PERCEPTION AND ACADEMIC PERFORMANCE IN MATHEMATICS AMONGST SECONDARY SCHOOL STUDENTS; A CASE STUDY OF BARINGO DIVISION BARINGO DISTRICT OF KENYA

BY

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ABSTRACT

The study was carried to establish students perception towards their academic performance in mathematics at secondary school ,it was guided by a number of objectives which were to investigate the factors that make students develop negative perception towards their academic performances in mathematics, distinguish between classroom and personal problems that contribute towards students negative perception towards their academic performance in mathematics and lastly to determine the extent to which both parents and teachers contribute towards students negative perception towards their academic performance in mathematics.

The study mainly concentrated in Baringo division in Baringo District. The study focused on students and to determine the impact of perception on students academic performance towards mathematics. Since the division examination results keep on falling year by year. Questionnaires were issued out and random interviews were also conducted on the target population of 50 respondents' .The research findings examined that there are other number of factors that were expressed by different category of respondents such as job satisfaction, personal background and school environment of which it was not mentioned in the questionnaires.

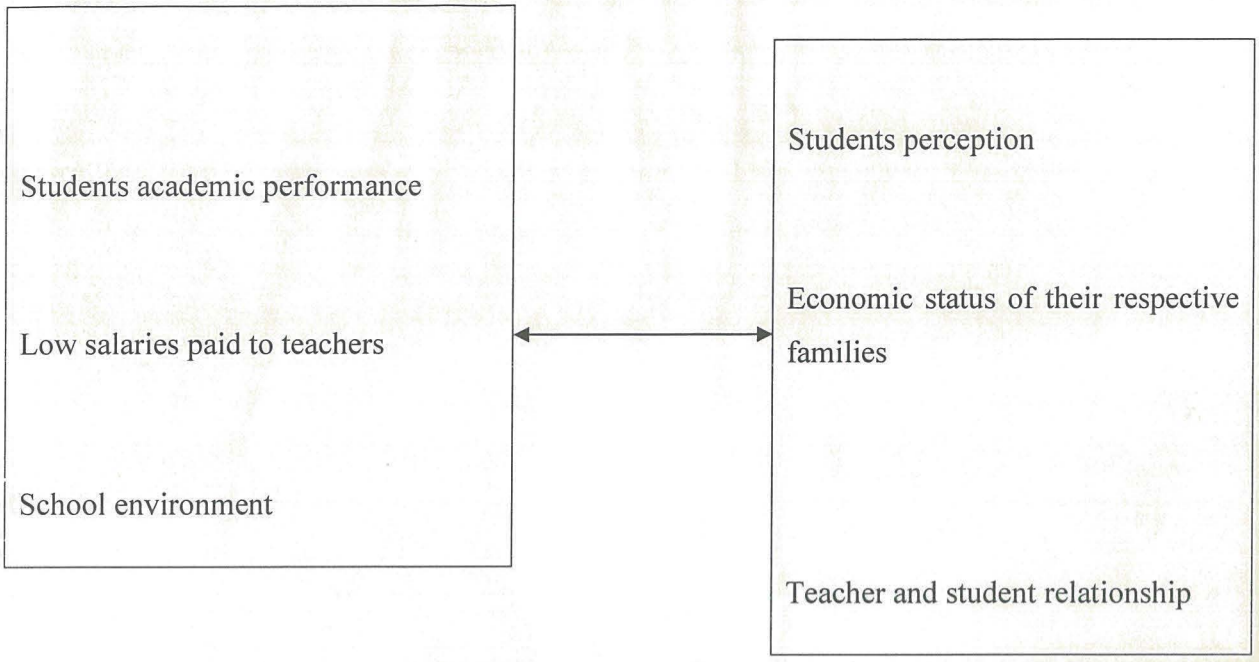
The findings of the study shows that, there are a number of effects of students perception towards students performance, the findings reveled factors which affect students perception including congestion in the classroom ,lack of textbook, language barrier and biasness of teachers

Research concluded that in order to improve students' academic performance in mathematics at Baringo division both teachers and parents should motivate learner towards developing positive perception toward mathematics and also government, ministry of education and school administration should establish systems to monitor how their teachers exercise their duties in school to improve on students performance in mathematics.

From the research findings the following recommendations can be emphasized that for high pupils performance Teachers should be academically and professionally qualified, works under favorable conditions of service. Encourage teachers to get training to improve their skills such as computer skills, guiding and counseling and motivate teachers that is by increasing salaries and allowances, giving prizes to teachers whose performance excel and finally promoting them.

