TEACHERS QUALIFICATION & STUDENTS MOTIVATION FACTORS CONTRIBUTING TO POOR PERFORMANCE IN MATHEMATICS IN K.C.S.E IN SELECTED PUBLIC SECONDARY SCHOOLS IN KIAMBAA DIVISION OF CENTRAL PROVINCE, KENYA

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ABSTRACT

Students' poor performance in national examination remains a major concern worldwide and Kenya in particular. In an attempt to respond to this problem, the Kenyan Mathematics scholars have carried out many studies in Mathematics education. Despite these studies, students' performance remained poor. This means that the main reason for this poor performance had not been established. This study aimed at determining the qualification of the teachers and student's motivation as factors contributing to the poor performance in Mathematics by students in secondary schools in Kiambaa Division. The study employed a descriptive survey and focused on Form 3 students and their Mathematics teachers. Random stratified technique was used to select 6 public secondary schools from 40 public schools of Kiambaa Division. Form 3 students were selected randomly. Simple random sampling was used to select 20 students and 4 teachers from each school sampled. Data was collected with two instruments, Mathematics Teacher Questionnaire (MTQ) and Mathematics Student's Questionnaire (MSQ). A total of 16 teachers and 80 students filled the MSQ and MTQ respectively. Data from the field was analysed qualitatively. The findings of this study would be of significance to the teachers, students, curriculum developers and college tutors in educational institutions with regard to improvement of Mathematics performance and education. The information provided would enable them to make important decisions on curriculum development and implementation, teacher training, proper administration, learning and teaching resources, change of attitude and motivation in learners that will help to improve performance in Mathematics. The study revealed that teachers were well qualified to teach mathematics. It was also revealed that students were not being well motivated to learn Mathematics. Based on the above findings, the study recommended that it schools should try and motivate students and help them develop positive attitude towards the subject.

Key Words: *Teachers Qualification, Students Motivation, Poor Performance in Mathematics, Public Secondary Schools in Kiambaa Division, Kenya.*

Background of the Study

In today's world, the fields of technological and professional education require a strong foundation consisting of sound background knowledge of Mathematics. As technology develops and reaches more and more into all those levels of industry and commerce, so more Mathematics will be needed at all these levels.

The utilitarian value of Mathematics as man develops his technology is endeavors to master his environment needs a lot of emphasis than it had been made before. The application of Mathematics is obvious or unconsciously done. But there is no doubt that well qualified mathematicians are in great demand (Mwangi, 1983).

In Kenya since independence, there has been a tremendous and a very remarkable trend towards the development of our educational system. There has been the need to relate science and technology to national goals for the overall economic development. This has no doubt become central to educational development.

The Kenya Government also spends a large percentage of the annual budget on education (Wamahiu. 1977). Part of this money is channeled towards the improvement of Mathematics. However, the increased expenditure on education does not result to improved performance in Mathematics (Omar, 1996). For any improvement in science and technology to be realized, good performance in Mathematics is necessary as it forms the basis of some very important professional courses such as medicine, agriculture, engineering and many others.

Eshiwani (1980) observes that Mathematics is the backbone of other subjects. Consequently, there is need to improve its performance as Kenya looks forward to become industrialized country by the year 2020. In addition, the government has continually reviewed the education system to ensure that it serves the needs of the learners. It has come up with the new educational system, the 8:4:4 which can be described as dynamic, and stresses on curriculum improvement with stress on science and technology (Kiswili 1995).

In science and technological advancement mathematics has been found to be of great use as well as serving other roles in the society. For example, Mathematics in school curriculum is important in various aspects. It equips students with skills that enable them to play an active role in society. It is very vital in the inculcating of coherent and logical reasoning as well as producing a unique expression of ideas in a universal language which facilities scientific and technological manipulation and innovation. Mathematics thus equips the learners with competence in computation and also helps in developing attitudes of critical and analytical thinking together with equipping students with a proper vehicle of communication of thoughts and ideas through its symbolic expression (Thuo 1985).

In support of this, Cockroft (1982) observes that it would be very difficult, perhaps impossible to live a normal life without making use of Mathematics of some kind. According to him, learners develop logical reasoning in problem solving situations that are encountered by the society in everyday situations through learning Mathematics. In addition, Kiswili (1995) observes that reasoning is mainly developed in the process of learning Mathematics and other subjects in the school curriculum.

