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ASSESSING THE LEVEL OF PERFORMANCES IN MATHEMATICS IN PRIMARY SCHOOLS IN SIERRA LEONE. CASE STUDY: SOME PRIMARY SCHOOLS IN KENEMA CITY

ABSTRACT

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B.ED MATHEMATICS WITH COMPUTING, M.ED MEASUREMENT & EVALUATION

The purpose of this study is to critically assess the level of performances in Mathematics by some primary school pupils in Sierra Leone and Kenema City to be specific. Mathematics is a science of numbers, quantities and measurement. A person skilled in Mathematics can display a measure characterized by logic. Mathematics is therefore, universal subject owing to the fact that other scientists need it in their daily activities. According to Fremont (1986 page 5) Mathematics is the study of structures whose form can be expressed in symbols, it is the grammar of all symbolic system, symbolic reasoning appears to have been first used in connection with counting, for this reason mathematics referred to a liberal of education (learning). This tells us that Mathematics shows complete comprehensive work of people. However, Mathematics as said earlier is a tool in the development of science, technology, commerce and industrial activities and hence brings about economic development in the modern society. Due to its importance, curriculum planners take it to be one of the core subjects offered in schools. In spite of the emphasis laid on studying Mathematics, students are still finding it difficult to do well in the subject.

The fear of Mathematics displayed by the pupils in the senior secondary school classes and higher learning institutions contributes greatly to the below average performance of pupils. A pupil can become grounded in Mathematics if he attains a solid foundation at primary school.

The performance of pupils in Mathematics can be greatly influenced by the teachers .That is the employment of untrained and unqualified teachers for Mathematics for example can lead to low performance of pupils while competent and committed teachers inspire learners. Other aspects to be investigated are as follows:

The attitudes of pupils toward Mathematics;

Methods of teaching;

The level of attention paid to pupils at home by parents.

Today society especially through the research to develop and fit into the global economic and scientific competition makes an unprecedented demand on Mathematics and science on the community of Mathematics and Scientists. International Organization of Women and Mathematics Education (IWME) with all such programmes, it is evident that enough room is being given to girls to compete healthily with their male counterparts in performance in these subjects.

During the civil war in Sierra Leone the country joined other African countries to implement the 6-3-3-4 system of education, now modified to the 6-3-4-4 system. The system motivated the ability of pupils in the field of their interest with a view of not only advancing the cognitive ability of an individual, but also making some appreciable attribute for the good of the society as this form part of the purpose of education. This was to see education as an aspect of national development by providing increased manpower resources.

INTRODUCTION

Mathematics is a science of numbers, quantities and measurement. A person skilled in Mathematics can display a measure characterized by logic. Mathematics is therefore, universal subject owing to the fact that other scientists need it in their daily activities. According to Fremont (1986 page 5) Mathematics is the study of structures whose form can be expressed in symbols, it is the grammar of all symbolic system, symbolic reasoning appears to have been first used in connection with counting, for this reason mathematics referred to a liberal of education (learning). This tells us that Mathematics shows complete comprehensive work of people. However, Mathematics as said earlier is a tool in the development of science, technology, commerce and industrial activities and hence brings about economic development in the modern

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Since the Inception of this system much has been done to investigate the comparative analysis of candidate in most subjects either at regional level, by sex or sometimes at exams level (NPSE, BECE, WASSCE) from the Ministry of Education reports. In order to see improvement in the study of Mathematics and good results obtained at the Basic Education Certificate Examination (BECE) and WASSCE , special attention should be paid to all students opting for higher education in Mathematics and related courses

STATEMENT OF THE PROBLEM

Many children in most schools today lack confidence in themselves when they hear the word Mathematics. Even when there are more chances for them they always claim to be failure in Mathematics. They think no amount of effort can improve them some pupils look at the subject as mystified one, that it can be learnt only by gifted people, who are endowed with special mathematical skills. Other reasons that pupils attribute to the failure are as follow: Cast blames on their teachers to lack of suitable qualified teachers to teach and make the lesson satisfying and enjoying. Lack enough available reading materials (text books) for the subjects. It is against this background the researcher seeks to investigate the performance of candidate in mathematics at the National Primary School Examination (NPSE) level from 2010-2013.

AIM:

The aim of this research is to assess the level of performances in Mathematics by pupils in the primary schools in Kenema City.

