

AN INVESTIGATION ON THE FACTORS THAT LEAD TO POOR PERFORMANCE
OF MATHEMATICS IN SECONDARY SCHOOLS IN KANJAI ZONE,
TIGANIA DISTRICT KENYA

BY

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DECLARATION

I declare that the information in this research report has not been presented elsewhere for any academic qualification and I am accountable for any inconsistency

Sign..........

Rose Mwathathi

Date:.....

APPROVAL

This research report has been submitted for examination with my approval as a
candidates University Supervisor

Signed:.....

Date:.....10/09/2008.....

Mr. Womuzumbu Moses

DEDICATION

I dedicate my research report to my beloved husband Alex, who have continued to support me both morally and financially. I also dedicate it to my lovely daughters Joy and Glory, who have been the source of joy to me during my study period.

ACKNOWLEDGEMENT

Many are the times when I got stuck as I wrote this research report. However, I never gave up due to the support I received from my husband Alex. He gave me both moral and financial support.

My learners and the respondents from other schools and their teachers gave me a lot of cooperation that enabled me to have the right data during my research.

Mr. Moses Womuzumbu my supervisor who offers technical inputs every time I consulted him.

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CHAPTER 1 : INTRODUCTION

1.0 Overview

This chapter clearly and explicitly outline why the researcher decided to undertake the study.

1.1 BACKGROUND

Kaianjai zone is in Tigania District, Eastern province, Kenya. It has seven secondary schools, of which five are district schools and two provincial boarding schools.

District schools are those schools that admit students from the district only. Provincial boarding schools are those that admit students from allover the province. Among the district schools, two are day schools, that is schools, where students do not board in the school. In all these schools. Mathematics is a compulsory subject. The performance in the subject in the whole zone is very poor. In fact in most schools especially the district school over 75 percent of the students score D and below.

The head teachers have tried to put more resources towards mathematics for better results in the subject. This is through having continuous assessments every week, extra tuition and remedial work, organizing zonal discussions and district contests. The best students are also rewarded accordingly. Despite of all this effort much has not been achieved.

Teachers have also been sponsored to attend SMASSE which is a training for strengthening mathematics and science in secondary education. It is a training that takes

four years. It emphasis on making teaching of mathematics and science easier through the use of ASEI which means Activity students experiments and improvisation. This implies that the teaching should be student centered, where the student participate actively in the lesson doing everything practically. There should also be improvisation of teaching learning aids. This has slightly improved the performance in the zone.

The best mean score so far in the zone is 5.332 which has been attained by one of the provincial boarding schools known as Miathene Secondary School. Other schools in the zone score a mean score of 3 and below This was from the result analysis done by the office of D.E.O 2008

Considering that these schools especially those that are provincial boarding admit students who have passed so well in their Kenya Certificate of Primary Education (K.C.P.E), this mean score is very low. Infact provincial boarding schools should be getting a mean score of at least 7. in some schools in other districts in Kenya, mathematics is the best performed unlike in our zone where humanities and technical subjects are the best performed in all the seven schools.

Poor performance in mathematics in Kenya certificate of secondary education (K.C.S.E) has made students fail to pursue courses like medicine and engineering that have high demand in Kenya. They end up taking courses like Bachelor of Arts and Bachelor of science that requires you to be well connected in order to get a well paying job. In fact many of them end up becoming very frustrated for staying for several years without getting a job of their dream. Those who are not lucky to secure a job they finally end up having an extra expense of training in other courses.

1.2 STATEMENT OF PROBLEM

Due to poor performance in mathematics in Kianjai Zone students have not been able to take good course like engineering that requires good grade in mathematics. Thus there is need to investigate factors that has lead to this poor performance.

1.3 PURPOSE STATEMENT

The purpose of the study is to investigate the factors that lead to poor performance of mathematics in Kainjai Zone.

1.4 GENERAL OBJECTIVE

1. The study aimed at identifying factors that lead to poor performance in mathematics in Kianjai zone, Tigania, Kenya.

SPECIFIC OBJECTIVES

1. To find out how learners attitude affect the performance in mathematics.
2. To examine the effect of learners family background on the performance in mathematics.
3. To find out how school environment cause poor performance in mathematics.

1.5 SCOPE

The study covered the seven secondary schools in Kianjai zone. The study aimed identifying factors that lead to poor performance in mathematics in the seven schools.

1.6 SIGNIFICANCY

This study will benefit the following authorities.