Similarly, Eshiwani (1981) observes that Mathematics is one subject which everyone whether at school or not knows about. It is a subject that deals with our day-to-day lives directly or indirectly. It is a subject that can be done (dealt with) in anyone's mother tongue, makes life easier for everybody because people use it as common media communication. It is also a subject unlike others, which everyone going to school must learn. It is a compulsory subject up to secondary level of education, and even at higher levels of learning, there is basic Mathematics in every course.

In addition, mathematics guides the study of many other subjects in science, technology, commerce, industry and engineering. It is a basic requirement for study for several subjects at the university,

teacher training and in many employment sectors. Eshiwani (1981) also notes that Mathematics is perhaps the best organized of all disciplines. In most cases, the material taught in various Mathematics systems is consistent. As a result, it permits one deal with the chaotic universe and makes it seem orderly.

Consequently, owing to the importance attached to Mathematics, it is one-core and compulsory subjects in the 8:4:4 system of education. According to this system of education for a student to join the university including most of the tertiary institutions, he or she must have attained a grade C+ or above in Mathematics. This has resulted to a lot of emphasis in the learning of the subject being put in place; more time is allocated to it. It is also taught in the morning when the learner's minds are sober so that they can comprehend the concepts and principles of Mathematics. Of late also, post-secondary many institutions of learning are offering bridging courses in science subjects, such as biology, physics, chemistry and Mathematics. This is to enable those students willing to take science related courses and were not qualified to get an opportunity to further education in their areas of interest in sciences.

In addition, the government through the Ministry of Education and the Japan International Cooperation Agency (JICA) have started the strengthening of Mathematics and secondary education project (SMASSE). SMASSE was initiated in 1998 with assistance from the Japanese Government to improve performance in science subjects and Mathematics. It is hoped that the SMASSE project will bring a remarkable change in attitudes and performance in Mathematics.

However, despite the much efforts put in the improvement of the performance of the Mathematics, performance in Mathematics leaves a lot to be desired. The performance of the subject has been generally poor in this country. This has caused a lot of concern been expressed by parents, teachers and politicians. According to the Kenya National Examinations Council (KNEC, 2002) Mathematics analysis for Kenya Certificate of secondary Education (K.C.S.E.) indicates that 5.8% boys scored between grade A and B and 68.4% scored grade D and below that year. On the other hand, 2.4% of the girls scored grade A and below while 23.4% of them scored below grade D. The overall performance of both girls and boys has been quite low over several years.

Poor performance in Mathematics in K.C.S.E has resulted to blame by all education stakeholders of education blaming each other for example, teachers blame students for not taking their studies seriously, while on the other hand, parents, administrators and students blame the teachers for their low morale, poor quality teaching.

Such accusations reoccur year after year eventually: teachers have developed low morale and negative attitude towards teaching Mathematics.

Statement of the problem

Secondary school students" poor performance in Mathematics in the K.C.S.E in Kenya has been an area of concern by students, parents, teachers, curriculum developers and the public in general. Mathematics is a compulsory subject for all Kenyan schools. It is the backbone of other science subjects and technology. However, the performance in Mathematics at the K.C.S.E has been steadily deteriorating over the last few years. This has been of great concern to all education stakeholders. The failure rate has increased, for example 63.3% of candidates in 2002 obtained a grade "E* (which is a fail), this rose to 72-2% in 2001 and 75% in 2002 and it should not be surprising if it will be higher in the later years (KCSE analysis 2002)

Despite the national efforts made in developing a curriculum that is appropriate to the needs of this country, coupled with enormous teacher training effort, performance particularly in Mathematics has been relatively poor and appalling low all over the country and in general, a decline has been observed in the subsequent years.

Any remedial action to be taken requires the

identification of the factors that conn-to poor performance in Mathematics. Although many people have done research in particular field of Mathematics performance here in Kenya, they have not been able to find out the real causes of poor performance in Mathematics in secondary level. The main concern of this study is to find answers to the qualification of mathematics teachers and student motivation as factors that contribute to poor performance in Mathematics at K.C.S.E. level in secondary schools in Kiambaa Division of Kiambu District, Central Province.