1.1 Conceptual framework

Dependent variables **Independent variables**



Source: researcher (2009)

This section will represent the logical system of the relationship between or amongst the dependent and independent variables of the problem that will be discussed in the study. It will provide logical direction to the research study by specifying the possible outcome of Students perception towards their academic performance in mathematics. The factors that affect the Students performance is Students perception; Students motivation and School environment which lead have generally been identified as cause's negative perception of students towards their academic Performance leading to poor performances in mathematics in all public examinations, increased number of drop outs, and Increase number of illiterate people

1.2 Statement of the problem

As a result of poor performance recorded in mathematics as a subject at secondary schools it is believed that several factors are responsible for these: first, the content taught in mathematics is seen by students to be hard, secondly low salaries paid to teachers make them have low esteem thereby deliver partially thus make students to understand the content shallowly and lastly among others factors is that the teaching and learning resources is believed to be limited thus causing students to develop negative perception towards both the subject and the teacher teaching the subject therefore the researcher is to find out learners negative perception on their performance in mathematics at secondary school.

1.3 Purpose of the study

The purpose of the study was to examine the negative perception of the students towards their performances in mathematics at secondary school.

1.4 Objectives of the study

This study was guided by the following objectives;

1. To investigate factors which make students develop negative perception towards their academic performance in mathematics.
2. Distinguish between classroom and personal problems that contribute towards students' negative perception towards their academic performances in mathematics.
3. To determine the extent to which both teachers and parents contribute towards students' negative perception towards their academic performances in mathematics.

1.5 Research questions

1. What factors make students develop negative perception towards their academic performance in mathematics?

2. What classroom and personal problems contribute towards students' negative perception towards their academic performance in mathematics?
3. How do both parents and teachers contribute towards learners' negative perception towards their performance in mathematics?

1.6 Significance of the study

The research study will be useful to;

The government

The government will use the finding to modify the curriculum to suit the teaching of mathematics in order to make students develop positive attitude towards their academic performance in mathematics.

The findings will aware the government on teachers basic needs to be provided for them to get motivated thus deliver the content fully.

The school

Educational administrators will use the finding of the study to modify teaching techniques in order to make students develop positive perception towards their academic performance in mathematics.

This study will help educational administration as well as teachers to know why students have negative perception towards their performance in mathematics.

The students themselves will use the research in their academic pursuit especially when learning and investigating on mathematics since they will be aware of those things which make them develop negative perception towards their academic performance in mathematics.

The students will use the findings to point out those things which make them have negative perception towards their academic performance in mathematics

The parents

This study will aware parents to know the requirements to be provided in order for a student to develop positive perception towards their academic performance in mathematics.

1.9 Scope of the study

This study will be conducted in Baringo division. The division covers a big area of Kaprogonya and Baringo district. Baringo district and it covers Kapkukt parish, Mumol parish, Yemo parish, Seguton parish and Kabarnet town parish Baringo division is a land of gentle slope with some that lands. The major economic activities of the people is agriculture with some trading activities respectively. The major dominant religious sects are Christians followed by Catholics, and few save Dees. The commonest tribes are Kalenjin, the Pokot and few Turkana people.

CHAPTER TWO

LITERATURE REVIEW

According to Baratto Bergman (1982) the street Hutchison series. In mathematics he emphasized that, " when preparing to write the text the authors solicited feedback the market about what type of pedagogical tools would better help students to understand and the and the key basic mathematical concepts. In addition to what content should be updated or expand increasing the number of applications and integration them throughout the section is one of the most prevalent responses. Modifying the geometry coverage and incorporating some geometric materials earlier another common request.

According to Jeffrey O., Bennett extent they assert that, " the greatest challenge in teaching mathematics to general education student lies in winning them over that is, convincing them they have to do something useful to teach them. These challenge crises because by the time they reach college many students have come out to dislike or fear mathematics". Indeed the vast majority of students in general education mathematics course there not by choice but because such courses are required for graduation. Reaching a student therefore requires not only that you teach them useful materials but that you first get them to listen to long enough and careful enough so that they will be able to see its usefulness.

According to William.L.Briggs (1994), curriculum and stane evaluation standard for mathematics he recommends that students develop mathematics by working out and looking for patterns, making conjectures and verifying hypothesis. Never the less mathematics must be continued to progress in useful areas and it would be a mistake to allow human inertia to impede its development.

Mathematics in other hand is exciting, living study this is according to angel port book (2001). It has application that shapes the world around a student and influences them in everyday life. It's also difficult to learn mathematics without becoming involving ones self; to be successful he suggest to be successful he suggest that, "read the text carefully and work each exercise in each in each assignment in details.

