

**FACTORS LEADING TO POOR PERFORMANCE IN SCIENCE
AMONGST PRIMARY SCHOOL STUDENTS**

OF KAKUZI ZONE THIKA DISTRICT

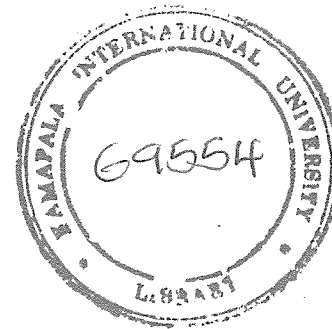
CENTRAL PROVINCE

KENYA

BY

JOHN IHUGO NJUKI

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A RESEARCH REPORT PRESENTED TO THE INSTITUTE OF OPEN AND
DISTANCE LEARNING IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF BACHELOR
OF EDUCATION ECPE OF KAMPALA
INTERNATIONAL UNIVERSITY

AUGUST, 2008

DECLARATION

I, declare that the material in this book has been done entirely by my effort and has not been presented else where for any academic qualification.

SIGNED

..........

JOHN IHUGO NJUKI

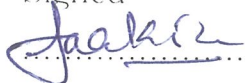
DATE

.....19th Aug 2008.....

APPROVAL

This research report is submitted for examination with my approval as a University Supervisor.

Signed

A handwritten signature in blue ink, appearing to read 'Laaki', is written over a dotted line.

MR. Samson Laaki

SUPERVISOR

DATE:

19-08-08

DEDICATION

This book is dedicated to my beloved wife Elizabeth, my mother Anastasia and my daughters Janet and Brenda.

ACKNOWLEDGMENT

First of all I would like to thank my supervisor Mr. Samson Laaki for being there for me whenever I needed him and also offering advice where necessary.

I would like also to thank my family members, friends, and the teachers of Rubiru primary school for their support and prayers towards the success of my course.

I would also like to thank the respondents who returned the questionnaires and those who were cooperative to me.

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ABSTRACT

The purpose of study was to determine the factors leading to poor performance in science amongst primary school students of Kakuzi zone Thika district central province.

The specific objectives of the study were to investigate the relationship between social economic background and poor performances in sciences amongst students in Kenya, to investigate the relationship between attitudes and poor performances in sciences amongst students in Kenya, to investigate the relationship between learning resources and poor performances in sciences amongst students in Kenya and to investigate the relationship between infrastructure and poor performances in sciences amongst students in Kenya

The methods used for data collection were questionnaires to the students and interviews with teachers and ministry officials

The study revealed that socio economic background, the attitudes of teachers, learning resources and poor infrastructure of a school contributed to poor performance in science.

Teachers should be encouraged to train for science subjects to fill the gap of limited teachers. Scholarships can be provided so that those who cannot afford training services benefit.

Communities should be encouraged to start income generating activities which would provide more disposable income to families and enable them to acquire essential goods and services, including education

The government and other relevant organizations and institutions should provide academic scholarships and bursaries aimed at keeping children from disadvantaged families in school especially those who perform well in school. Scholarships and bursaries aimed at encouraging students to study science subjects and careers should also be established

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Kenya Educational system has expanded significantly since independence, primary education has played a significant role in supplying man power needed for economic growth and development in Kenya by creating a class of educated leaders, planners expect primary schools and institutions of higher learning to produce the critically needed middle and higher level man power for enhancement of socio – economic development (herbison and Myers 1964)

This explains why Kenya spends substantial amount of Money in Education. The Government continues to increase resources allocated to Education thus in 2004 / 2005 financial year gross expenditure for Ministry of Education estimated to be kshs. 86,123.14 Million Representing an increase of 12.2% from Kshs. 76,724.78 Million. Higher education accounted for 12% of the total Expenditure recurrent expenditure for higher education increased by 30.3% (republic of Kenya 2005)

The Education office noted that while performance in other subjects was above average, that of sciences was much below the average. The quality of the teaching force, alongside the completion rates and transition rates, are some of the key determinants of efficiency and effectiveness at any level of Education (MOEST 2000) According to UNESCO (1964), whatever the pattern of teaching may be, the teachers part in it is the most important single factor.

It's upon such a back ground that this study was undertaken to explore the factors leading to poor performance in science amongst students in Kakuzi zone Thika district in Kenya.