Objectives of the study

The study seeks to address the following:

- To find out the level of performance in Mathematics by pupils in Primary School in Kenema city.
- To show the trend in performance by pupils at the National Primary School Examination (NPSE)
- Find out possible ways of improving performance in Mathematics at the N.P.S.E.

SIGNFICANCE OF THE STUDY

Mathematic is one of the core subjects of the present school curriculum. It has ultimately proved to be solid step on the fabrics to national development. Among other findings get a broader view in their academic pursuit. According to investigation on this performance of candidates in mathematics at the primary school level will give development oriented policy makers as prediction variable for future development strategies.

- It will be useful to the Ministry of Education Science and Technology for policy making.
- It will be useful to Educational Authorities and Curriculum Planners and developers. It provides a guide to design a curriculum that will facilitate quality education in future.

- It will give pupils the motivation to overcome any stereotype about the learning Mathematics.
- This work will provide recommendations for classroom teachers on ways of improving the performance of students in mathematics.
- Finally this research work will give other researchers a stepping stone for future research work.

REVIEW OF RELATED LITERATURE

Introduction

This chapter deals with the related literature, what various scholars and other authors have written that are related to this topic. The manner in which pupils learn mathematics varies from school to school. This reflects their individual's differences (that is fast, average, and slow learners) and their different methods of teaching used by teachers from the various schools in Sierra Leone due to centralized system of education, yet some schools are doing better than others in mathematics at National Primary School Examination (NPSE). The performance of students in the Sciences particularly mathematics in the National Primary School Examination (N.P.S.E) in Sierra Leone in recent times continue to raise very serious concern among parents, school authorities and other educational stakeholders. Performance of students in mathematics has been persistently poor over the years. Their performance has become a perennial problem dating as far back five (5) to ten (10) years ago. A lot of investigations has been conducted in the past to look into this very serious issues, for instance, the horribly poor performance of candidates in mathematics generally warranted a committee of investigation by the Ministry of Education, Science and Technology headed by professor S.P.T Gbamanja, called the Gbamanja Commission to investigate and recommend to the government of Sierra Leone the factor responsible for the poor performance in NPSE, BECE and WASSCE. Several related investigation has been carried out in the past in Africa and West Africa in articulate, concerning students' performance at public examinations. The seriousness of this issue necessitated a further investigation in the poor performance of students in mathematics at the primary school level, in the Kenema city, Eastern Sierra Leone.

While carry out the research, this chapter critically examined similar researchers carried out in the past and picked out relevant aspects relating to this research work. This was borne out of the fact that no research is ever new, several people may have done similar research and many others

will continue to carry out the same. The essence therefore was to liberate oneself from false claims of other researchers.

Performance of student in NPSE

The performance of students in mathematics in the National Primary School Examination has since been a decline, since the failure rate in mathematic has been consistently high, the level of performance of candidates in NPSE poses serious threat to the development of the nation. The technological development of any nation hunger in the performance of student in mathematics at both primary and secondary level. The general poor performance of candidates in mathematics in the West Africa sub region is a cause for concern to parents, teachers, school administrators, government and other educational stakeholders. This trend if not checked is bound to put Sierra Leone at a risk of having very low number of people qualifying to study medicine engineering and other related field. Mathematics is an integrated science that deals with other fields of physics, chemistry etc.

FACTORS RESPONSIBLE FOR THE BELOW AVERAGE PERFORMANCE IN MATHEMATICS AT THE NPSE

There are many reasons for poor performance of pupils in Mathematics at NPSE, BECE and WASSCE. One of the major causes of poor performance in mathematics is mathematics anxiety. By mathematics anxiety it means of mathematics or an intense, negative emotional reaction to the subject. Math phobia (some personal speculations) is a serious problem for many children/pupils Kennedy (2004) in his book Aiding Children Learning Mathematics (page 67) content that a majority of adult suffers from mathematics anxiety to some degree. Even though the performance does not manifest itself until after elementary school years, evidence shows that it frequently get started therefore pupils or student, it may eventually evoke such strong feelings that they go to great extremes to avoid taking mathematics course or courses that requires a mathematics background. Almost without exception Kennedy also reported that certain teachers practice and expectation contributed to their anxieties.

