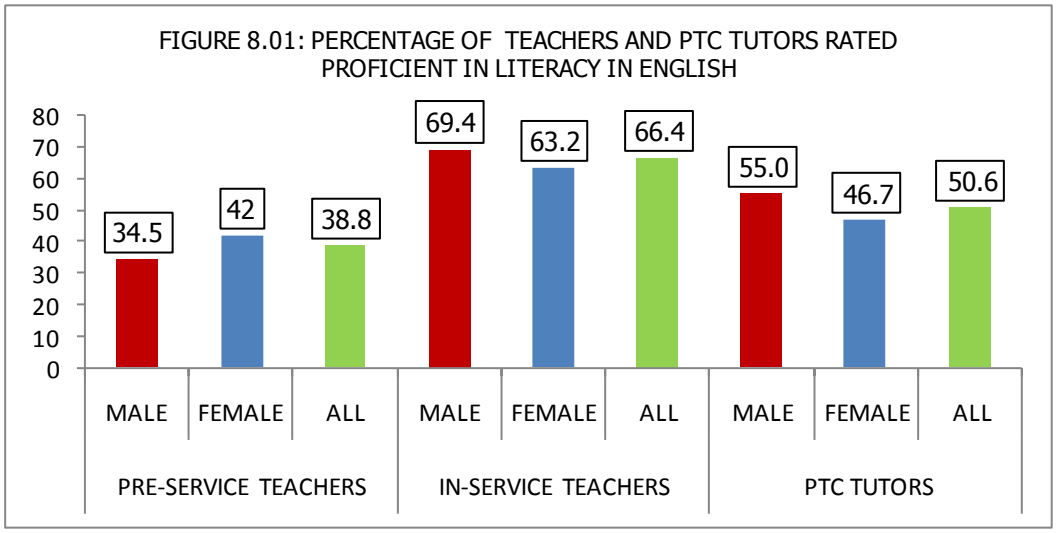
This section is a presentation of the overall achievement of pre-service teachers, in-service teachers and PTC tutors in Literacy in English.

The percentage of pre-service teachers, in-service teachers and PTC tutors who reached the various levels of proficiency in Literacy in English is shown in Table 8.01.

TABLE 8.01: OVERALL MEAN SCORES OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS IN LITERACY IN ENGLISH

TESTEES	MALE		FEMALE		ALL	
	Mean	SE	Mean	SE	Mean	SE
Pre-service Teachers	81.2	0.14	82.8	0.11	82.1	0.09
In-service Teachers	86.5	0.62	85.9	0.59	86.2	0.43
Tutors	80.0	2.77	84.4	0.93	82.1	1.55

The in-service teachers scored the highest mean 86.2% (S.E: 0.43), followed by the pre-service teachers and PTC tutors with the same mean score of 82.1% (S.E: 0.09) and 82.1% (S.E: 1.55), respectively. There were no significant gender differences between the mean scores. However, the female tutors scored a higher mean score of 84.4% (S.E: 0.93) compared to the male tutors' mean score of 80.0% (S.E: 2.77). The percentage of pre-service teachers, in-service teachers and tutors rated proficient in Literacy in English is presented in Figure 8.01.



The proportion of teachers and PTC tutors rated proficient in Literacy in English varied. More of the in-service teachers (66.4%) were rated proficient, followed by the PTC tutors (50.6%). Only 38.8% of the pre-service teachers reached the desired minimum proficiency level. The male in-service teachers and male PTC tutors performed significantly better than the females. On the other hand, the female pre-service teachers did better than their male counterparts.

8.3 ACHIEVEMENT OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS IN LITERACY IN ENGLISH BY SKILL AREA

This section is a presentation of the achievement of pre-service teachers, in-service teachers and PTC tutors in Literacy in English by skill area. The proficiency ratings by skill area are shown in Table 8.02.

TABLE 8.02: PERCENTAGE OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS RATED PROFICIENT IN LITERACY IN ENGLISH BY SKILL AREA

SKILL AREA	PRE-SERVICE TEACHERS			IN-SERVICE TEACHERS			PTC TUTORS		
	MALE	FEMALE	ALL	MALE	FEMALE	ALL	MALE	FEMALE	ALL
Reading comprehension	82.6	85.9	84.5	89.9	90.3	89.5	80.4	80.0	80.2
Writing	20.3	26.3	23.8	40.4	40.1	40.3	6.1	18.4	9.6
Grammar	27.3	29.7	28.7	68.0	66.1	67.1	69.6	77.5	73.3

'Reading Comprehension' was the best done skill area. 89.5% of the in-service teachers, were rated proficient in 'Reading Comprehension', followed by the pre-service teachers who were 84.5%. A lesser percentage, 80.2% of the PTC tutors reached a similar rating in 'Reading Comprehension'. There was a significant difference in achievement between the

in-service teachers and both the pre-service teachers and PTC tutors in this skill area. There was no significant gender difference in performance.

The 'Writing' skill area registered the lowest performance. Less than half of the two categories of teachers and the PTC tutors were rated proficient. While the in-service and pre-service teachers registered 40.3%, and 23.8% respectively, the PTC tutors registered only 9.6% (just less than a tenth). The male and female in-service teachers performed at nearly the same level in this skill area. However, there were significant gender differences in performance of pre-service teachers and PTC tutors with the female testees in the lead in both cases.

In the skill area of 'Grammar', the performance of the three categories of testees still varied. Whereas 'Grammar' was the second best done skill area for all the testees, just less than a third (28.7%) of the pre-service teachers were rated proficient in it. There was a significant gender difference in the performance of PTC tutors with the female tutors achieving much better.

8.4 THE ACHIEVEMENT OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS IN LITERACY IN ENGLISH BY COMPETENCES

This section is a presentation of the performance of the pre-service teachers, in-service teachers and PTC tutors in Literacy in English by competences of 'Reading Comprehension', 'Writing' and 'Grammar'.

8.4.1 Achievement of pre-service teachers, in-service teachers and PTC tutors in Reading Comprehension

This sub-section is a presentation of the achievement of pre-service teachers, in-service teachers and tutors in the sub-skill areas of Reading Comprehension. The achievement of pre-service teachers, in-service teachers and PTC tutors in Literacy in English by sub-skill areas of Reading Comprehension is shown in Table 8.03.

TABLE 8.03: PERCENTAGE OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS RATED PROFICIENT IN SUB-SKILL AREAS OF READING COMPREHENSION

SUB-SKILL AREAS	PRE-SERVICE TEACHERS			IN-SERVICE TEACHERS			PTC TUTORS		
	MALE	FEMALE	ALL	MALE	FEMALE	ALL	MALE	FEMALE	ALL
Describing activities in a picture	82.6	84.9	83.9	87.0	86.5	86.7	88.9	75.0	82.4
Associating words to objects or actions to pictures	96.6	96.5	96.6	94.0	94.3	94.1	38.3	79.6	50.3
Telling time	80.8	67.9	73.4	88.1	85.4	86.8	88.6	85.0	86.9
Reading simple texts and answering questions									
Story	84.8	88.0	86.6	84.5	86.9	85.6	25.2	44.9	30.9
Poem	88.5	90.5	89.7	91.4	94.8	93.0	37.4	81.6	50.3
Timetable	47.1	48.2	47.8	59.8	59.5	59.6	24.3	40.8	29.1
Naming objects	50.2	56.8	54.0	67.5	75.5	71.3	62.2	72.5	67.1

The performance of the pre-service teachers, in-service teachers and PTC tutors in the competences of 'Reading Comprehension' varied. Over three quarters of the pre-service, in-service teachers and PTC tutors were rated proficient in the sub-skill area of 'Describing activities in a picture'.

Whereas over three quarters of the pre-service and in-service teachers were rated proficient in 'Associating words to pictures or actions to pictures' and 'Reading and answering questions on a story', only about a half and less than a third, of the PTC tutors were rated proficient in the same sub-skill areas, respectively.

The in-service teachers performed significantly better than the pre-service teachers and their tutors in 'Reading and interpreting a timetable'. 'Reading and interpreting the timetable' registered the least percentages of all the three categories of testees rated proficient. The in-service teachers and PTC tutors were significantly better than the pre-service teachers in 'Telling time'. The male pre-service teachers performed significantly better than the female ones in 'Telling time', whereas the females for the three groups of testees did significantly better in 'Naming objects'.

The percentages of pre-service teachers, in-service teachers and PTC tutors rated proficient in selected competences of Reading Comprehension are shown in Table 8.04.