Study Objectives

- To find out the qualification of Mathematics teachers in the selected secondary schools in Kiambaa Division.
- To investigate whether students are motivated to learn Mathematics in the selected secondary schools in Kiambaa Division.

LITERATURE REVIEW

This chapter was devoted to reviewing literature relevant to this study. The reviewed literature was discussed under the following: Theoretical framework, performance, achievement motivation and qualification of Mathematics teachers.

Theoretical framework

This study was based on social learning theory and operant conditioning theory. This theory emphasizes that learning take place through observational learning and vicarious learning. People learn by observing the behaviours of a role model on the critical task, remembering the important elements of the observed behaviours, and then practicing those behaviours. The learner cognitively observes the model and imitates him/her. The behaviours observed may be many but only the ones that are reinforcing will be imitated. In vicarious learning, the behaviour increases or decreases by observing someone else being rewarded or being punished for the behaviour. Bandura (1977) also acknowledges that behaviour is observable, measurable and predictable and at the end of the course the performance of Mathematics has to be evaluated. Behavioural modeling is a valuable form of learning because tacit knowledge and skills are mainly acquired from others in this way. This implies that the students learn by observing the behaviours of a Mathematics teacher on the critical task (Mathematics) remembering the important elements of the observed behaviours, and then practising those behaviours. Behavioural modelling works best when the model (teacher) is respected and the teachers actions are followed by favourable consequences such as good results of Mathematics in the previous K.C.S.E. The performance of Mathematics in K.C.S.E should be encouraging to the candidates in form four so that they would also work hard in order to perform well in Mathematics as well. Behavioral modeling also enhances observers' self-efficacy. This is the person's belief, that he/she has the ability, motivation, and situational contingencies to complete a task successfully. People with high self-efficacy have a "can do"' attitude towards a specific task and. more generally, with other challenges in life. Behavioral modeling increases self-efficacy because people gain more self-confidence after seeing someone else do it than if they are simply told what to do. This is particularly true when observers identify with the model, such as someone who is similar in age, experience, gender, and related features. You might experience this when another student similar to you describes how she/he was able to perform well in Mathematics that you are taking. You learn not only what has to be done, but what others like you have been successful at this challenge. From the above information, it's quite clear that teachers have a great role to play to promote positive attitudes in students towards Mathematics, self-efficacy, motivate students and even reinforce behaviours that will improve Mathematics performance.

Performance

Performance is a measurement of how much

learning has taken place. It is the manifestation of learning. It can be observed and measured using various instruments. Such as written tests, quizzes and assessments. Then the learner's performance level is indicated through the use of marks and grades.

Mathematics, being one of the compulsory subjects and examinable at the K.C.S.E its performance has to be evaluated. This is because it determines the degree course one has to undertake at the University as well as in most of the tertiary institutions. In secondary schools Mathematics is assessed throughout the whole course. The evaluation of the subject is of two types. The first is the formative type which is internally based and continuous. Its main function is to give feedback to learners and teachers. This is important for the improvement of future performance. The second type is the summative assessment which is given at the end of the term or end of the course in form of examinations such as K.C.S.E (Gay, 1981). The summative evaluation of Mathematics is done at the K.C.S.E level after completing four years in secondary school. The performance in examination in schools is referred to as academic achievement. The achievement of students" performance in Mathematics is usually measured at the K.C.S.E. However the result at the K.C.S.E level of Mathematics performance has been a major concern among teachers, students, parents and education stake holders due to the poor performance. This is one of the reasons why this study is being conducted to find out what could be contributing to poor performance in Mathematics in public secondary schools in Kiambaa Division of Kiambu District.