Five such practices are as follows:

- Emphasis on memorization
- Emphasis of speed
- Authoritarian teaching
- Emphasis on doing one's own work
- Lack of variety in teaching – learning process.

According to Mukeh (2008) in his book "Mathematics for Understanding" said pupils poor performance in mathematics can be based on the methods and lack of practice by pupils. Understanding the teaching and practicing of mathematics work is a factor. The problem of teaching mathematics is sometimes the methodology the teacher's lack. The teachers must have the skill of teaching and the same time be grounded into the subject matter. He said students do not put mathematics work into practice. And as the saying goes, practice make perfect. Thus daily practice in mathematics will develop new method and interest.

Sherman (2000) believe strongly that the low performance of pupils in schools particularly in mathematics was due to the learning method (chalk and talk) which was inevitable due to the high pupils-teacher ratio. According to R.I.C Envizor (2007), many of the pupils start their secondary school career on a shaky foundation in Mathematics. The problem starts right from primary school, where the pupils are not taught what they have to learn. They normally stress in areas which they feel they are comfortable with and all others areas are skipped. Vincent (2009) suggests the need for teachers to improve their academic skills. According to him, academic status must be abreast with the modern development of education. He also said in some institutions they have more untrained and unqualified teachers. These teachers are sometimes given the task of teaching Mathematics since they have some knowledge in the subject. These teachers will only teach topics they fell they can handle well. This normally brings about the incompletion of syllabus which can be a leading factor to poor performance. According to Gbamanja (2009) the reasons for poor performance are interrelated and complex, they are not due to a simple causality. The nature and extent of poor performance in BECE and WASSCE are spelt in the report. The commission found that all sectors of society bear responsibility for poor pupils' performance namely the home, the school, the society (community, public) and the government/ the Ministry of Education. However, the greatest responsibility for pupils' poor performance rests with the school. In particular teachers, their behaviours and general negative attitude to work including specified unethical and professional conduct. This rated high among the causes of poor performance in public examination. The WAEC Chief Examiners reports over the years and more so in 2008 indicated that the candidate:

- Displayed poor command of English language
- Did not understand the requirement of the questions
- Were not adequately prepared for the examination.
- Limited knowledge in all areas of the syllabus.

- Unable to draw graphs, reasons logically and calculate well in Mathematics and Mathematics related subjects.
- Lacked study skills and enough time for study. Examiners reports also focused on;
- Poor pedagogy evidence by abstract teaching, inadequate instruction
- Material and time poor teaching methods, mainly teachers centered. Over dependence on teachers pamphlets which were plagiarized and unprofessionally presented and sold at exorbitant price to pupils.

The commission also found out those principals, head teachers and teachers did not study the reports which would have helped them to remedy anomalies. Consequently pupils continued to fail. Tyler RW conducting classes to optimize learning objective Pennsylvania (2003) out time some conditions which he called a necessary for effective Mathematics learning.

- The learners must be motivated, that is he must have an impelling force for his own active involvement.
- The learners must have appropriate materials to work on.
- The learners must get satisfactory from desire behavior.
- The learners should have an opportunity for a deal of sequential practice or desire behavior Fenevema (2001) – "Under the heading women and girls in Mathematics" said that "Mathematics teachers in secondary schools tend to be men, and in primary school male teachers tend to teach the other classes, where the mathematics is more advanced while women teachers are concentrated in the younger age-group where the emphasis on language an reading is greater".

This in the nutshell that teachers who fair mathematics (precisely women) are located in the lower primary school classes (when they tend to know everything when they are non-specialists for particular subject) and are hardly found in upper primary or secondary mathematics classes. School needs well qualified and enthusiastic teachers as they constitute the key to all improvement of mathematics in school and for further development of knowledge, interest and attitude of ordinary citizens when they shall have left school. "UNDP- Human Development Report, 2001". This means that since teachers are torch bearer in teaching/learning Mathematics the long term effect of the shortage of good Mathematics teachers in schools could be very damaging to pupils and that teachers need not only a good control over Mathematics but also perceptive on social contexts to learner thereof.