TABLE 8.04: PERCENTAGE OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS RATED PROFICIENT IN SELECTED COMPETENCES OF READING COMPREHENSION

COMPETENCES	PRE-SERVICE TEACHERS			IN-SERVICE TEACHERS			PTC TUTORS		
	MALE	FEMALE	ALL	MALE	FEMALE	ALL	MALE	FEMALE	ALL
Reading a story									
Read a story and answer direct questions about it.	99.7	99.7	99.7	99.8	99.7	99.7	97.7	100.0	98.8
Read a story and answer questions by making inferences.	62.9	66.5	65.0	65.3	65.8	65.5	45.5	35.0	40.5
Reading a poem									
Read a poem and interpret its message.	96.6	97.0	96.8	96.4	96.6	96.5	95.6	97.5	96.5
Read a poem and form own opinion based on the text.	70.7	72.5	71.8	81.0	81.3	81.1	93.3	100.0	96.5
Reading tabular information.									
Read a timetable and answer direct questions about it.	94.8	95.4	95.1	95.5	97.7	96.5	91.1	89.7	90.5
Read a timetable and form own opinion based on the content.	61.7	57.7	59.4	74.4	77.7	75.9	64.4	61.5	63.1

More of the pre-service teachers, in-service teachers and PTC tutors were able to respond to question items that required picking the answer direct from the text. However, less percentages of those rated proficient were registered when it came to items that required exhibition of higher order cognitive abilities. For example, the competence where the least percentages of the in-service and PTC tutors were rated proficient was 'Read a story and answer questions by making inferences'. Similarly, the least percentage of pre-service teachers rated proficient was recorded in 'Reading a timetable and forming own opinion based on its content'. The females in all categories of testees performed slightly better than the males in almost all competences.

8.4.2 Achievement of pre-service teachers, in-service teachers and PTC tutors in Writing

This sub-section is a presentation of the achievement of pre-service teachers, in-service teachers and tutors in 'Writing'. The performance of the pre-service teachers, in-service teachers and PTC tutors in the selected competences of 'Writing' is shown in Table 8.05.

TABLE 8.05: PERCENTAGE OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS RATED PROFICIENT IN SUB-SKILL AREAS OF WRITING

SUB-SKILL AREAS	PRE-SERVICE TEACHERS			IN-SERVICE TEACHERS			PTC TUTORS		
	MALE	FEMALE	ALL	MALE	FEMALE	ALL	MALE	FEMALE	ALL
Writing sentences	36.2	39.5	38.1	55.9	47.5	52.0	75.6	77.5	76.5
Copying simple sentences with correct punctuation	57.0	61.6	59.7	62.7	69.5	65.9	48.9	65.0	56.5
Drawing and labelling objects	85.4	82.9	83.9	87.4	80.1	84.1	86.4	72.5	79.8
Writing words with correct spelling	58.2	60.9	59.8	71.8	77.3	74.4	64.4	75.0	69.4
Copying a story	96.0	97.0	96.6	96.9	98.4	97.6	36.5	81.6	49.7
Writing a personal letter	60.1	70.8	66.3	73.9	76.9	75.3	14.8	46.9	24.2
Writing a short composition	80.0	85.5	83.2	84.7	81.6	83.2	29.6	53.1	36.4

The performance of the three categories of testees varied significantly for most of the competences. While pre-service and in-service teachers registered highest performance in 'Copying a story' and 'Drawing and labelling objects' their lowest performance was in 'Writing sentences'. On the other hand, the tutors had most difficulty in 'Writing a personal letter'. The three groups of testees did not perform as well as expected in the competence of 'Copying simple sentences with the correct punctuation'. More of the female teachers performed better in most of the competences than their male counterparts.

8.4.3 Achievement of Pre-service Teachers, In-service Teachers and PTC Tutors in Grammar

This sub-section is a presentation of the achievement of pre-service teachers, in-service teachers and tutors in 'Grammar'. The percentages of testees rated proficient in the competences of Grammar are shown in Table 8.06.

TABLE 8.06: PERCENTAGE OF PRE-SERVICE TEACHERS, IN-SERVICE TEACHERS AND PTC TUTORS RATED PROFICIENT IN COMPETENCES OF GRAMMAR

COMPETENCES	PRE-SERVICE TEACHERS			IN-SERVICE TEACHERS			PTC TUTORS		
	MALE	FEMALE	ALL	MALE	FEMALE	ALL	MALE	FEMALE	ALL
Giving plurals	89.8	92.9	91.5	97.6	97.7	97.6	97.8	97.5	97.6
Using given vocabulary	82.0	84.6	83.5	90.5	92.7	91.5	88.9	92.5	90.6
Using the correct tense	64.3	63.9	64.1	84.1	83.3	83.7	88.9	90.0	89.4
Using given structures	68.4	72.0	70.4	85.7	87.8	86.7	93.3	90.0	91.8
Using descriptive words in sentences	49.5	50.9	50.3	80.1	80.2	80.2	80.0	82.5	81.2

The best done competence under 'Grammar' was 'Giving the plurals' of given nouns. 'Using descriptive words in sentences' registered the lowest performance across the three categories of testees. The tutors' and in-service teachers' performance was significantly better than that of the pre-service teachers in all the five competences of 'Grammar'. The gender differences in all competences were not significant.

8.5 ACHIEVEMENT OF PRE-SERVICE TEACHERS IN NUMERACY AND LITERACY IN ENGLISH BY PTC

This section is a presentation of the achievement of pre-service teachers rated proficient in Numeracy and Literacy in English by PTC. The percentages of the pre-service teachers rated proficient in Numeracy and Literacy in English are shown in Table 8.07.

TABLE 8.07: PERCENTAGE OF PRE-SERVICE TEACHERS RATED PROFICIENT IN NUMERACY AND LITERACY IN ENGLISH BY PTC

District	PTC Name	Subject Area	
		Numeracy	Literacy in English
Arua	Arua Core PTC	11.6	20.9
Buikwe	Sancta Maria PTC, Nkokonjeru	13.8	63.2
Bukedea	St. Mary's PTC, Bukedea	2.2	19.1
Bundibugyo	Bundibugyo PTC	11.3	28.3
Bushenyi	Bushenyi Core PTC	48.5	72.8
Bushenyi	Kitabi PTC	9.6	42.2
Busia	Busikho PTC	22.9	39.4
Gomba	Kabulasoke Core PTC	19.8	43.3
Gulu	Christ the King PTC, Gulu	18.8	31.3
Gulu	Gulu Core PTC	27.5	35.6
Ibanda	St. George Core PTC, Ibanda	26.8	60.7
Iganga	Bishop Willis Core PTC, Iganga	22.7	31.0
Isingiro	Buhungiro PTC	19.3	27.3
Jinja	Jinja PTC, Wanyange	16.3	49.0
Kabale	Kabale Bukinda Core PTC	26.1	53.3
Kabarole	Canon Apollo Core PTC	23.7	60.0
Kaliro	Kaliro PTC	31.5	43.6
Kampala	Kibuli Core PTC	10.4	43.1
Kampala	St. John the Baptist PTC, Ggaba	16.4	25.9
Kamuli	Busoga University PTC	10.0	30.0
Kapchorwa	Kapchorwa PTC	13.1	12.6
Kasese	Bwera PTC	21.6	46.6
Kayunga	Nazigo PTC	12.0	33.7

District	PTC Name	Subject Area	
		Numeracy	Literacy in English
Kisoro	Kisoro PTC	49.6	48.1
Kitgum	Kitgum Core PTC	35.4	34.3
Kotido	Kotido PTC	22.8	21.1
Kyenjojo	St. Augustine's PTC, Butiti	15.1	41.9
Lira	Canon Lawrence PTC, Boroboro	19.1	31.6
Luweero	Luteete PTC	7.4	18.5
Kalungu	Kabukunge PTC	10.9	34.6
Masaka	Ndegeya Core PTC	37.6	63.2
Masaka	Kampala University PTC	8.3	18.8
Masindi	Kamurasi PTC	22.4	36.0
Mbale	St. John Bosco Core PTC Nyondo	13.9	42.0
Mbarara	Bishop Stuart Core PTC, Kibingo	47.0	58.4
Mitooma	Bikungu PTC	20.2	53.6
Mityana	St. Noa Mawagali Core PTC Busuubizi	26.4	45.4
Mityana	Namutamba PTC	11.7	38.3
Moroto	Moroto Core PTC	8.0	18.6
Moyo	Erepi PTC	4.0	9.0
Nakaseke	Nakaseke Core PTC	20.9	47.1
Ngora	St. Aloysius Core PTC, Ngora	18.3	16.0
Ntungamo	Kiyoora PTC	35.3	42.7
Hoima	Bulera Core PTC	28.5	55.7
Oyam	Loro Core PTC	41.1	48.1
Pallisa	Kabwangasi PTC	26.0	38.7
Rakai	Rakai PTC Bikiira	15.9	28.3
Rukungiri	Rukungiri PTC	24.6	45.9
Soroti	Soroti Core PTC	18.8	38.6
Tororo	Mukuju Core PTC	19.0	35.0
Wakiso	Shimoni Core PTC	19.4	56.2
Wakiso	Buloba PTC	18.9	33.3
Yumbe	St. John Bosco Core PTC, Lodonga	22.4	18.3
Zombo	Paidha PTC	7.5	25.6

At least eight colleges had over a half of their pre-service teachers rated proficient in Literacy in English. Bushenyi Core PTC had the highest percentage (72.8%) of pre-service teachers rated proficient. It was followed by Sancta Maria PTC Nkokonjeru and Ndegeya Core PTC each with 63.2%, St. George Core PTC Ibanda 60.7%, Canon Apolo Core PTC

60%, Bishop Stuart Core PTC Kibingo 58.4%, Shimoni PTC 56.2%, Bulera Core PTC 55.7% and Bikungu PTC 53.6%, in that order.