According to John S. Mbiti (1991) introduction to basic mathematic (2nd edition)he wrote that when mathematics is learned it will some how make a someone less sensitive to the romantic and asthetic aspects of life. In fact understanding the mathematics that explains the color of a sunset of the geometric beauty in a work of art can be enhanced.

According to Joseph Tobey (1997) the world of mathematics (4th edition) he explained that, "emphasis mathematical reasoning problem solving techniques is recommended by all bodies of mathematical applications. To this end the problem sets, are built on a wealth or real life and real data application. Unique problems have been developed and incorporated into the exercise sets that help train students in data interpretation mental mathematics, estimation, geometry and graphing number sense critical thinking and decision making.

Further still, students believe that mathematics is taken as a title and for many various reasons they have chosen to live within a more traditional partitioning of mathematics content; fractions decimals, percent, statistics and others. However a critically important outcome of this course has to be the student's realization of the underlying connect ness of mathematics. Mathematics is alive and growing subject it has been live and growing from the days when man first learned to count mere modernity is not in itself sufficient reason for introduction of a particular topic nor is the lack of modernity as sufficient reason for deleing useful material, which has stood the test of time.

According to Erwin Kresyzing (1962) aranced engineering mathematics (2nd edition) mathematics has become more and more important in engineering science, and it's easy to conjecture that this trend will also continue in the future. An important reason for this tendency is that the problems in modern engineering are so complex that most of them cannot be solved solely on the basis of physical intuition and past experience. Mathematics helps in planning construction and experiments and in evaluating experimental data.

Mathematics methods developed for purely theatrical reasons suddenly become of great importance in engineering mathematics. Examples are the theory of matrices, conformal mapping and the theory of differential equations having periodic solutions.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Research design

Study was qualitative using cross sectional in native as opposed to other research design.

3.1 Area and population study

This study was conducted among the students of Baringo division. The division has a population of approximately five hundred household and dominated by many day and boarding schools. The common tribes are Kalenjin, Pokot and Turkana.

3.2 Sample selection and size

The parishes were chosen on the basis of their performance in mathematics and the enrolment of their student into mathematics classes.

3.3 Instruments of data collection

The instruments used in collecting data included; questionnaires, oral interviews, schedules, observation techniques and tests.

3.4 The procedure of collecting data

Permission to conduct the research was obtained from the university and then the respective school administrator requested to accept the researcher to collect out and conduct the study in their parishes. Questionnaires were administered and students were assured of confidentiality. Some were interviewed orally.

3.5 Data analysis

The results were analyzed and special consideration was the student sects chosen as shown above their respective schools.

3.6 Limitation of the study

The researcher encountered the following limitations:

1. Some head teachers were not available for interview on the planned date.

2. Some students might be reluctant in giving their response.

3. Some students did not respond to the questionnaires given.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION OF RESEARCH FINDINGS

4.1 Chapter overview

This chapter looked at presentation of data through table and interpretation of data, the research involves presentation and interpretation of the collected primary data .the presentation is done in tables and bargraphs with presentation to make sure that the research biases are eliminated. This continues in presenting the findings of the study by use of responses, frequencies and percentages in order to reach the true findings of student perception towards their academic performance in mathematics at secondary school in Baringo divsion in Baringo district.

This chapter presents and discuses the findings of the study through data analysis and interpretation.

Table 4.1: Tables of Respondents and Total Users

Respondents	Target respondents	Actual respondents	% Respondents rate
Total users	50	45	90

Source: Primary data (2009).

From table 4.1, out of 50 questionnaires that were gives out 45 questionnaires were received back. The response rate was 90% which the researcher found adequate for data analysis and interpretation.

4.4. Responses on how students perceive mathematics

Table 4.4 Responses on the Meaning of the Term Student Perception

How do you perceive mathematics	**Those who perceive mathematics to be easy**	**Those who perceive mathematics to be hard.**	**Total**
Frequencies (f)	**15**	**30**	**45**
Percentage (%)	**33**	**67**	**100**

Source: primary data (2009)

Table 4.4 revealed that, 15 respondents which is equivalent of 33% the total sample size perceive mathematics to be easy and 30 respondents which are equivalent to 67% perceive mathematics to be hard. This implies that majority of the students perceive mathematics to be hard thus make academic performance in mathematics poor.