RESEARCH METHODOLOGY

This chapter gives information on where and how the data for this research was collected. It also contains description of the study setting and major tools used to analyze the data

STUDY AREA

The research was conducted in Kenema City , Nongowa chiefdom ,Eastern Region of Sierra Leone .The city is the regional Headquarter of East with many schools(Preschools, Primary schools, Junior and Senior secondary schools) and even has tertiary institutions to help learners pursue higher education. The presence of many schools and the fact that the researcher has studied the activities of the area over time makes it appropriate for this research. Like many other cities in Serra Leone Kenema has people engaged in many types of jobs including teaching ,nursing, trading , driving and riding ,health care delivery and farming. There are many primary schools in the city where the researcher selected four (4) of them. The following schools were selected

- College Practicing School
- Methodist Primary School
- The Door International Academy Primary School
- St. Paul's Primary School

The selection took into consideration a number of parameters including Boys school and co-education Schools, .The variations in the characteristics of the schools were meant to provide balanced information and avoid biasness in the information gathering

SAMPLE SIZE:

The research population comprised teachers of Mathematics in the various schools in Kenema city and the pupils who are at the receiving end of the teachers' knowledge. The researcher could not reach the entire population in a limited time to obtain the required information. The researcher therefore selected forty (40) pupils from each school .Hence one hundred and sixty (160) pupils were altogether selected. Also the Mathematics teachers **of** classes 4, 5&6 were selected.

SAMPLING TECHNIQUES

The researcher used Stratified Sampling and Simple Random Sampling (SRS) to select pupils in the schools Classes 4, 5, 6 formed the strata in the schools while Simple Random Sampling was used to select the pupils in each class .This means each pupil had equally opportunity of being included in the sample. The Mathematics in the schools and in the various classes (strata) was selected by stratified sampling.

DATA COLLECTIONS METHODS AND PROCEDURES

To collect the required data, the researcher used questionnaires, interviews, observation and use of documents (secondary data).The use of the various data collection methods was in consideration of the various levels of knowledge of the pupils and the teachers with respect to the data required.

Questionnaires

The researcher prepared and administered four (4) questionnaires for four (4) Mathematics teachers and the school head .Apparently 24 Mathematics teachers and 4 Heads of 4 different Primary Schools were given questionnaires to answer. For the teachers the questions were mainly on their training and qualifications, teachings methodology, opportunities and challenges for the teaching of Mathematics and the performance of pupils in the NPSE

Interviews

The interviews for all the pupils lasted for one and half months and pupils' participation was good.

Observation

Additional data was collected from the schools through observation about the performance of the pupils. The researcher visited the selected schools to observe the Mathematics teachers at work in the classrooms and even out of the classrooms. There was need to know the various Methods used by teachers and the participation of the pupils in the lessons was also observed over time to assess the nature of their interest in the subject. The researcher also took time to find out the materials available in the schools. Documentary sources were also consulted in order to obtain additional data .The researcher therefore consulted with written materials such as books , NPSE results in schools ,pupils note books, the internet, magazines and books. All these went a long way in providing the required information for the research.

DATA ANALYSIS

The researcher used tables to present the data in a simplified manner using tables and calculating percentages.

ANALYSIS AND PRESENTATION OF DATA

This chapter deals with ways the data research study was collected, analyzed and presented. It also disuses the findings based on the objectives of the study about an investigation into performance in Mathematics at the NPSE level

Table 1: Educational level of Teachers

Teacher Qualification	No. of Respondents	Percentage
T.C	10	37%
T.C/H.T.C	8	29.6%
H.T.C/H.N.D	7	25.9%
H.T.C/Bed	2	7.4%
TOTAL	27	100%

Source: Computation from data collected

The above data clearly shows the respondents teaching qualifications. It further reveals all the respondents have at least attained including ` the Teachers Certificate (TC), Higher Teachers Certificate (HTC), Higher National Diploma (HND) and Bachelor of Education Degree (B.Ed). From the table above one can deduce that one hundred percent (100%) of respondents have formal education background.

Table 2: Pupils Interest in Mathematics in Four Primary Schools in Kenema

SCHOOL	No. of Pupils	Like	Percentage (%)	Dislike	Percentage (%)
College Practicing School	10	3	30	7	70
Methodist Primary School	20	7	35	13	65
The Doorl Primary School	10	3	30	7	70
St. Paul's Primary School	15	5	33.3	10	66.7
Total	**55**	**18**	**128.3**	**37**	**271.7**

Source: computation from data collected

From the table above, out of 100% of pupils under investigation 30% like Mathematics, 70% of them dislike Mathematics in the college Practice School from Methodist Primary School 35%

like Mathematics while 65% dislike Mathematics, from the Door International Academy Primary School 30% like and 70% dislike Mathematics. From St. Paul's Primary School 33.3% like Mathematics while 66.7% of pupils dislike the subject.