The colleges that registered low levels of achievement in Literacy in English included: Erepi PTC 9%, Kapchorwa PTC 12.6%, St. Aloysius Core PTC Ngora 16%, St. John Bosco Core PTC Lodonga 18.3%, Luteete PTC 18.5%, Moroto Core PTC 18.6%, Kampala University PTC 18.8% and St. Mary's PTC Bukedea 19.1%. These colleges had just less than a fifth of their pre-service teachers rated proficient in Literacy in English.

In Numeracy, each of the PTCs had less than a half of the pre-service teachers rated proficient. Only 14 colleges had between 26% and 49.6% of the pre-service teachers rated proficient. The high achievers among them were: Kisoro PTC 49.6%, Bushenyi Core PTC 48.5 %, Bishop Stuart Core PTC Kibingo 47.0% and Loro Core PTC 41.1%.

The lowest achievers with less than a tenth of the pre-service teachers rated proficient were St. Mary's PTC Bukedea 2.2%, Erepi PTC 4.0%, Luteete PTC 7.4%, Paidha PTC 7.5%, Moroto Core PTC 8.0%, Kampala University PTC 8.3% and Kitabi PTC 9.6%.

Chapter 9

P 3 PUPILS' INVOLVEMENT IN LEARNING AND THE LEARNING ENVIRONMENT

9.0 INTRODUCTION

The survey set out to determine the nature of involvement of P 3 pupils in their learning by their teachers. This was achieved through holding focus group discussions with P 3 pupils. The findings are presented in Section 9.1. Also, studied was the learning environment of the primary schools visited. This was accomplished with the aid of a structured observation guide. The following key learning environment were observed: sanitation and hygiene, main language of classroom instruction and involvement of stakeholders in support supervision. The findings are presented in Section 9.2.

9.1 PUPILS' INVOLVEMENT IN LEARNING

Focus group discussions (FGDs) with P 3 pupils were carried out in 1212 primary schools. In some schools where pupils did not fully understand the English language, a professional practicing teacher was enlisted to translate the questions into the respective local language.

The discussion was focused mainly on teachers' involvement of the pupils during lessons through;

- picking on the pupils who do not put up their hands to answer questions in class
- practical work (making shapes, mental work, role play, situational games, play lets, debates, spelling exercises, etc.)
- display of pupils' work in the class
- involvement of pupils in the discussion of other pupils' work
- involvement in group work
- involvement in showing or teaching other pupils something a pupil has learnt (e.g. reading a word, sentence, story, etc.)

The discussion separately probed the level of involvement which the teachers of Literacy in English and Numeracy allowed their pupils in learning. This was on the assumption that these teachers could exhibit different involvement characteristics. The conversation was concluded by asking the pupils to mention anything else that they thought could help them learn better.

The proportion of schools where teachers involve their P 3 pupils in the different aspects of learning, by learning area is presented in Table 9.01. Two thirds of primary schools (68.8%) had separate teachers of Literacy in English and Numeracy. However, just a third of schools had one teacher for both subjects. Results of this survey also showed that teachers mainly used local language for instruction in 63.7% of the primary schools.

TABLE 9.01: PERCENTAGE OF SCHOOLS WHERE TEACHERS INVOLVE THEIR P 3 PUPILS IN THE DIFFERENT ASPECTS OF LEARNING, BY LEARNING AREA

Whether the teacher:	Response	Literacy in English	Numeracy
sometimes picks on the pupils who do not put up their hands to answer questions in class	Yes	79.2	76.0
	No	20.8	24.0
asks learners to teach other pupils about something learned	Yes	73.7	73.0
	No	26.3	27.0
gives practical work to do	Yes	76.3	66.0
	No	23.7	34.0
organizes pupils in groups to do some work together	Yes	65.4	60.1
	No	34.6	39.9
asks some pupils to comment on other pupils' work	Yes	40.0	38.2
	No	60.0	61.8
displays pupils' work in class	Yes	35.1	31.4
	No	64.9	68.6

Generally, more teachers of Literacy in English than those of Numeracy involved pupils in all the aspects of learning considered. The difference was largest in involvement of pupils in practical work. More teachers of Literacy in English (76.3%) than those of Numeracy (66%) involved their pupils in practical work.

In more than 70% of the schools, P 3 teachers of Literacy in English and Numeracy actively involved pupils by picking on the pupils who do not put up their hands to answer questions in class; and by asking learners to teach other pupils about something learned. That is, 24% of teachers of Numeracy and 20.8% of teachers of Literacy in English paid little or no attention to pupils who do not put up their hands to answer questions in class. The teachers picked on active or bright pupils only, hence disadvantaging shy or slow learners. In the schools where teachers asked learners to teach other pupils about something learned, 90% of the teachers of each of the subjects involved more than one pupil to do so.

In 65.4% of the schools, P 3 teachers of Literacy in English organised pupils in groups to do some work together. This is compared to 60.1% of the schools in which P 3 teachers of Numeracy did the same.

However, in less than half of the schools, P 3 teachers of Literacy in English and Numeracy involve pupils in their learning by displaying their work in class and asking some pupils to comment on other pupils' work. Majority (80%) of the schools did not display pupils' work because of lack of space (displaying area), while in 20% of the schools, there was concern of inadequate security in the classrooms.

The survey also established whether teachers of P 3 pupils involved more than one pupil (i.e. other than class prefect/monitor, bright or preferred pupil) in other activities such as: collecting exercise books for marking and giving back those books after marking; collecting

text books or chalk from office/library/store and distributing the text books to the pupils and cleaning the chalkboard.

The results showed that in more than three quarters of the schools, P 3 teachers involved more than one pupil in all these activities except in: distributing text books to the pupils, where P 3 pupils in less than half of the schools were involved; and collecting text books from office/library/store, where pupils in slightly more than half of the schools were involved.

9.2 P 3 PUPILS' VIEW ON HOW TO IMPROVE THEIR LEARNING

P 3 pupils identified a number of learning needs during the focus group discussion. Those needs which featured predominantly in majority of the schools are presented in this sub-section. The proportion of primary schools by P 3 pupils' suggestions on how to improve their learning is presented in Table 9.02.

TABLE 9.02: PERCENTAGE OF PRIMARY SCHOOLS BY P 3 PUPILS' SUGGESTIONS OF HOW THEIR LEARNING CAN BE IMPROVED

SUGGESTION	COUNTS	PERCENTAGE
The use of instructional materials/learning aids, practical lessons with demonstrations and study tours.	419	37.6
Provision of infrastructural facilities such as electricity, library and class rooms.	381	34.2
Provision of meals at lunch.	290	26.0
Provision of scholastic materials such as mathematical sets, school bags, shoes, writing books, etc.	284	25.5
Deployment of more teachers.	181	16.2
Creation of child to child learning (discussion) and reading culture through having access to text books and readers.	165	14.8
Maintenance of hygiene and provision of cleaning materials in the latrines/toilets.	140	12.6
Improvement on discipline in the school.	129	11.6

The P 3 pupils from schools sampled from each of the 112 districts of Uganda identified their major learning needs as follows: In slightly over a third of the schools, P 3 pupils identified the use of instructional materials (learning aids), practical demonstrations and study tours (37.6%) and improvement of infrastructural facilities such as electricity, library and class rooms (34.2%) as measures that would help them learn better.

In a quarter of the schools, P 3 pupils identified provision of meals at lunch (26%) and scholastic materials such as mathematical sets, bags and shoes (25.5%) as measures that would help them learn better.