The heads of departments in the seven schools will be able to come up with measures that will improve performance in mathematics in their schools.

The head teachers of secondary schools in Kiajai zone will be able to come up with cost implication measures that can encourage good performance in mathematics in their schools.

The ministry of education will be able to come up with strategies to improve performance in mathematics in all the schools in Kenya.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

Overview

In this chapter the researcher seeks to shed more light on what the survey entails by reviewing what other authors say about the subject.

2.1 ATTITUDINAL FAILURES

According to Blist Glenn and others (1996), at all levels of schooling and among all social groups there are numerous individuals whose attitudes towards education in general or towards certain subject matter in particular are hostile. The situation practically generates that pupils will learn little more than a bare minimum. These negative attitudes are reflected in diverse way:-

- (i) Un settled home situations or family relationships where concealed hostility exists towards one or both parents. The hostility, even displaced, may be active towards school studying and teachers who may be viewed as parents surrogates.
- (ii) Trauma may account for another group of negative attitudes, some times teachers un witing embarrass, ridicule, or hurt a child to the extent that he is alienated from the subject matter being taught.
- (iii) Some negative attitudes arise from the groups of which the child is a member. The culturally deprived child may simply reflect the anti-intellectual attitudes of his home. The popular boy in school may his popularity jeopardized unless he adopts a devil – may – care “attitudes towards school work. The girls may

discover more social and dating opportunities in extracurricular activities that she does in class work. Boys frequently find it quite acceptable to be interested in science and mathematics but it may be considered somewhat effeminate to show an interest in writing and in the humanities. In all these cases the child is naturally moved by strong forces identification and imitation to be like another person or group.

2.2 MISDIRECTED AND MISGUIDED.

According to Robert Strom (1969), in many instances young people acquire distorted view of the world of work and of their own capabilities. For the past several decades it has been clear that many young people aspires to vocations for which they are not fitted . the stated aspirations of juniors in high school show vain hope of impressing friends and students adviser. Some young people of good abilities have aspirations that are entirely too low for example students from minority racial groups, do not even consider the possibilities of college or of a professional life.

A further misdirection may arise from attitudes prevalent in many high schools that the important students take courses preparing for liberal arts college.

2.3 CULTURALLY DISADVANTAGED.

According to Robert Strom (1969), the culturally deprived children are truly educational casualties. These children gain less stimulation perceptually and verbally from their parents, other adults other children and from their surroundings than do fortunate peers too rarely does the language they encounter include abstraction;

rational thinking or concepts from the modern world of science. They have too many opportunities to learn defeat and failure, both by comparing themselves with other more fortunate children and in school, where they have difficulty with such basic subjects as reading and arithmetic.

2.4 ENVIRONMENTAL INFLUENCE.

According to Glenn and others (1969), the obvious implication here is that home support for the schooling process is an important variable influencing child achievements. However there is considerable disagreement among scholars regarding how much difference can environment mean in the development of intelligences for example but (1968) suggested 12 to 23 percent derives from environment, Cattell (1965) indicates 20 percent lathy' (1935) appraisal is hedged 20 to 35 percent; while wood worth (1941) calculated 40 percent attributed to all environment. There differences of estimate not with standing or of the scores agree that some proportion of the variance must relate to the environmental influence in which children are eared, the hormones from which they come. Familiar influence in which has many dimensions. Currently nationwide attention is focused upon those homes in which supports for the schooling process is lacking since to be a functional citizen more education than ever before, it is undesirable that parents discourage children from academic pursuits. Unfortunately in some families in which the educational experience of the adults has been less that satisfying there is tendency to delimit advantages of learning to view the skills of reading and writing simply as demands made upon the individual by his society. The extent to which student is willing to meet these demands often depends

on the attitudes he has adopted at home. This type of environment tends to restrict the aspiration level of children. Research findings confirm the belief that negative parental attitudes adversely affect students' achievement. Homes in which low aspirations prevail are those families that unrealistically high goals that eluded them during their youth. As a result the concepts of preparations for college, promotion, honors, awards, and scholarship are contingent upon marks, many parents choose grades rather than growth as a goal for the children.

2.5 MISCONCEPTIONS, UNLEARNED AND FORGOTTEN ESSENTIALS

According to Lester A. Lefton and others (2003), these are some of the greatest educational casualties of all: misconceptions, unlearned and forgotten essentials exist among all people, and as we grow more specialized in our fields of knowledge the problem will probably increase.