Table 3: Teacher –Pupil Ratio in Four Primary School

No	school	Class	Teachers	Pupils
1	College Practicing School	VI^{A} VI^{B} VI^{B}	70 65	2 2
2	Methodist Primary School	VI^{Blue} VI^{Green} VI^{Red} VI^{Yellow}	80 79 89 78	2 3 2 3
3	The Door International Academy Primary School	Standard V^{A} Standard V^{B}	60 50	3 3
4	St. Paul's Primary School	VI^{A} VI^{B} VI^{C}	90 88 70	2 2 3
	TOTAL	**11**	**819**	**27**

Source: Data collected 2012/2013

The above table shows that the distributions of pupils in class per teacher are above the ideal classroom situations. This clearly shows that the number of pupils per class in the selected schools is greater than what is recommended for effective teaching and learning of Mathematics.

TABLE 4: Subject Specialist Area of Respondent

Special subject	No. of respondents	Percentage
Mathematics major	03	15%
Integrated Science	07	35%
Home Science	04	20%
Physical and Health Education	02	10%
Agriculture	04	20%
TOTAL	**20**	**100%**

Source: Data Collected

From the table above, 15% of the respondents specialized in Mathematics, 35% in Integrated Science, 20% in Home Economics, 10% in Physical Health Education and 20% in Agriculture.

From the mere look of the table above it clearly tells us that about 85% of respondents claimed the responsibility to teach Mathematics even though they are not Mathematics specialist.

TABLE 5: Quantity of Teaching/ Learning Materials in Schools

Teaching/learning materials	**No. of respondents**	**Percentage**
Adequate	00	-
Inadequate	27	100%
TOTAL	**27**	**100%**

Source: Data Collected

The table above shows that 100% of the respondents do not have adequate teaching/learning materials in their schools. The lack adequate teaching and learning materials in the schools hinders effective delivery by teachers and the active participation of pupils.

TABLE 6: **Performance of Pupils in Mathematics at the NPSE in the college Practicing Primary School Kenema from 2009- 2013**

Year	No. of pupils who Attempted the Exam	Total passes	Total Failure	Percentage Pass	Percentage Failure
2009	480	100	380	20.8	79.2
2010	390	90	300	23.1	76.9
2011	400	120	280	30.0	70.0
2012	370	88	282	23.8	76.2
2013	470	70	400	14.9	85.1
TOTAL	2110	468	1642	112.6	387.4

Source : Data collected

The table shows the pupils performance in Mathematics from 2009- 2013 inclusive for College Practicing Primary School Kenema. In 2009, 480 candidates attempted Mathematics of which only 100 (20.8% passed and 380 (79.2%) failed the subject. For the year 2010, 390 pupils attempted Mathematics of which 90 (23.1%) passed and 300 (76.9%) failed the subject. In 2011, 400 pupils attempted Mathematics of which 120 (30%) passed and 280 (70%) failed. In 2012, 370 opted for Mathematics, only 88 (23.8%) passed and 282 (76.2%) failed. In 2013, 470 pupils attempted Mathematics of which only 70 (14.9%) passed and 400 (85.1%) failed the subject. This kind of performance is not good.

Table 7: Performance in Mathematics at the NPSE in Methodist Primary School Kenema 2009 – 2013 Academic Year

Year	No. of pupils who Attempted the Exam	Total passes	Total Failure	Percentage Pass	Percentage Failure
2009	500	50	450	10	90
2010	490	80	410	16.3	83.7
2011	540	38	502	7.0	93.0
2012	400	60	340	15	85
2013	520	40	480	7.7	92.3
TOTAL	**2450**	**268**	**1750**	**56.0**	**444.0**

Source: Data collected

The table shows the pupils performance in mathematics at the NPSE from the Methodist Primary School Kenema from 2009-2013. In 2009, 500 candidates attempted the Mathematics, only 50 (10%) passed and 450 (90%) failed. In 2010, 490 opted for mathematics, only 80 (16.3%) passed and 410 (83.7%) failed the subject. In 2011, 540 opted for mathematics, only 38 (7%) passed and 502(93%) failed. In 2012, 400 attempted the mathematics, only 60 (15%) passed and 340 (85%) failed the subject. In 2013 out of 520 that sat to the subject, just 40 (7.7%) passed and 480 (92.3%) failed. The NPSE performance for the Methodist Primary School is not much encouraging.