The following measures were identified by P 3 pupils in less than 20% of the schools surveyed; deployment (recruitment) of more teachers (16.2%), creation of child to child learning (discussion) and reading culture through having access to text books and readers (14.8%), maintenance of hygiene and provision of cleaning materials in the latrines/toilets (12.6%) and improvement on discipline in the school (11.6%).

9.3 THE LEARNING ENVIRONMENT

The structured observation guide was instrumental in documenting the learning environment of the primary schools. The learning environment observed included: sanitation and hygiene, and educational support supervision by relevant stakeholders.

9.3.1 Sanitation and hygiene facilities

The availability of recommended sanitation facilities and hygiene practices in schools was established by direct observation. There was no interference with observation sites since the schools were not made aware of this activity until the day of the survey.

The observation focused on verifying the availability of the following facilities:

- a latrine or toilet on the school compound
- separate latrine or toilets for teachers and pupils
- separate latrine or toilets for boys and girls
- door shutters or screens at the entrance (privacy)
- hand washing point with water next to or inside
- disinfectant (e.g., soap) next to the hand washing point
- faecal cleaning materials in the toilets or latrines
- special menstrual management room and materials for girls
- a urinal for boys of at least 50cm length

In addition, the following were also established;

- number of latrine or toilet stances for boys and girls
- cleanliness of the latrine or toilet interior and exterior environment

Results showed that 99.5% of the schools had a latrine or toilet on the school compound. In 80.4% of the schools, there were separate latrines or toilets for teachers and pupils. Teachers in 17.1% of the schools used latrines available in staff quarters or church premises. However, in 19.6% of the schools surveyed teachers shared latrines with pupils. Results also showed that there was a separate latrine or toilet for boys and girls in 93.5% of the schools. The average ratio of pupils to latrine stances was 63:1. This is much higher than the National target ratio of 40:1 (*http: wash in schools mapping.co/projects/Uganda. html).*

The proportion of schools with recommended sanitation facilities and hygiene practices is presented in Table 9.03.

TABLE 9.03: PERCENTAGE OF SCHOOLS WITH RECOMMENDED SANITATION FACILITIES AND HYGIENE PRACTICES

AVAILABILITY OF:	PERCENT
Door shutters or screens at the entrance to each of the latrine/toilet stances for pupils	79.8
A hand washing point with water next to or inside the latrines/toilets for pupils	39.5
Disinfectant (e.g., soap) next to the hand washing point inside or near the latrine/toilet for pupils	18.2
Clean latrine/toilet interior (e.g., floor, wall)	61.4
Clean exterior environment of pupils' toilet/latrine (i.e., well slashed, swept, etc.)	79.1
Cleaning materials:	
• Toilet papers	28.1
• Newspapers	10.2
• Other pieces of paper	34.6
• Leaves	29.1
• Water	14.8
• Nothing at all	35.4
• Stones	0.2
• Sliding the buttocks on the ground	0.3
A urinal of at least 50cm for boys	64.5
A special menstrual management room for girls other than sick bay, matrons' room, etc.	25.7
Safe disposal of menstrual materials at school:	
• Latrines	87.0
• Boxes/buckets	8.3
• Rubbish pits	7.9

The recommended sanitation facilities and hygiene practices which are available in most schools are; door shutters and screens at the entrance (79.8%), cleaning of exterior environment (79.1%) and interior (61.4%) and urinal of at least 50cm for boys (64.5%). The existence of urinals for boys can reduce demand of boys' latrine stances by even 50% (Guidelines for School Sanitation Promotion, 2001).

However, sanitation facilities which are lacking in most of the schools include; hand washing points (39.5%), disinfectants (18.2%), faecal cleaning materials and special menstrual room for girls (25.7%).

9.3.2 Support supervision

The survey sought to establish whether stakeholders tasked with the responsibility of support supervision had been visiting primary schools to provide that service. This was to be established by the Team Leader from the visitors' book. The visitors' books used in primary schools had varying formats. Majority of the visitors' books could not capture purpose of visit. This is a very important piece of information that should not be omitted on the visitor's book.

Where the purpose of visit was captured in the book, it was established whether the stakeholders visited the schools for the purpose of support supervision or not. The results are summarized in Table 9.04.

TABLE 9.04: PERCENTAGE OF STAKEHOLDERS WHO VISITED SCHOOLS TO PROVIDE SUPPORT SUPERVISION

STAKEHOLDER	VISITED? (%)		THE PURPOSE OF VISIT WAS SUPPORT SUPERVISION (%)
	YES	NO	
District (Municipal) Education Officer	42.7	57.3	75.3
District (Municipal) Inspector of Schools	47.7	52.3	77.4
Inspector of Schools	58.0	42.0	76.8
Centre Coordinating Tutor (CCT)	62.1	37.9	77.8
School Management Committee (SMC) member	90.1	9.9	57.8
Parents Teachers Association (PTA) members	76.6	21.4	47.2
Directorate of Education Standards officials	19.3	80.7	72.9
Associate Assessors	44.3	55.7	65.6

Although majority of the schools were visited by members of the SMC (90%) and PTA (76.6%), only 57.8% and 47.2% of their visits, respectively, was for the purpose of support supervision. The frequency of their visits could possibly be explained by the proximity of their residences to the schools. However, many of them may not be competent enough to provide support supervision.

More than half of the schools received CCTs (62.1%) and Inspectors of schools (58%). It is also fulfilling that 77.8% and 76.8% of their visits, respectively, was for support supervision.

Although three quarters or more of their visits was for support supervision, only less than half of the schools were visited by District (Municipal) Education Officer (42.7%) and District (Municipal) Inspector of Schools (47.7%). Associate assessors visited 44.3% of the schools during which 65.6% was for support supervision. Directorate of Education Standards officials visited only 19.3% of the schools during which 72.9% was for support supervision. The low coverage of schools by Directorate of Education Standards could be attributed to the cost of visits and the fact that they are adequately represented by many other stakeholders.

Recommendations

1. MoESTS should provide guideline on the content of the visitors' book in order to capture all the relevant information about the visit. For example, purpose of visit.
2. Empower members of the SMC and PTA to be able to provide support supervision.

9.4 HEAD TEACHERS' VIEW ON HOW TO IMPROVE LEARNING OUTCOMES IN SCHOOLS

The Head teachers of primary schools surveyed were asked to mention important things that they thought could help improve learning outcomes in their schools. The views which featured predominantly are presented in this sub-section. The proportion of Head teachers by their views on how to improve learning outcomes in the school is presented in Table 9.05.

TABLE 9.05: PERCENTAGE OF HEAD TEACHERS ACCORDING TO THEIR VIEWS ON HOW TO IMPROVE LEARNING OUTCOMES IN SCHOOLS

HEAD TEACHERS' VIEW	PERCENT
Provision of adequate learning materials	47.6
Provision of more infrastructure (especially teachers' quarters)	43.5
Deployment of more teachers	29.2
Involvement of all stakeholders in reducing pupils' absenteeism	24.7
Quality pedagogical (support) supervision	24.2
Regular refresher courses for teachers	23.5
Provision of meals at lunch for teachers and pupils	15.0
Regular assessment of pupils	12.4

The most outstanding views on how to improve learning outcomes in schools were: provision of adequate and up to date learning materials (47.6%) and more infrastructures especially teachers' quarters (43.5%). It should be noted that these two suggestions were also emphasized by P 3 pupils as very important for their learning. The other suggestion which is in consonance with that of P 3 pupils is the provision of meals at lunch time.

9.5 RELATIONSHIP BETWEEN P 3 PUPILS' ACHIEVEMENT AND THEIR INVOLVEMENT IN LEARNING AND PEDAGOGICAL SUPPORT

This section, presents the results of the relationship between P 3 pupils' achievement and their involvement in learning and pedagogical support. A binary logistic regression model was used to estimate the association between the dependent variable (achievement) and the explanatory variables (pupils' involvement and pedagogical support).

Achievement: A pupil is rated proficient or not (binary variable)

Pupils' involvement: This is the index which showed the proportion of pupils' involvement in their learning by their teachers.