Achievement motivation

Motivation can be defined as striving to increase or keep as high as possible one's own capability in all activities in which a standard excellence is thought to apply where the execution of such activity can therefore either succeed or fail (Olateju, 1988). The nature of any motive behind a particular pattern of an individual can be inferred from the type of goal that initiates it. If the goal is to achieve success or to excel then the motive is achievement motivation. Johnson (1967) notes that individuals, whose achievement motive is strong, feel more uncertain and anxious regarding the outcome of an event. They set their level of aspiration in a task of moderate difficulty where they will succeed. Individuals whose motive to avoid failure is stronger than the achievement motive will try to avoid every task because of fear of failure. To them competitive achievement situations are seen as not attractive. They set their goals where there is no chance for success or they will select the most difficult of alternatives, which is a way of minimizing their anxiety as they feel that they will not succeed anyway. According to Olateju (1988) people who score low in achievement motivation tests are those that have fear of failure or the motive to avoid failure i's relatively stronger than in those high in need achievement motivation. Students will perceive an activity as being successful or not depending on their past experiences or similar situations. If the activity has been successful in the past then they are likely to be motivated to excel and vice versa. Another factor that is attributed to poor performance is the lack of motivation by students towards Mathematics. In addition, Cockroft (1982) notes that motivation influences performance of Mathematics both positively and negatively. The students" motivation towards Mathematics is significantly related to the students' performance and achievement. Teachers should therefore be careful to enhance the motivation of the students by giving them the impression that the subject is easy as well as encourage them to work hard in it (Macharia. 1984). The teachers need to use positive reinforcement such as using words or comments such as good, try again, fair and recognition of any trial to answer a question in class. Students should earn tokens after giving correct answers to questions and by making contributions to classroom activities, later these tokens can be exchanged for a number of different prizes or privileges. Such reinforcement could help

to improve students' performance in Mathematics.

Qualification of Mathematics teachers

The qualification of teachers is very crucial in determining the general performance of students in any educational system. Johnson and Rising (1972) argued that most people have agreed that the first requirement for success in teaching Mathematics knows Mathematics. If teachers are to teach Mathematics so that it is understood and make sense, they must have an adequate background in Mathematics content, they must be adequately trained and be a reservoir of applications. They should be able to build appreciation, curiosity and loyalty to Mathematics. No single issue is more important in teaching Mathematics than that the teachers should be men and women who have adequate knowledge about the subject.

Every one of the parameters which influence the recruitment of such teachers include selection, training, salary scale, teaching aids, class sizes and independence. All these must be a legitimate concern of those who care for excellence in the teaching of Mathematics. Much of the literature in Mathematics education by scholars such as Eshiwani (1985) and Kiragu (1966) seem to indicate a universal belief that a professionally trained teacher contributes more positively to effective learning than an untrained teacher. This is the reason why teacher training exists as a major part of education systems throughout the world. According to Eshiwani (1985), qualification of a teacher is very important indicator of quality of education provided. Eshiwani (1985) noted that in 1980, seventy percent (70%) of the teachers in Kenya were trained while thirty percent (30%) were untrained. In 1981 the respective figures were sixty six percent (66%) trained teachers and thirty four percent (34%) untrained teachers.

Eshiwani (1973) observed that many parents and educators have often expressed concern about the poor performance of students in Mathematics and that teachers shoulder most of this blame mainly due to lack of training. According to Macharia (1984), the role and quality of teachers must be given the most critical consideration. The report also noted that the qualitative improvement of education can only occur if there is a major improvement in the quality of the teachers and teachers training. In addition, Bell (1978) shares the same view that, every teacher should know and understand the Mathematics contained in the textbooks which are commonly used in secondary school Mathematics courses as well as more mathematical content. A teacher should derive job satisfaction in the profession otherwise they may bring about poor performance in pupils. This is because the calibre of teachers both in motivation and qualification in any school forms an important input variable, which has tremendous impact in students' performance. In reviewing the 1993 KCSE the KNEC made the following observations:

If the secondary school teacher is to impact knowledge and problem solving skills required by the secondary school Mathematics curriculum to students, it is vital that at a minimum, he acquires this knowledge and skills while he is in college, whatever his Mathematics background before coming to college was. To recruit people for teacher training colleges they should have a strong Mathematics background which leads to a good teacher of Mathematics. A strong teacher of Mathematics is a big asset to a school. That once students have become comfortable in Mathematics then they can spare time for other subjects, and also in whatever else they do towards their examination preparations. Studies conducted in Kenyan children by Eshiwani (1993) found significant differences favoring boys over girls. Students need to live in the world of science and Mathematics, as it is presently the emphasis. This will enable them get better jobs, compete in the world market and prepare for the future. The problem is how to marry the culture that students bring to schooling with the outside world for which we want to prepare them.