TABLE 8: Pupils Performance in Mathematics at the NPSE at the Door International Primary School, Kenema 2009 – 2013 Academic Year

Year	No. of pupils who Attempted the Exam	Total passes	Total Failure	Percentage Pass	Percentage Failure
2009	238	21	217	8.8	91.2
2010	300	40	260	13.3	86.7
2011	290	51	239	17.6	82.4
2012	340	35	305	10.3	89.7
2013	400	39	361	9.8	90.3
TOTAL	1568	186	1382	59.8	440.3

Source: Data Collected.

The above table shows pupils performance in mathematics at NPSE for the Door International Academy Primary School from 2009-2013 respectively. In 2009, 238 candidate sat to the mathematics subject, only 21 (8.8%) passed and 217 (91.2%) failed. In 2010, 300 pupils

attempted mathematics, only 40 (13.3%) passed the 260 (86.7%) failed. In 2011, 290 pupils opted for mathematics only 51 (17.6%) passed and 239 (82.4%) failed the subject. In 2012, 340 candidates attempted the subject, only 35 (10.3%) passed ad 305 (89.7%) failed. In 2013, 400 pupils attempted the subject, only 39 (9.8%) passed and 361 (90.3%) failed.

TABLE 9: Pupils Performance in Mathematics at the NPSE in Saint Paul's Primary School, Kenema 2009 – 2013 Academic Year

Year	No. of pupils who Attempted the Exam	Total passes	Total Failure	Percentage Pass	Percentage Failure
2009	489	50	439	10.2	89.8
2010	500	80	420	16.0	84.0
2011	400	44	356	11.0	89.0
2012	379	39	340	10.3	89.7
2013	390	48	342	12.3	87.7
TOTAL	2158	261	1892	59.8	350.5

Source :Data collected in the field.

The above table shows the overall pupils performance in mathematics at from St. Paul's Primary School from 2009-2013 respectively. In 2009, 489 candidate attempted mathematics as a subject, only 50 (10.2%) passed and 439 (89.8%) failed. In 2010, 500 pupils sat to the mathematics, only 80 (16.0%) passed and 420 (84.0%) failed. In 2011, 400 pupils opted for mathematics only 44 (11.0%) passed and 356 (89.0%) failed the subject. In 2012, 379 pupils sat to the subject, only 39 (10.3%) passed and 340 (89.7%) failed. In 2013, 390 pupils attempted the subject, only 48 (12.3%) passed and 342 (87.7%) failed the subject.

SOME CHALLENGES FOR MAHEMATICS TEACHERS IN THE PRIMARY SCHOOLS

Low level Performance in Mathematics

Many pupils in the primary schools continue to show dislike for Mathematics .The dislike for the subject continues to hinder the regularity, punctuality and performance in the subject .Although a good number of pupils pass the National Primary School Examination (NPSE) the pupils grades in Mathematics are comparatively low. **Many Non Specialists Teachers of Mathematics in the Classrooms** .It was discovered that many Mathematics teachers are non-specialists in the

subject. They might have just studied Mathematics related subjects and are now full time teachers in the classrooms. About 03 (15%) of the respondents teachers are specialists in Mathematics while the rest specialize in other subjects.

Inadequate Teaching and Learning Materials for Mathematics

The teachers do not have adequate supplementary Mathematics textbooks for their personal use. This is also true for the pupils. However, the availability of the Lesson Plan Manuals has to a greater extent reduced the burden on the teachers and the school administration.

Overcrowding /High Teacher –Pupil ratio

Most of the classrooms were found to be overcrowded and teachers having to cope with high number of pupils in their Mathematics lessons .This situation often leads to ineffectiveness of the teachers in the classrooms and low participation of the learners.