Pedagogical support: Two indices were used:

1. A school visited for pedagogical support or not.
2. Number of visits to a school for pedagogical support.

The results of the analysis of the relationship between pupils' involvement and pedagogical support (whether visited or not) is shown in Table 9.06

TABLE 9.06: RELATIONSHIP BETWEEN PUPILS' INVOLVEMENT AND PEDAGOGICAL SUPPORT (WHETHER VISITED OR NOT)

Subject	Variables	Odds	S.E	P. Values
Numeracy	Support(visited or not)	1.89	1.23	0.326
	Pupils' involvement	1.01	0.01	0.260
	Constant	1.27	0.68	0.657
Literacy in English	Support(visited or not)	1.44	1.18	0.658
	Pupils' involvement	0.99	0.02	0.453
	Constant	2.36	2.05	0.320

Although the relationship is not significant, results showed that schools that received pedagogical support had more pupils rated proficient in both Numeracy and Literacy in English. In fact the more the number of visits for pedagogical support, the higher the number of pupils rated proficient.

The results of the analysis of the relationship between pupils' involvement and pedagogical support (number of visits) and achievement is shown in Table 9.07.

TABLE 9.07: RELATIONSHIP BETWEEN PUPILS' INVOLVEMENT AND PEDAGOGICAL SUPPORT (NUMBER OF VISITS)

Subject	Variables	Odds	S.E	P. Values
Numeracy	Support (No. of visits)	1.02	0.01	0.235
	Pupils' involvement	1.01	0.01	0.394
	Constant	0.78	0.63	0.757
Literacy in English	Support(No. of visits)	1.02	0.02	0.303
	Pupils' involvement	0.99	0.01	0.525
	Constant	0.89	0.61	0.870

9.5.1 Pedagogical Support

Although the relationship is not significant, results showed that schools that received pedagogical support had more pupils rated proficient in both Numeracy and Literacy in English (table 9.06). In fact the more the number of visits for pedagogical support, the higher the number of pupils rated proficient (Table 9.07).

9.5.2 Pupils' Involvement

Results show that there's no significant difference in the proportions of pupil rated proficient in schools where teachers involve pupils in the learning of Numeracy and Literacy in English and where they don't.

However, it's expected that where there is pupils' involvement in learning, there would be more pupils rated proficient (Anderson, 1974). The results could be an indication that the kind of pupils' involvement that the teachers use lacks the ingredients that enhance learning.

Chapter 10

CONCLUSIONS AND RECOMMENDATIONS

10.0 INTRODUCTION

The results, conclusions and recommendations for the level of achievements of P 3, P 6 and teachers and tutors in Numeracy and Literacy in English are presented in this chapter.

10.1 PRIMARY 3

Results:

- Overall, 71.7% of the P 3 pupils reached the defined proficiency level in Numeracy and 60.2% attained a similar rating in Literacy in English. This means that over 7 in every 10 pupils in P 3 demonstrated that they had acquired the Numeracy competencies and skills specified in the national curriculum at their level. However, less than two thirds of the P 3 pupils attained a similar rating in Literacy in English.

- In all districts of the country, at least 30% of the P 3 pupils were rated proficient in Numeracy.

- In the following districts: Alebtong, Agago, Kaberamaido, Amuru and Oyam, more than 75% of the P 3 pupils were NOT rated proficient in Literacy in English.

Conclusion:

- More P 3 pupils were rated proficient in Numeracy than in Literacy in English.

10.1.1 Achievement of P 3 Pupils in Numeracy

Results:

In Numeracy, P 3 pupils performed well in:

- Associating objects to equal number of objects.
- Counting objects in ones, tens and fives.
- Showing a three digit number on an abacus.
- Adding a 2 digit number to a 1 digit number.
- Subtracting a 1digit number from a 1 digit number without borrowing.

They had difficulty in:

- Applying the four basic operations in novel situations
- Applying capacity in novel situations
- Adding money
- Writing number symbols from words
- Counting in words
- Competencies of 'Measures' and 'Fractions'.

Conclusion:

- Fewer pupils were rated proficient in application questions which were mostly word questions because of low levels of reading comprehension skills.

10.1.2 Achievement of P 3 Pupils in Literacy in English

Result:

- More P 3 Pupils were rated proficient in competencies of 'Writing' than 'Reading Comprehension'.

Conclusions:

- P 3 pupils are much more involved in practical writing activities than reading comprehension. For example, their homework these days is more of writing than reading.
- Low levels of reading comprehension skills among P 3 pupils.

10.2 PRIMARY 6

Results:

- The proportions of P 6 pupils who reached the defined proficiency levels in Numeracy and Literacy in English were 52.6% and 51.9%, respectively. This means slightly more than a half of the P 6 pupils acquired most of the competencies of Numeracy and Literacy in English specified in the national curriculum. In Literacy in English, best performance was exhibited in 'Reading Comprehension' 58.3% followed by 'Grammar' 51.8% and then 'Writing' 51.6%.

- In the districts of: Agago, Alebtong, Amuru, Apac, Bugiri, Bukwo, Bulambuli, Buyende, Kayunga, Kapchorwa, Kiryandongo, Kumi, Kween, Manafwa and Tororo, more than 75% of the P 6 pupils were NOT rated proficient in Numeracy.

- Nearly all the P 6 pupils in Bukwo district were NOT rated proficient in both Numeracy and Literacy in English.

- A total of 46 out of 112 districts of the country had more than 75% of their P 6 pupils NOT rated proficient in Literacy in English. Of these, ten districts had less than 10% of their P 6 pupils rated proficient in Literacy in English. These were: Alebtong, Apac, Bugiri, Bukwo, Buyende, Kabale, Kayunga, Kween, Maracha and Otuke.

Conclusion:

- P 6 pupils had difficulty in areas that involved making their own opinion based on the message in a reading comprehension text and writing tasks such as 'writing a short composition'.

10.2.1 Achievement of P 6 Pupils in Numeracy

Results:

P 6 pupils could:

- Carryout the four basic operations on numbers and fractions
- Show a number on an abacus
- Solve problems involving money
- Draw bar graphs
- Write a number in expanded form and vice versa

They had difficulty in:

- Using of brackets to show order in which the combined operation(x, +) is performed.
- Rounding off numbers to the nearest value.
- Interpreting pictographs.
- Applying fractions in novel situations.
- Dividing fractions.
- Applying capacity in real life situations.
- Measuring an obtuse angle.
- Finding the square roots of numbers.
- Completing a sequence.

Conclusion:

- The concept of fractions is not understood by pupils.

10.2.2 Achievement of P 6 Pupils in Literacy

Results

P 6 Pupils could:

- Read a comprehension text and answer questions of recall nature.
- Write a personal letter with the correct attributes.
- Write a short composition with the correct format.

They had difficulty in:

- Reading a story and answering questions requiring higher order thinking skills.
- Reading and interpreting information presented in tabular form.
- Writing a composition and personal letter with enough relevant content.
- Being creative and imaginative.
- Writing sentences using given words.

Conclusion:

- P 6 pupils exhibited low levels of achievement on higher order thinking skills i.e. creativity, imagination and interpretation.

10.3 ACHIEVEMENT OF P 3 AND P 6 PUPILS IN NUMERACY AND LITERACY IN ENGLISH BY GENDER

Result:

- More P 3 and P 6 boys than girls were rated proficient in Numeracy whereas in Literacy in English, girls performed better than boys.

10.4 ACHIEVEMENT OF P 3 AND P 6 PUPILS IN NUMERACY AND LITERACY IN ENGLISH BY SCHOOL OWNERSHIP

Result:

- The proportions of pupils rated proficient in both Numeracy and Literacy in English in private schools were significantly higher than those from government schools. This means that pupils from private schools are acquiring more of the expected competencies at their level than their counter-parts from the government schools.

Conclusion:

- More pupils in private than government schools were rated proficient in both Numeracy and Literacy in English.

10.5 ACHIEVEMENT OF P 3 AND P 6 PUPILS IN NUMERACY AND LITERACY IN ENGLISH BY SCHOOL LOCATION

Results:

- Urban schools performed significantly better than rural schools at both P 3 and P 6.

10.6 ACHIEVEMENT OF PRE-SERVICE / IN-SERVICE TEACHERS AND TUTORS IN NUMERACY AND LITERACY IN ENGLISH.

Overall Results:

- In Numeracy the respective proportions of tutors, in-service teachers and pre-service teachers rated proficient were 91.2%, 60.4% and 21.8%, respectively.

- Apart from Bushenyi core PTC, Bishop Stuart PTC, Mbarara, Bulera PTC, Gulu PTC, St. George PTC, Ibanda, Kabale-Bukinda PTC, Kaliro PTC, Kisoro PTC, Kitgum PTC, Kiyoora PTC, Ndegeya PTC, St. Noa Mawagali PTC, Loro PTC and Kabwangasi, in all the other 40 Primary Teachers' Colleges more than 75% of the pre-service teachers were NOT rated proficient in Numeracy.