2.6 INADEQUATE FACILITIES

According to Wayne Weitzel (1992), some children find themselves in school situations that are inadequate to the needs. Schools in rural areas and slum areas receive neither adequate physical facilities nor special services that are badly needed. Results of these adverse influences, which are apparent from the first grade on, are seen in aptitude test, school achievement, and even ineptness in the daily problems of living.

2.7 EDUCATIONAL PSYCHOLOGY AND DECISION MAKING

According to S.B. Kakker (1993), education psychology helps teachers make wise decisions everyday and in many ways, teachers make decisions that influence the

pupil, school and community learning how to make judgmental and to take demands of the situation, require the teacher to understand himself pupils, and the process of learning and intellect development.

2.8 LOW MOTIVATION

According to Robert D. Strom (1969), low motivation methods such as punishing certain undesirable behaviours, taking away some privileges such as recess or gym, homework, falling a child including shame by banishing one from the classrooms and relegation students who for one reason or another did not perform well to sit other parts of the room, away from their fellows leads to retardation in performance. He says that, low achievements are obviously caused by low motivation.

Many students and especially in public schools, have been exploited, used as the pawns of success for others. In the a main we have failed to recognize that there is something wrong with the system in which certain peoples need be punished in order that anthers, might be rewarded, that able students might succeeded at expenses of less able, that grading should reward only the biological inheritance in given the premium inheritance in school. Given the premium placed on marks, we can expect that some parents will tribe, cajole or threaten their children to obtain enviable records. Some pupils whose school work has become grade – oriented are unduly disappointed as the perceive failure to get a certain grade as complete failure and hence lose even that which is within their reach.

2.9 LACK OF READINESS FOR INSTRUCTION.

Robert also emphasize, the term readiness could be used as profitably and meaningfully to access the school's program and the preparedness of its teachers. Of this we can be fairly sure that "only as school, home and child share in the responsibility for readiness will its occurrence eventuate". By the time they reach

8.

high school, some students who unprepared for their assignments and causes come to believe that dropping out is the only feasible alternative.

Hall (1970) in his scientific inquiring of children in hall's Boston endeavor showed that although children see hundreds of objectives daily, much of what they encounter goes unnoticed or does not remain in the conscious those who present some problems that is by adopting a strict policy of rigid standards, the need to reach unprepared pupils vanishes since the admission criteria precludes their presence in class.



CHAPTER THREE

RESEARCH METHODOLOGY

Overview

This chapter deals with the method the researcher employed in collecting data. The environment, the respondents, the instruments and statistical treatment of data are all areas which are covered appropriately for accurate results.

DESIGN

This study employed the description cross sectional survey method to determine the factors that lead to poor performance in mathematics in secondary schools in Kiajai zone, Tigania district, Kenya.

ENVIRONMENT

This study was conducted from the seven secondary schools in Kianjai District Eastern province Kenya, The zone has two provincial boarding schools and five district schools. Among the five district schools, two are day schools.

RESPONDENTS

This study involved eighty (80) students and seven(7) teachers. These were selected at random from the seven secondary schools in the zone. It involved students from form one to four.

RESEARCH INSTRUMENTS

The study used open ended questionnaires which involved questions about attitude, family background and environmental influence.

DATA COLLECTION PROCEDURE

The researcher delivered transmittal letter to the head teachers of the seven schools before administering the instruments to the respondents in their schools, the researcher went ahead to calculate the frequency and percentage to determine the profile of the students as to classes. The researcher also determined the profile of teachers as to teaching experience.

STATISTICAL TREATMENT OF DATA

The frequencies and percentages were used to describe the profile of students as classes and teacher as to teaching experience.

Formula:

$$f/n \times 100$$

where f = frequency

n = total number

100 = constant

LIMITATIONS

The researcher had inadequate time during the researcher work to comprehensively cover her work. This was due to the many lessons she is supposed to teach in a day and the office responsibility she has which is quite demanding. Some schools were quite far which made data collection take long.

CHAPTER 4: FINDINGS

DATA PRESENTATION AND ANALYSIS

TABLE 1: PROFILE OF THE RESPONDENT

CATEGORY	FREQUENCY	PERCENTAGE (%)
STUDENTS		
Form one	15	18.75
Form two	22	27.5
Form three	16	20
Form four	27	33.75
TOTAL	80	100
TEACHERS		
Teaching Experience in years		
1 – 5	3	42.86
6 – 10	1	14.29
11 – 15	2	28.56
16 – 20	1	14.29
Total	7	100

Resource: Field Research.