SOME SUGGESTIONS FOR IMPROVING THE PERFORMANCE OF PUPILS IN MATHEMATICS AT NPSE

- Employment of more trained and qualified mathematics teachers in primary schools.
- Providing more infrastructure or construct more school building to reduce overcrowding in schools.
- Teachers should be encouraged to complete syllabus before the NPSE is taken by pupils
- Teaching and learning materials should be provided for both teachers and pupils.
- Shift system in school should discouraged
- Parent should encourage pupils to practise Mathematics at home.
- School administrators should conduct remedial classes on Mathematics
- Encouraging pupils to take their Mathematics lessons very seriously by being regular and punctual at school.

SUMMARY /CONCLUSION RECOMMENDATIONS

This chapter gives a summary of the findings of the researcher. In essence the conclusions and recommendations made are highlighted in this chapter. The focus of the research was to investigate the performance of pupils in Mathematics at the National Primary School Examination (NPSE) in four primary schools in Kenema City. In essence the researcher was interested in how well or poorly the pupils perform in Mathematics at the National Primary School Examination. The research was prompted by concerns raised and educational standards in

the provinces specifically and in the country at large. Kenema city was selected because it has comparatively many schools with some facilities that are less evident in hard –to –reach areas in Sierra Leone. The data was collected through interviews, questionnaires, observation and the study of documents. The under -mentioned are some of the major conclusions made.

Many pupils do not pass the examination with good grades in Mathematics. They often fail this core subject with deplorable scores. However there are some pupils who do well in Mathematics either through the additional coaching from the teachers or the parents. Among the reasons for below average performance are the following:

- There is low interest in the subject for most pupils and even some parents
- Some schools do not have adequate teaching and learning materials- Supplementary textbooks, graphs, mathematical sets etc.
- There is overcrowding in many schools thus putting pressure on the available teaching and materials as well as on the available facilities.
- The Lesson Plan Manuals are not often adequately used by many Mathematics teachers in the schools.
- The schools lack specialist Mathematicians with wealth of knowledge in teaching the subject and hence pupils are normally not given strong foundation. Many teachers who teach Mathematics
  did d only Mathematics related subjects like Sciences and Accounting.

From the findings it was clearly noted the teachers need to use activity-oriented methods of teaching to increase the participation of learners in Mathematics lessons. Such methods include Investigational work, Problem solving, Assignment, class exercise, Discussion and presentation.

In addition the motivation of teachers can have a positive influence on the output of learners in the classroom. Such motivation could take the form of payment of remote allowances and award of scholarships from further studies

RECOMMENDATIONS

Below are some recommendations for the duty bearers.

A Government:

The government should:

- Pay teachers regularly and promptly
- Endeavour to provide essential and appropriate teaching and learning materials in adequate quantities –Books , mathematical sets , geometrical shapes etc.
- Promptly provide Mathematics Lesson Plan Manuals in schools and effectively monitor their use.

B Non government Organization

- Complement the effort of the government by providing additional teaching and learning materials for the schools
- Organize in-service trainings for teachers at the primary levels.
- Award scholarships to deserving teachers of Mathematics to improve themselves
- Award scholarships to pupils who do well in Mathematics especially at the NPSE

C Schools Administration

The school administration should:

- Implement effective ways of monitoring the Mathematics teachers.
- Take good care of Mathematics Lesson Plan Manuals
- Motivate teachers of core subjects to do their best for the pupils
- Award pupils who work hard at their Mathematics Lessons by giving them scholarships or providing them additional learning materials
- Monitor and ensure the regularity and punctuality of pupils and teachers

D Mathematics Teachers

The Mathematics teachers should:

- Acquaint themselves with the primary school syllabus to ensure they are not haphazard in their teaching.s
- Use the Lesson Plan Manuals effectively.
- Motivate their pupils during Mathematics lessons

- Provide remedial lessons for their pupils with the knowledge and permission of the school heads.
- Be desirous of pursuing requisite training in Mathematics teaching.
- Should encourage pupils to work on their own especially during NPSE in order to give them a strong foundation for secondary school work.
- Use team teaching as a strategy to ensure understanding of topics and active learner participation

E Pupils

The pupils should:

- Endeavour to be regular and punctual in Mathematics lessons
- Do their assignments in time
- Do more group work to help the involvement of the weaker ones
- Avoid examination malpractice as much as possible .

F Parents

The parents should:

- Monitor their pupils attendance at school
- Find out the performance of their pupils at school.
- Motivate their children to work hard at Mathematics lessons
- Help organize extension classes for their pupils
- Provide supplemental learning materials for their pppupils.

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