- Luteete PTC, Kampala University PTC, Moroto Core PTC, Erepi PTC, Paidha PTC, Kitabi PTC and St. Mary's Bukedea PTC had less than 10% of their pre-service teachers rated proficient in Numeracy.

- The proportions of tutors, in-service teachers and pre-service teachers reaching at or above the desired proficiency level in Literacy in English were 46.5%, 66.4% and 38.8%, respectively.

- Arua PTC, St. Mary's Bukedea PTC, Kapchorwa PTC, Kotido PTC, Luteete PTC, Kampala University PTC, Moroto Core PTC, Erepi PTC, St. Alysious Ngora PTC, and St. John Bosco Lodonga had more than 75% of their pre-service teachers NOT rated proficient in Literacy in Englsih.

Conclusions:
- Indeed there were more in-service teachers than tutors rated proficient in Literacy in English.

- Fewer pre-service teachers than P 6 pupils were rated proficient in Numeracy and Literacy in English.

10.6.1 Achievement of Teachers and Tutors in Numeracy and Literacy by Topical / Skill Area

Results:
- Whereas the tutors, in-service/pre-service teachers performed best in 'Reading Comprehension', their achievement was low in 'Writing'.

- In 'Grammar' the respective proportions of tutors, in-service teachers and pre-service teachers rated proficient were 73%, 67.1% and 28.7%, respectively.

- In Numeracy, the proportion of tutors and teachers rated proficient was highest in topics of 'Operations on Numbers' and 'Measures'. However, the topics of 'fractions' and 'Graphs and Interpretation' were a challenge.

Conclusions:
- The concept of fractions was a challenge to tutors and teachers.
- Low levels of competence in some sub-skill areas of writing.

RECOMMENDATIONS

SN	Recommendation	Responsibility Centre
1.	There is need for language panelists to train teachers on interpretation and use of orthography especially of Leb Acoli and Leb lango.	Language panellists for LebAcoli & Leblango
2.	Further research needs to be carried out to find out what is responsible for the good performance in P 3 Numeracy so that it can be replicated in other subjects.	UNEB Research department.
3.	Strengthen the methodology of the progressive teaching of the four language skills i.e. Listening – Speaking – Reading - Writing systematically in every Literacy lesson.	TIET
4.	Teachers should carryout Oral Reading Assessment on individual pupils to ascertain the ability level of the pupil in Reading.	Teachers
5.	A culture of essay writing competitions should be strengthened in all schools to allow pupils to practice free writing, free thinking and imagination.	Head teachers
6.	Teaching and Assessment for learning in Literacy in English should emphasize; - Deeper understanding of texts, making predications, inferences and deriving lessons from texts. - Writing well sequenced compositions or stories relevant to the topic and personal letters with the correct format.	Teachers
7.	Teaching and Assessment for learning in Numeracy should emphasize; - Relating learnt concepts to daily life / novel situations thus making Numeracy lessons as interesting as possible.	Teachers
8.	Review the teaching of fractions in primary schools	NCDC DES
9.	Develop and video record model lessons for teachers' use.	TIET
10.	Provide guidelines on what should make the content of the visitors' book in order to capture all the relevant information about purpose of visits by different visitors.	MoES
11.	Empower School Management Committee members (SMC) and PTA members with skills to enable them provide support supervision	TIET
12.	Provide clear guidelines to ensure that pupils' involvement in their learning is effective.	DES

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APPENDICES

APPENDIX 1: *CATEGORIZATION OF DISTRICTS ACCORDING TO THE PERCENTAGES OF P 3 AND P 6 PUPILS RATED PROFICIENT IN NUMERACY AND LITERACY IN ENGLISH*

DISTRICT	P 3 NUMERACY	P 3 LITERACY IN ENGLISH	P 6 NUMERACY	P 6 LITERACY IN ENGLISH
ABIM	78.8	51.2	49.1	52.1
ADJUMANI	88.1	61.8	58.1	51.9
AGAGO	34.9	18.7	21.4	15.2
ALEBTONG	32.0	14.8	22.2	5.8
AMOLATAR	53.5	34.8	33.0	21.7
AMUDAT	67.3	53.3	36.7	40.9
AMURIA	78.0	64.1	27.5	20.4
AMURU	64.8	23.9	17.1	10.7
APAC	61.4	42.8	17.6	4.9
ARUA	73.2	54.7	40.1	37.1
BUDAKA	70.1	63.7	37.5	39.1
BUDUDA	76.0	55.4	46.2	33.4
BUGIRI	65.2	49.6	18.4	6.9
BUHWEJU	98.8	97.8	71.4	56.2
BUIKWE	97.3	95.7	57.3	69.0
BUKEDEA	36.0	29.1	37.6	32.8
BUKOMANSIMBI	99.8	98.8	60.0	49.3
BUKWO	59.4	37.1	1.7	0.4
BULAMBULI	63.5	52.4	23.0	22.7
BULIISA	78.7	63.3	25.7	25.9
BUNDIBUGYO	84.8	64.9	39.7	39.7
BUSHENYI	99.7	97.7	79.4	61.3
BUSIA	81.8	62.1	57.6	40.1
BUTALEJA	46.8	26.4	27.5	10.9
BUTAMBALA	91.3	93.2	28.0	39.9
BUVUMA	79.1	67.3	25.1	21.4
BUYENDE	55.0	55.4	22.3	7.4
DOKOLO	60.2	44.1	35.8	20.3

DISTRICT	P 3 NUMERACY	P 3 LITERACY IN ENGLISH	P 6 NUMERACY	P 6 LITERACY IN ENGLISH
GOMBA	71.2	66.1	29.2	21.5
GULU	76.7	58.4	63.7	54.1
HOIMA	84.3	73.2	34.6	33.9
IBANDA	93.8	87.4	53.7	29.5
IGANGA	86.8	81.8	45.7	40.7
ISINGIRO	97.5	91.8	56.1	22.5
JINJA	86.8	78.7	49.6	52.0
KAABONG	85.5	72.1	45.7	32.6
KABALE	72.7	60.8	26.2	8.5
KABAROLE	75.4	61.0	33.8	23.3
KABERAMAIDO	38.1	18.2	35.0	29.9
KALANGALA	97.6	94.8	67.3	79.7
KALIRO	52.0	43.9	29.5	15.6
KALUNGU	96.0	94.0	32.2	29.0
KAMPALA	94.2	98.5	71.5	78.4
KAMULI	84.0	78.5	48.0	49.5
KAMWENGE	82.7	54.9	65.0	41.1
KANUNGU	65.7	44.9	62.0	16.9
KAPCHORWA	38.5	38.4	24.6	22.1
KASESE	82.3	59.5	47.0	38.0
KATAKWI	85.3	55.1	58.2	42.6
KAYUNGA	78.0	61.6	14.2	9.8
KIBAALE	86.5	67.3	31.6	21.5
KIBOGA	87.8	79.3	26.3	27.2
KIBUKU	55.4	42.7	37.6	24.4
KIRUHURA	99.0	98.7	74.8	51.4
KIRYANDONGO	55.7	41.8	22.2	22.2
KISORO	66.4	47.7	64.2	21.8
KITGUM	48.0	34.1	41.5	18.9
KOBOKO	70.5	56.8	43.4	37.3
KOLE	59.2	37.9	39.0	21.7
KOTIDO	80.8	53.1	60.7	63.0

DISTRICT	P 3 NUMERACY	P 3 LITERACY IN ENGLISH	P 6 NUMERACY	P 6 LITERACY IN ENGLISH
KUMI	39.1	27.0	20.1	13.3
KWEEN	72.0	36.7	10.4	8.8
KYANKWANZI	84.6	73.7	46.6	30.4
KYEGEGWA	80.2	64.0	47.5	36.8
KYENJOJO	68.7	53.8	48.1	35.4
LAMWO	71.8	40.7	43.7	24.9
LIRA	78.2	77.6	43.8	30.4
LUUKA	71.8	52.3	37.3	22.6
LUWEERO	98.1	96.1	35.2	49.0
LWENGO	82.8	79.3	29.0	16.4
LYANTONDE	95.0	92.9	63.2	55.5
MANAFWA	36.8	26.5	17.0	16.2
MARACHA	76.3	61.0	35.4	9.2
MASAKA	98.7	97.3	63.9	58.8
MASINDI	55.0	38.1	28.6	35.0
MAYUGE	57.4	70.9	36.4	31.2
MBALE	88.1	71.2	39.1	41.0
MBARARA	99.3	98.0	83.4	49.4
MITOOMA	97.3	99.2	73.0	52.3
MITYANA	78.0	64.6	45.6	43.1
MOROTO	86.0	77.9	57.5	64.7
MOYO	53.3	29.3	62.2	46.8
MPIGI	85.7	83.1	55.0	52.2
MUBENDE	82.3	78.5	25.6	19.6
MUKONO	94.1	92.7	52.8	61.2
NAKAPIRIPIRIT	73.6	64.5	59.7	56.2
NAKASEKE	91.0	85.3	41.2	39.7
NAKASONGOLA	72.0	54.1	27.5	17.4
NAMAYINGO	85.4	70.9	50.6	30.1
NAMUTUMBA	63.3	54.4	35.6	23.3
NAPAK	85.1	48.5	52.0	46.1
NEBBI	78.3	46.8	35.0	19.1