STUDY DESIGN AND THE METHODOLOGY

This chapter provided a description of the

procedures that was followed in conducting the study. The selected study design was descriptive survey. The method which was involved in this study was non-experimental, as it deals with the relationships among non-manipulated variables. The relevant variables were selected and analysed for any relationships. The study was conducted in public secondary schools within Kiambaa Division in Central Province of Kenya. The target population of this study consisted of all the public Secondary schools in Kiambaa Division. According to the Kiambu District Education Office, the Division had a total of 40 secondary schools both private and public. The study population was made up of 6 public secondary schools. Secondary school Mathematics teachers and form three students from these public schools took part in the study. The study was strictly carried out in public secondary schools in Kiambaa. Private schools were exempted in the study as they sometimes had a different curriculum as compared to that of public schools, as well as their class size may too be small or large. Owing to this reason only public schools were considered. The selection of the sample was carried out through random sampling techniques from a list of public schools in Kiambaa Division. Random sampling technique was used to select the sample of teachers. Form three Mathematics teachers were involved because they were the ones who were teaching them and knew their performance. A total of 40 boys and 40 girls were selected for the study. 16 teachers became the subjects of the study. Data for this study was collected using Mathematics Teachers' Questionnaires (MTQ) and Mathematics Students' Questionnaire (MSQ). The researcher conducted a pilot study as a pre-test of the questionnaire to determine whether there were ambiguities in any of the items. To test reliability, split half method was used. Preliminary visits to sample schools was made by the researcher after obtaining permission to carry out the research as well as introductory letters to the head teachers. This study generated both qualitative and quantitative data. Because of its nature the data was analysed using descriptive techniques of data analysis.

DATA ANALYSIS, RESULTS AND DISCUSSION

This chapter focuses on the completion rate of the instruments, demographic information of the respondents, presentations, interpretation and discussions of findings. In this study, out of the 16 teachers sampled, all of them (100%) completed and returned the questionnaires. Out of 80 students sampled all of them (100%) filled and returned the questionnaires. Findings revealed that 8 (50%) were male while the same number 8 (50%) were female. This shows that the researcher had a balanced sampling as proposed in the sampling techniques. The teachers were asked to indicate the type of schools that they taught. Findings revealed that 8 (50%) were teaching in mixed schools. 4 (25%) taught in girls school and the same number taught in girls' schools. This shows that all categories of school in terms of gender were well represented. The teachers were further asked to indicate the number of students in their classes. The findings are revealed that classes had different number of students. However, there were classes that had a considerable high number of students which exceeded 50 in a class. For example there was a class which had 65 students, 54 students and also 48 students. When teachers have many students it becomes difficult for them to teach effectively. The study also wanted to establish the teacher's professional qualification. Teachers were also asked to indicate the same. Their responses showed that majority 9 (56.3%) were Graduate Trained teachers 2 (12.5%) Mathematics teachers were Approved graduate teachers, 4 (25%) were Diploma holders and 1 (6.3%) held a Post Graduate Diploma in Education. This showed that all teachers were qualified to teach in secondary schools. The fact that majority were graduate trained teachers could be attributed to the fact that, for one to teach in a secondary school one usually must hold a Bachelor of Education Degree. The results therefore showed that majority were qualified to teach in secondary schools. This implied that teacher's qualifications