4.5 Responses on what makes students have negative perception towards their academic performance in mathematics.

- **Table 4.5 Shows responses on what makes students have negative perception towards their academic performance in mathematics at secondary school.**

What makes you as a student have negative perception towards your academic performance in mathematics	**Content being too wide and abstract**	**Teachers not delivering the content well.**	**Personal inability to understand the content**	**TOTAL**
Frequencies (f)	**30**	**10**	**5**	**45**
Percentage (%)	**67**	**22**	**11**	**100**

Source: primary data (2009)

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Chapter Overview

This chapter looked at summary, conclusions and recommendations of findings that can be adopted and implemented to overcome the problems highlighted.

5.1 Summary of the main findings

5.1.1 How students perceive mathematics.

The research findings showed that students' perception has an impact on their academic performance because of the following factors, teachers' not delivering the content well, personal inability to understand mathematics, and content being too wide. The results of concurrent and lagged analyses examined the relationships between students' perception and their academic performance in mathematics.

The research findings revealed that, 15 respondents which is equivalent of 33% the total sample size perceive mathematics to be easier and 30 respondents which are equivalent to 67% perceive mathematics to be hard. This implies that majority of the students see mathematics to be a hard subject. it is further analyzed revealed that parents support plays a major role when it comes to students academic performances and high, clear, and consistent expectations of conduct contributed to students to develop positive perception towards their academic performance in mathematics hence making them successful.

Teachers inability to deliver the content well due to poor conceptual and phenomenological education foundations. In many countries around the world the number of lay teachers is high, and many of those that have undergone formal education are not ready for the job. Teaching experience is cited by several studies as having an influence on students perception towards their academic performances in mathematics at secondary school; Clough and Lindsay (1991) found that teachers who are competent at their work and with years of experience have been found to be more supportive of inclusion. Florin's (1995) study, showed that acceptance of a child with a physical ability was less than six years of teaching for those with six to ten years of teaching.

This implies that the school administration should look into the problem of congestion and textbooks in a wider perspective in order for them to record good performances in mathematics since those two issues have same impact on students perception when it come to mathematics.

The other two problems that are language barrier and teachers biasness is rectified by teacher of mathematics using a language that is universally understood by all students in the classroom, and if a teacher is found to be bias in dealing with student the school should take immediate action which will make other teacher no to be bias while in the classroom, this can be suspending one from work or even demotion

5.1.4 Teachers contribution towards students' negative perception in mathematics.

Teacher motivation naturally has to do with students perception towards their academic performances in mathematics. It has to do with teachers desire to participate in the pedagogical processes within the school environment. It has to do with teachers' interest in student discipline and control particularly in the classroom. Therefore it could underlie their involvement or non-involvement in academic and non-academic activities, which operate in schools. The teacher is the one that translates educational philosophy and objective into knowledge and skill and transfers them to pupils in the classroom. Classroom climate is important in teacher motivation. If a teacher experiences the classroom as a safe, healthy, happy place with supportive resources and facilities for teaching for optimal learning, he/she tends to participate more than expected in the process of management, administration, and the overall improvement of the school. The teacher commands and emits the image of one who improves knowledge and the physical conditions of the classroom through orderliness, discipline and control. He makes diagnosis of pupils' feelings and attitudes inferred by their behavior and response in the classroom environment.

5.1.5. Do parents encourage their children to do mathematics

The findings revealed that, large numbers of respondents were 25 which is equivalent to 56% shows that male students get the highest support from their parents and therefore Male students' perception towards mathematics is much improved compare to that of Female students as seen from the finding. Parents support is factor to students perception when it comes to their academic performances in mathematics.

of these factors affect teaching and learning, the effect in both groups were the same and could therefore not be peculiar problems leading to low academic performance in the Schools. These factors attributed to teachers, pupils, parents and the school environment were primarily responsible for the low academic performance of the school

5.3 Recommendations

Basing on the research findings the following are recommendations both to schools and ministry of education and those who are concerned at Baringo division. Basing on the objective of examining factors, that make students develop negative perception towards their academic performance in mathematics at secondary school. It is recommended that to all students should be support by their parents to do mathematics, teachers should be motivated be being provide with necessary requirements need to facilitate the study of mathematics at secondary school, and school environment should be made conducive to study in for both students and teachers. Everyone wants acknowledgement that they are doing a good job, and suggestions on how they can do even better. Thank your teachers sincerely when they have done something well – appreciation is the greatest gift of all.

Teachers and students should tendency themselves to be responsible for performance of students in mathematics and set competencies that are necessary to insure good teaching - learning procedures and by no means implement but there is high consensus about scholars.

5.4 Suggestion for further research

- Why there is high rate of school dropout among secondary school students
- Reasons to why there is low enrolment in the number of students doing science subjects