DISTRICT	P 3 NUMERACY	P 3 LITERACY IN ENGLISH	P 6 NUMERACY	P 6 LITERACY IN ENGLISH
NGORA	71.7	61.8	28.2	25.8
NTOROKO	90.5	73.5	33.7	36.8
NTUNGAMO	95.0	90.2	59.8	37.0
NWOYA	77.0	44.3	37.6	21.3
OTUKE	62.7	28.0	36.2	8.8
OYAM	47.0	24.9	37.3	13.3
PADER	76.0	51.4	49.5	43.0
PALLISA	74.3	59.6	31.5	29.1
RAKAI	87.8	78.8	33.1	26.5
RUBIRIZI	97.1	92.9	75.0	50.1
RUKUNGIRI	92.2	85.7	59.0	26.3
SEMBABULE	99.5	98.9	46.5	43.5
SERERE	74.8	44.7	27.2	23.1
SHEEMA	99.5	99.1	70.5	23.5
SIRONKO	64.2	41.4	25.0	20.5
SOROTI	47.0	30.7	53.5	54.3
TORORO	43.0	37.2	21.0	22.6
WAKISO	97.0	93.8	58.6	69.3
YUMBE	90.7	77.0	57.7	38.3
ZOMBO	86.7	67.1	31.3	21.6

APPENDIX 2: VIEWS OF SELECTED STAKEHOLDERS ON THE 2015 NAPE FINDINGS

1.0 Introduction

This appendix is a presentation of the views of selected stakeholders on the 2015 NAPE findings. The stakeholders included practicing teachers of Numeracy and Literacy in English, PTC Tutors, and officers from: UNEB, TIET, DES, NCDC and Basic Education department. They held a workshop to discuss the findings. The focus of the discussion was to understand the findings, then generate possible reasons for the nature of the findings/performance with respective recommendations for the way forward. The possible reasons for the results and recommendations that were generated are presented here, according to category of testees: P 3, P 6 and teachers / tutors in that order.

1.1 OVERALL LEVEL OF ACHIEVEMENT

The results, reasons for the results and recommendations for the overall level of achievement of P 3, P 6, teachers and tutors are given in the following sub-sections.

1.2 PRIMARY 3

Results:

- Overall, 71.7% of the P 3 pupils reached the defined proficiency level in Numeracy and 60.2% attained a similar rating in Literacy in English. This means that 7 in every 10 pupils in P 3 demonstrated that they had acquired the Numeracy competencies and skills specified in the national curriculum at their level. However, less than two thirds of the pupils attained a similar rating in Literacy in English.

Reasons:

- The use of the same teaching methods which do not consider pupils' characteristics.
- Teachers' frequent calls for industrial action could have made children especially P 3 pupils who cannot study on their own to lose out; yet the P 6 pupils are compensated through coaching.
- Transfer of *Thematic curriculum* teachers to other schools without corresponding replacements.
- Teaching of competencies in an abstract manner without linking what is taught to real life situations.
- Teachers do not keep track record of pupils' performance from the previous classes.
- Inadequate pedagogical support and monitoring of the teaching and learning process by stakeholders.
- Difficulty in developing lesson plans because of poor schemes of work.
- Some school administrators tend to frustrate teachers' efforts geared towards change, for example in item/test writing, scheming and lesson planning. They prefer to buy finished products and support efforts geared towards passing of PLE only.
- Teachers tend to 'write' lesson plans rather than 'develop' lesson plans, because 'developing' involves thinking through the lesson to be taught; which some teachers

regard as a burden. Some teachers copy lesson plans or schemes of work from previous years or they buy from the so-called good schools.

Recommendations:

- DES should provide pedagogical support to teachers and encourage them to vary teaching methods according to pupils' characteristics.
- Teachers of the current classes should coordinate with the teachers of the previous classes on syllabus coverage.
- *Thematic Curriculum* teachers should not be transferred without corresponding replacements.
- All the teaching should relate to real life situations.
- There should be continued monitoring of the teaching and learning process by the relevant stakeholders.
- Head teachers should encourage teachers to make their own schemes of work and lesson plans.
- DES should sensitize head teachers on the disadvantages of relying on schemes of work, lesson plans and tests prepared from outside the school and not by the real teachers of the school.

1.2.1 Achievement of P 3 pupils in Numeracy

In Numeracy, P 3 pupils performed well in:

- Associating objects to equal number of objects
- Counting objects in ones, fives and tens.
- Showing a three digit number on an abacus
- Adding 2 digit numbers to a 1 digit number.
- Subtracting 1 digit number from a 2 digit number without borrowing.

Pupils experienced difficulty in:

- Applying the four basic operations on numbers in novel situations
- Applying capacity in novel situations
- Adding money
- Writing number symbols from words
- Counting in words
- Competencies of 'Measures' and 'Fractions'.

Reasons:

- Abstract teaching of Numeracyal concepts.
- Inadequate linkages of topics while handling different topics.
- Inadequate practice in linking number symbols to words.

Recommendations:

Teachers should:

- Understand their individual learners and their weaknesses and help them accordingly.
- Teach counting in words first and proceeed to number symbols later.
- Avoid the temptation to move to the next topic before the learners have understood the preceding topics.
- Make Numeracy lessons as interesting as possible.

1.2.2 Achievement of P 3 Pupils in Literacy in English

Results:

Generally, P 3 Pupils performed better in 'Writing' than in 'Reading Comprehension'.

Reasons:

- Inadequate of linkage in the language skills, for instance, there is lack of connection in the teaching of the skills of listening, speaking, writing and reading.
- Pupils are normally not given chance to express their own ideas during learning.
- Pupils are given little opportunities for reading while at home.
- A lot of writing activities are given to pupils on a daily basis.

Recommendations:

- Teachers should use phonic and syllabic methods as a way of teaching 'Reading'.
- Pupils should read what they have listened to and spoken about to help them get ready for reading.
- Schools should provide variety of 'graded readers' to pupils.
- Parents should provide opportunities and time for learners to read while at home.
- Tutors should strengthen the teaching of language skills development to the pre-service teachers.

1.2.3 Results of P 3 Pupils in Literacy in English by Competencies indicated that:

Pupils could:

- Associate object to same object
- Write patterns
- Write words
- Draw named objects

Pupils had difficulty in:

- Completing a story
- Completing sentences
- Describing activities in a picture
- Recognizing objects
- Naming objects

Reasons:

- Inadequate formation of sentences or stories from smaller components, i.e. words and phrases based on pupil generated ideas.
- Learners have limited vocabulary.
- Inadequate oral activities given to learners.
- Naming objects in English is a challenge to children unlike in local language.

Recommendations:

Teachers should:

- Provide more opportunities for pupils to express their opinions.
- Teachers should help pupils link their ideas systematically by providing examples followed by adequate practice time.
- Teachers should emphasize picture reading and use of printed objects such as in form of reading charts, picture cards.
- Teachers should teach oral literature and news and give more oral activities.
- Give ample time to learners to listen and retell stories.
- Involve all pupils in class activities for better performance.

2.3 PRIMARY 6

Results:

The proportion of P 6 pupils who reached the defined proficiency levels in Numeracy and Literacy in English was 52.6% and 51.9%, respectively. This means slightly more than a half of the P 6 pupils acquired most of the competencies of Numeracy and Literacy in English specified in the national curriculum. In Literacy in English, best performance was exhibited in 'Reading Comprehension', (58.3%), followed by 'Grammar' 51.8% and then 'Writing' 51.6%.

Reasons:

- Teachers do not correct learners' written text.
- Some teachers are also grammatically incompetent.
- Over reliance on pamphlets which also have mistakes in content and spellings.
- Inadequate talent development through clubs, for example, writers clubs.
- Inadequate emphasis on language competencies in other subjects.
- More practice in reading is done even outside the usual lesson.
- Transfer of teachers which does not match the needs of individual schools.