were not a factor leading to poor performance in Mathematics in school in Kiambaa Division. They indicated that they all taught Mathematics and another subject. They indicated that they had been trained in the subjects that they taught. This further implies that qualification of teachers was not a factor that led to poor performance since all of them had been trained. The Mathematics teachers were further asked to indicate the duration of time that they had been teaching Mathematics in their teaching profession. The findings showed that most of the teachers, 7 (43.8%) had been teaching the subject Mathematics for between 6 and 10 years, 6 (37.5%) had been teaching for between 1 and 5 years and the rest 5 (31.3%) had been teaching Mathematics for between 11 and 15 years. This showed that majority of teacher had a considerable long experience in teaching Mathematics. The experience acquired by the teachers was important in this study in that teachers were able to give information on the causes of poor performance in the subject. Findings revealed that some teachers had been teaching Mathematics for a considerable long time. Findings also revealed that 4 (25%) teachers said their teaching load was between 25 and 30 lessons a week, 5 (31.3%) said they had between 31 and 35 lessons per week while 7 (43.8%) said they had 36 lessons and above. When they were asked to comment about the teaching load, 4 (25%) said it was moderate to cope with. 5 (31.3%) said it was a bit hectic to deal with especially when the classes were too large. Seven (43.8%) said it was too heavy for them and this affected their performance. Most of the teachers 7 (53.8%) therefore felt that the teaching load was heavy. Teachers tackling many lessons are not able to perform their teaching effectively. This may be a great cause of poor performance in the subject.

Demographic information of students was based on students' responses on name and type of school and their gender. To find out their gender, the respondents were asked to indicate whether they were male or female. Their responses showed that 40 (50%) were male and the same number 40 (50%) were female. This shows that the students sample was balanced in terms of gender. They were further asked to indicate the type of school that they were in.

The results showed that 40 (50%) students were from mixed schools, 20 (25%) were from boys school and the same number from girls school. This shows that the sampling of schools was balanced where that all the categories of school were well represented. This is important in that the researcher would get the views of students from different categories of schools.

Factors contributing to poor performance in Mathematics

This section discussed various factors that contributed to poor performance in Mathematics among students. It focused on instructional methods used by teachers and students level of motivation towards.

To establish whether actually there was poor performance of the subject, teachers were asked to indicate how they rated the performance of Mathematics in their schools. The response of teachers towards performance of Mathematics revealed that 1 (6.3%) said performance was very good, 3 (18.8%) said it was good, 1 (6.3%) said it was average, 6 (37.6%) said it was below average and 3 (18.8%) said it was poor. This showed that performance of Mathematics was average in the selected schools. This gave a need for the study with significant number of teachers 9 (55.4%) saying that the performance of the subject was either below average or poor.

Instructional Methods

In order to find out the causes of poor performance of Mathematics, the researcher was interested in determining whether teachers prepared their professional documents such as schemes of work, lesson plans, records of work covered and students' progress records. Their responses indicated that all the teachers prepared

schemes of work and did not prepare the other records. They were further asked to indicate how often the head teachers made follow up to ensure that those records were prepared as required. Findings in revealed that most of the teachers 1 (6.3%) made follow up activities once a month, 2 (12.5%) said they followed up twice a month, 9 (56.3%) made follow up once a term and 4 (25%) never made follow up activities. It is the duty of the head teachers to make follow up activities to ensure that teachers prepared themselves for teaching. Lack of proper preparation may be a hindrance to proper teaching of Mathematics. Supervision is an important factor in education. If teachers are not supervised and head teachers do not inspect and make follow up activities this could make teachers reluctant in teaching which could also lead to poor performance.

Student's motivation in Mathematics

In order to determine whether the students were motivated to learn Mathematics, teachers were asked to indicate whether students were motivated to learn Mathematics. In this item 12 (75%) agreed while the rest 4 (25%) denied. They were further asked to explain their answers to which majority 10 (62.5%) said that students joined Form one with the idea that Mathematics was a difficult subject, 2 (12.5%) said that most of the students had poor Mathematics background from primary schools. They were also asked to indicate the entry behaviour of students as they joined secondary school. Majority 10 (62.5%) indicated that most of them had poor entry behaviour, meaning that most of them had a notion that the subject was very difficult. This shows that students are not well motivated to learn mathematics. The nature of any motive behind a particular pattern of an individual can be inferred from the type of goal that initiates it. Student's attitude towards a subject is a factor that determines their performance in that given subject. Teachers were further asked whether students were willing to come for assistance from the teachers. In this item, 11 (68.3%) said yes while 5 (31.7%) said no. This further implies that students were not willing to come for assistance from teachers even if they had problems in Mathematics. This again shows that students were not motivated to learn Mathematics. They were also asked to indicate true or false on the item which stated, students would rather concentrate on other subjects and not Mathematics. In this item 13 (81.3%) said true against 3 (18.8%) who said false. Teachers were further asked to indicate whether highly motivated students performed well in Mathematics in this item all of them 100% said yes. This also implies that students were not very much interested in Mathematics, such that they preferred to do other subjects other than Mathematics. Among the student's respondents, they were asked to indicate whether they deemed Mathematics as difficult or not. In this item 60 (75%) said yes while the rest 20 (25%) said no. This confirms the findings from the teachers that students had a belief that Mathematics was a difficult subject. They were also asked to indicate whether they would prefer doing Mathematics or other subjects. Majority 50 (62.5%) said given a choice, they would prefer doing other subjects.