The table that among the respondents 18.75 % were form ones, 27.5% form two, 20% form 3 and 33.7% form four. It indicate that 42.86%were teachers with teaching experience of 1- 5 years, 14.29% 6-10 years , 28.56% 11-15 years and 14.29% 16-20years.

Table 2: Negative attitude leads to poor performance in mathematics

Category	Frequency	Percentage
Agree	69	79.31
Disagree	18	20.69
Total	87	100

Source: Field Resource

The table shows that 79.31% of the respondents agreed that negative attitude leads to poor performance in mathematics. Students take the subject to be hard and believe that they cannot do well in the subject. This make them ignore the subject.

Table 5: students are not motivated.

Category	Frequency	Percentage
Agree	9	10.34
Disagree	78	89.66
Total	87	100

Source: Field Resource

The table indicates that only 10.34% of the respondents agreed that lack of motivation leads to poor performance. The researcher agree with them that students are not well motivated to do well in mathematics both at home and in school.

TABLE 3: Failure to practice contributes to poor performance

Category	Frequency	Percentage
Agree	67	77.01
Disagree	20	22.99
Total	87	100

Source: field resource

The table shows that 77.01% of the respondents agreed that failure to do practice in mathematics has contributed to poor performance in the zone, students only rely on the assignment given by the subject teacher.

Table 4: Students are misled and misguided by the others.

Category	Frequency	Percentage
Agree	61	70.11
Disagree	26	29.89
Total	87	100

Source : Field resource

From the table 70.11% of the respondent agreed that students, especially when they are in form one are misled and misguided by the others telling them that the subject is hard. This has made many hate the subject.

Table 6: family background can lead to poor performance

Category	Frequency	Percentage
Agree	28	32.18
Disagree	59	67.82
Total	87	100

Source: Field Resource

The table illustrates that 32.18% of the respondents agreed that family background leads to poor performance in cases where the parents and other members discourage the students by telling them that no one in their family has made it in mathematics and therefore they cannot also make it. Some parents also do not provide a suitable learning environment for their sons and daughters while at home. Other parents are not able to pay fees in good time making the student to be absent from school frequently.

Table 7: Inadequate facilities

Category	Frequency	Percentage
Agree	34	39.08
Disagree	53	60.92
Total	87	100

Source: Field Resource

The table shows that 39.08% of the respondents agreed that inadequate learning facilities like books has contributed much to poor performance in the zone.

Table 8: poor relationship between students and teachers.

Category	Frequency	Percentage
Agree	37	42.53
Disagree	50	57.47
Total	87	100

Source: Field Resource

The table shows that 42.53% of the respondents agreed that poor relationship between students and teachers leads to poor performance in mathematics. This is because many students facing answering questions even when they are not understanding. Teachers on the other hand expose students to hard punishments that demoralize them.

Table 9: Language barrier

Category	Frequency	Percentage
Agree	3	3.45
Disagree	84	96.55
Total	87	100

Source: Field Resource

The table indicates that only 3.45% of the respondents agreed that language barrier lead to failure in mathematics. This is because the problem leads to misunderstanding of the questions. Though this is a small percentage the researcher agree with them especially in district schools where they admit some students who are below average.

Table 10: Environmental Influence

Category	Frequency	Percentage
Agree	6	6.90
Disagree	81	93.10
Total	87	100

Source: Field Resource

The table illustrates that 6.9% of the respondents agreed that environmental influence has made the zone perform poorly in mathematics. This is where they find the school performing poorly and think they can not also perform..

Table 11: lack of individual attention

Category	Frequency	Percentage
Agree	2	2.30
Disagree	85	97.70
Total	87	100

Source: Field Resource

From the table only 2.3% agreed that lack of individual attention to the students has contributed to the poor performance in mathematics in the schools at Kianjai zone. The respondents agreed that individual student problems are not taken care of due to lack of man power. So many students are handled by a single teacher. The schools have a high shortage of teachers.

CHAPTER 5: SUMMARY CONCLUSIONS AND MENDATION

SUMMARY

The study was conducted in Kianjai zone, Tigania district, Eastern province Kenya. The zone has seven secondary schools. The researcher used questionnaires which were filled by 87 respondents picked at random from the seven schools. Both teachers and students responded so positively. They gave factors that when taken care of can result to better performance in mathematics. These includes negative attitude, lack of practice, misled and misguided, lack of motivation, family background, lack of facilities, poor relationship between teachers and students, language problems, environmental influence and lack of individual attention. Both teachers, students and parents contribute to the occurrence of these factors.