Recommendations:

- Children should be encouraged to write freely from their imagination.
- Handwriting and 'writing practice' should continue even in upper classes.
- Strengthen the speaking of English Language in and around schools for upper primary.
- Teachers of other subjects should pay attention to language competencies while teaching their subjects.

2.3.1 Achievement of P 6 Pupils in Numeracy

P 6 pupils could:

- Carryout the four basic operations on numbers and fractions.
- Show a number on an abacus.
- Solve problems involving money.
- Draw bar graphs.
- Write a number in expanded form and vice versa.

P 6 pupils had difficulty in:

- Use of brackets to show order in which the combined operation(x, +) is performed
- Rounding off numbers to the nearest value
- Interpreting pictographs
- Applying fractions in novel situations
- Dividing fractions
- Applying capacity in real life situations
- Measuring an obtuse angle
- Finding the square roots of numbers
- Completing a sequence

Reasons

- Inappropriate methods used during instruction.
- Inadequate emphasis on the rules and the formulae of the concepts by some teachers.
- Inadequate practical and mental work during teaching and learning.
- Failure to follow the syllabus systematically.
- Inadequate knowledge of the subject matter by some teachers.
- Inadequate involvement of learners during the teaching and learning process.
- Inadequate pedagogical support by the stakeholders in education
- There is a learning gap between the homes and schools.
- Inadequate integration of subjects during the teaching.
- Giving class work which is ahead of the learners' class.

Recommendations

- Teachers should emphasise the rules and formulae in all topics during teaching
- Numeracy needs some interventions such as Early Grade Mathematics (EGM).
- Teachers should read extensively to further their knowledge in Mathematics.
- Head teachers should enforce panel scheming at school to improve on the quality of schemes and teaching.
- Teachers should encourage practical and mental work during the teaching and learning process.
- Head teachers and the stakeholders should provide pedagogical support to teachers.
- Head teachers should ensure appropriate topical coverage in all classes.
- Teachers should teach the subject practically using real life situations.

2.3.2 Achievement of P 6 pupils in Literacy in English

P 6 Pupils could:

- Read a comprehension text and answer questions of recall nature.
- Write a personal letter with the correct attributes.
- Write a short composition with the correct format.

P 6 Pupils had difficulty in:

- Reading a story and answering questions requiring higher order thinking skills (HOTS).
- Reading and interpreting information presented in tabular form.
- Writing a composition and a letter with enough relevant content.
- Being creative and imaginative.
- Writing sentences using given words.

Reasons:

- Teachers do not build their lessons from easy concepts to complex concepts as required of them in the curriculum.
- Teachers do not show learners how to use learnt vocabulary to construct sentences.
- Some teachers do not use learning aids.
- Not much time is devoted to teaching texts presented in tabular form.
- Inadequate practice in letter and composition writing.
- Some teachers do not involve the learners in the teaching and learning process.

Recommendations:

- TIET should strengthen the training of tutors (re-tooling), in all language skill areas.
- Teachers should allow children to practice free writing, free thinking and imagination.
- Teachers should give more work that involves sentence construction.
- DES should intensify pedagogical support to teachers.
- Head teachers should encourage teachers to be creative and innovative.

2.4 Achievement of P 3 and P 6 Pupils in Numeracy and Literacy in English by gender

Results:

In Literacy,

- P 3 and P 6 girls performed better than the boys
- P 6 girls performed significantly better than the boys in competencies of 'Writing'.
- P 6 boys performed better in competencies of 'Reading Comprehension'.

In Numeracy,

- P 3 and P 6 boys performed better than the girls. The difference was significant at P 6.
- P 3 girls were better in competencies of 'forming fractions and sets', 'statistics' and 'graphs'.

Reasons:

- Girls tend to concentrate when it comes to writing. They are neat and orderly naturally.
- Older girls are still affected by various distractors.

Recommendations:

- Confidence building should be done in class as a community.
- Teachers should be 'critical' on writing.
- Teachers and parents should stress orderliness to pupils. They should themselves be good examples to these children.
- Pupils need a lot of guidance and counseling so that they remain focused on learning.
- Give pupils equal opportunities to practice what they learn, for example, in shopping.

2.5 Achievement of P 3 and P 6 Pupils in Numeracy and Literacy in English by School Ownership

Results:

The proportions of pupils rated proficient in both Numeracy and Literacy in English in private schools were significantly higher than those from government schools. This means that pupils from private schools are acquiring more of the expected competencies at their level than their counter-parts from the government schools.

Reasons:

- Late coming and absenteeism both by pupils and teachers in government schools.
- High teacher – pupil ratio in government schools.
- There is a lot of relaxation by teachers in government schools.
- There is high focus on value-for-money practices in private schools.
- Ineffective pedagogical support to teachers in government schools.

Recommendations:

- Intensify the sensitization of parents on their roles especially in monitoring learning of their children.
- DEO, DIS, Head teachers, MoESTS should strengthen the inspection and monitoring of schools.

2.6 Achievement of Pre-service /In-service Teachers and Tutors in Numeracy and Literacy in English

Results:

Whereas in Numeracy the respective proportions of tutors, in-service teachers and pre-service teachers rated proficient were 91.2%, 60.4% and 21.8%, respectively, the proportions of tutors, in- service teachers and pre-service teachers reaching at or above the desired proficiency level in Literacy in English were 46.5%, 66.4% and 38.8%. This means that whereas the tutors are better than in-service / pre-service teachers in Numeracy; it is not so in Literacy in English. Indeed there were more in- service teachers than tutors rated proficient in Literacy in English.

Reasons:

- Some tutors have no time to carry out research because they handle very many students.
- Tutors tend to concentrate more on pedagogical aspects and methodology rather than subject content.
- Many PTC tutors were trained in secondary school methods and not primary school methods. They are inadequate in handling the methodology of primary schools.
- Some PTCs experience daily extensive use of local language in communication at the college campus.
- Insufficient supervision of the pre-service teachers by the tutors.
- In-service teachers are practicing teachers and have more time to practice the teaching of the primary curriculum concepts.

Recommendations:

- Recruit tutors who are qualified in primary methods to teach primary teachers.
- Reinforce the teaching of English Language in PTCs in addition to methodology
- Tutors should refresh themselves in all aspects of the primary curriculum.
- Head teachers and Principals should take off time and understand the primary curriculum themselves.

2.7 Achievement of Teachers and Tutors in Numeracy and Literacy by Topical/Skill Area

Results:

- Whereas the tutors, in-service/pre-service teachers performed best in 'Reading Comprehension', their achievement was low in 'Writing'.
- In 'Grammar' the respective proportions of tutors, in-service teachers and pre-service teachers rated proficient were 73%, 67.1% and 28.7%, respectively.
- In Numeracy, the proportion of tutors and teachers rated proficient was highest in the topics of 'Operations on Numbers' and 'Measures'.

Reasons:

- Assumption by tutors that students learnt enough grammar in primary and secondary schools. Some do not teach them grammar at all.
- Inadequate practice in imaginative writing by the pre-service, in-service teachers and tutors.
- None functional clubs like writers and debating clubs in colleges.
- Lack of practical work offered to pre-service teachers at PTCs.
- Low creativity in handling large classes by tutors.
- Students in colleges disregard letter writing as a skill. They even think they do not need to write letters because of emerging technologies, for example, mobile phones and computers.
- Inadequate graph books and relevant teaching aids such as squared boards.
- Some teachers come to class under the influence of alcohol thus find it difficult to teach concepts which require accuracy like graphs.
- The PTC curriculum has very little coverage on graph work, perhaps a reason why it is not given attention in assessment.
- Questions on graph work are rarely set in PTC assessment and therefore pre-service teachers tend to lose interest in the topic.

Recommendations:

- Provide supplementary readers (novels) to the colleges.
- Principals regularize times for reading on the timetable in the colleges.
- Tutors should provide more training and practice in writing as a skill.
- Principals ensure that practice in writing is done by all regardless of the subject they are either learning or teaching.
- Tutors should encourage practical work at all levels.
- TIET should ensure that tutors are creative so as to handle challenging situations, for example, large classes, difficult concepts, mature students and others that may come up.
- Principals ensure that tutors cover all topics in the curriculum.
- Tutors should strengthen graphic/pictorial information reading both in Mathematics and Literacy.
- Tutors sensitize pre-service teachers on the importance of letter writing and composition writing.
- NCDC should ensure that practical work dominates the teaching of Numeracy at all levels.
- TIET should provide regular refresher courses for the tutors in order to help teachers.
- Principals should ensure that tutors work with the pre-service teachers in developing concepts.
- Tutors should encourage peer learning at pre-service teacher level.

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