The students were further asked to indicate whether they were motivated in the primary school to take up Mathematics as a simple subject. In this item 52 (65%) said that their Mathematics teachers in the primary school presented Mathematic as a difficult subject 21 (26.3%) said that their friends made them believe that Mathematics was a difficult subject and the rest 7 (8.9%) said they tried doing Mathematics though it was a difficult subject. The above findings show that students were not motivated do take mathematics and most of them believed that the subject was difficult. The level of motivation towards mathematics can be a contributor to poor performance in the subject. Motivation or the view on any undertaking affects how effectively one does that given task. It has been shown that most of the students feel that Mathematics is a difficult subject.

Ways of improving performance of Mathematics

The researcher wanted to establish ways in which performance in Mathematics could be improved. Teachers were therefore asked to give their recommendations. The study revealed that among the recommendations given by teachers, 5 (31.1%) said that there is need to counsel students on the importance of learning Mathematics, 3 (18.8%) said that students should be given more assignments, 4 (25%) said that teachers should use different teaching methods, 3 (18.8%) said that students should be motivated to learn Mathematics and 1 (6.35) said that there should be provision of teaching and learning materials. Data from students responses revealed that 14 (17.5%) said that in order to improve performance in Mathematics, teacher should motivate students to take Mathematics positively, 18 (22.5%) said that teacher should give assignments and mark them in time, 13 (16.3%) said that teachers should use different teaching methods, 9 (11.3%) said that group discussions should be encouraged and 16 (20%) said that students should be induced to liking Mathematics once they come to Form One.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The chapter summarizes the findings, gives conclusions and recommendations and suggests areas of further research.

Summary

The study revealed that there were a number of factors that contributed to poor performance of Mathematics in Kiambaa Division. It also revealed that most schools had large classes and high number of students. This was found to affect teachers' performance negatively hence affecting performance. It was also revealed that some teachers did not prepare themselves adequately to teach and also used improper teaching strategies such as question and answer method and lecture method. Findings on student's motivation revealed that students were not motivated to learn mathematics where most of them had the opinion that Mathematics was a difficult subject. This had been created by their background in the primary school.

Implications of the findings

Findings from this research imply that poor performance in Mathematics in Kiambaa Division is a major concern. Student's motivation and instructional methods employed by teachers were some of the factors that contributed to poor performance.

Conclusions

The study intended to investigate the factors contributing to poor performance of Mathematics in Kiambaa Division of Kiambu District. Two research questions were formulated to guide in the study. Research question one was to find out the qualification of teachers and how it contributed to poor performance in Mathematics. Research question two aimed at establishing the student's attitude towards learning of Mathematics. The study employed descriptive survey design. Sixteen teachers and 80 students were selected for the study the findings revealed that:-

All teachers were qualified to teach in secondary schools. Teacher's qualification was therefore not a factor that contributed to poor performance in Mathematics.

Teachers had a large work load which lowered their effectiveness in teaching of mathematics. The Ministry of Education recommended a maximum of 32 lessons a week. When teachers had above that number it would be difficult for them to have time to give and mark assignments and even prepare for their lessons. This therefore could be a factor leading to poor performance in the subject.

Students were not motivated on the subject hence contributed to poor performance in the subject.

Recommendations

Based on the above findings, the recommendations were given by the respondents. That school should try and motivate students

towards the subject.

Suggestions for further research

Taking the limitations and delimitations of the study, the researcher made the suggestions for further research on the need to conduct a research to investigate on home background and its effect on students' performance and there is need to conduct a research to investigate if administrative factors contribute to poor performance.

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