Conclusion

Mathematics in Kainjai zone has not been performed well for years. Though it is a national problem, there are some schools in other zones that get very high mean scores in mathematics. Teachers, students and parents should work closely to bring to an end this problem. Efforts should be made by both the school administration and the ministry of education to provide the required facilities proper orientation should be given to the form ones.

RECOMMENDATIONS.

The researcher recommends that student should be conselled and guided accordingly so as to change the negative attitude towards mathematics.

Both teachers and parents should ensure they motivate the student so as to perform better in mathematics.

The ministry of education should provide adequate facilities and more manpower in schools in order encourage good performance.

Teachers should try to create good relationship between them and students so as to make students free to share their problems with them.

Parents should try to provide a good learning environment to their sons and daughters while at home.

Guidance and counseling should be given to students regularly to poster positive attitude in them towards the subject

The ministry should sponsor more workshops for the teachers.

Finally the researcher recommend that proper orientation should be given to form ones and gone in good time to avoid misleading and misguiding.

BIBLIOGRAPHY

1. B. S. Glenn, Ray Simpson & Stewart Jones (1969), EDUCATIONAL PSYCHOLOGY

United States of America (3rd edition)

2. Robert D. Strom (1969), PSYCHOLOGY FOR THE CLASSROOM

United States of America (1st edition)

3. Lester A. Lefton & Linda Brannon (2003), EDUCATIONAL PSYCHOLOGY

United States of America (6th ed)

4. Elliott, Karotchwill & Littlefield Cook Travers (2000), EDUCATIONAL PSYCHOLOGY

, McGraw-Hill Companies, United States of America

5. Kelly Bavas Henery (2002), ESSENTIALS OF PSYCHOLOGY

Houghton Mifflin Company, United States of America

6. Cheryl A. Rickabough & Lester M. Sdorow (2002), EDUCATIONAL PSYCHOLOGY

McGraw-Hill Companies, United States of America

7. Wayne Weiten (1992), PSYCHOLOGY: Themes And Variations

Books/Cole Publishing Company

Pacific Grove, California) 1st Edition)

8. S.B Kakker (1993), EDUCATIONAL PSYCHOLOGY

United States of America (4th edition)

APPENDIX A

Questionnaire

Dear respondents, the research is intended to identify the factors that lead to poor performance in mathematics in Kenya therefore your co-operation is highly appreciated as you answer the research questionnaires provide on this paper.

1. Which group do you belong (TICK)

(i) Form one

(ii) Form two

(iii) Form three

(iv) Form four

2. What are the factors that have led to poor performance in mathematics in your school (list)

.....

.....

.....

.....

.....

3. When you reported in form one, what did the other students in your school tell you Concerning mathematics?

(i) Hard.....

(ii) Simple

What effect as the above on your performance? (state effect)

.....

4. Have you been punished having not done the assignment in mathematics?

(i) Yes

(ii) No

If yes did the punishment have any impact on your performance (state the impact?)

.....

.....

5. Have you ever been reward for good performance in mathematics?

(i) Yes

(ii) No

If yes, did the reward have any impact on your performance (state the impact)

.....

6. How have the contributions of parents, other family members and the society at large affected your performance? (state how)

.....

.....

.....

TEACHERS

1. Why do you think your students have not been performing well in mathematics? (list)

.....

.....

.....
.....
.....

2. How do you handle the students whom you find during your mathematics lesson have not done your assignment? (TICK)

- (i) Throw them out of class.....
- (ii) Punish them.....
- (iii) Ignore them.....

3. Do you think mathematics teachers in your school might have contributed in any way to the poor performance in mathematics?

If yes, state how?.....
.....
.....



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FACULTY OF EDUCATION

December 11, 2006

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

This is to introduce to you Mr. /Ms. ROSE MWATHATHI Registration No. 02/13346/61/2/F who is a student of our University in the Faculty of Education.

He/She is undertaking a ^{research} ~~resource~~ project which requires your input as part fulfillment for the completion of his/her programme of study.

I kindly request you to avail him/her with all the necessary assistance.

Thank You.

With kind regards,

OKIRIMA MICHAEL
DEAN, Faculty of Education
Kampala International University