1.2 Statement of the problem

Science subjects play a central role in scientific progress and development. Its fundamental role lies in its everyday application in most social sciences, government and business transactions, and physical sciences and engineering, biological sciences and medicine, military and aerodynamic advancements and household chores. This has made the subject compulsory in the school curriculum in Kenya (Mutunga and Breakel, 1992; Republic of Kenya, 1999). This is because students are expected to apply the knowledge of sciences in both familiar and unfamiliar situations. Despite the fact that science subjects are compulsory, students still perform poorly in all of them. The purpose of this study there for was to investigate the factors leading to the poor performance of sciences.

1.3 Objectives of the study

General: The study was to determine the factors leading to poor performance in science amongst primary school students of Kakuzi zone Thika district central province

Specific: the study sought to

1. Investigate the relationship between social economic background and poor performances in sciences amongst students in Kenya.
2. To investigate the relationship between attitudes and poor performances in sciences amongst students in Kenya.

3. To investigate the relationship between learning resources and poor performances in sciences amongst students in Kenya.
4. To investigate the relationship between infrastructure and poor performances in sciences amongst students in Kenya.

1.4 scope of the study

The study was conducted in Kakuzi zone Thika district central province. The area is boarded by Mitumbiri in the north, Ithanga in the east, Juja in the south and Machokos in the west.

The focus of the study was limited to investigating the factors responsible for the poor performance in sciences amongst students of Kakuzi zone Thika District Kenya. The investigation was based on the specific objectives as derived from the general objectives. Any other aspect of factors affecting performance other than the ones mentioned in the objectives were not investigated.

1.5 Significance of the study

This study will benefit the following disciplines:

Provide information that can be used by Ministry of Education policy makers to device means of solving the problem of poor performance in science subjects

Enable policy markers make provision for improving teacher quality with increased knowledge on how to teach science subjects.

Increase awareness of the Head teachers, Board of Governors and PTA and Teachers on proper methods of teaching sciences

In brief the sciences performance policy will be reviewed, priority areas for improvement will be identified and improvement plan containing objectives may be developed for each priority area.

1.6 The purpose of the study

The purpose of the study was to investigate the factors leading to the poor performance of sciences amongst students in Kakuzi zone Thika district in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter discusses the literature related to the study

2.1 Outside-school Factors

Outside-school Factors include a broad range of variables such as the socio-economic background of the families the learners come from, home support system, educational policy decisions, locus of decision-making in the family, prior learning experience, the health and nutritional status of the children, etc.

Prowden Report (1976) in the United Kingdom and Coleman et al. (1977) in the United States reveal that neither school nor human and material resources make a difference in learners' academic achievement. Among the Factors that accounted for variations in test scores were family background characteristics, socio-economic status, parents' social class, education and occupation, family environment and locus of control. These Factors are also found to be significantly correlated with academic achievement.

Heymen and Loxley (1983) observed that home background Factors are more important and reliable in predicting learners' achievement in the developed world, not in the developing countries.

On achievement in mathematics, Kulkarni (1970) found that boys achieved higher than girls; socio-economic conditions of parents positively related with students' achievement; management of schools (government vs. private) provided better teaching-learning situations; and

no relation was found between school achievement and teacher's qualifications.

Halpern and Myers (1985) found that pre-school experience has a modest but positive influence on initial adjustment to the demands of primary school in developing countries. The scattered studies from other developing countries confirm this picture. (Kagitcibasi, 1986)

Smith and Cheung (1986) conducted a study on the Philippines primary school children and found out that the occupational and educational level of the parents had shaped the school attainment of their children.

Dave (1988) found large differences in science and language achievement among states.

Several studies have explored the relationship between children's nutritional status and school indicators such as age at enrolment, grade attainment, absenteeism, achievement test scores, general intelligence and performance at selected cognitive tasks, including concentration in the classroom. All nine studies reviewed by Pollitt (1990) reported a significant relationship between protein-energy nutritional status and achievement test scores in China, India, Kenya, Nepal, the Philippines, and Thailand.

Govinda and Varghese (1993) reported that pre-school education seems to give an initial advantage to learners at the primary stage as they are likely to have already acquired some literacy and numeracy skills.

Shukla (1994) revealed that among the states, the difference between the mean achievement of boys and girls did not have the same direction. In some states boys did better than girls whereas in some other states girls did better than boys. In all the states the Scheduled Caste/Scheduled Tribe (SC/ST) students performed lower than the non-SC/ST students.

Further, a pupil's achievement was found to be positively related with the father's education, the facility for learning and the educational environment at home.

Singh and Saxena (1995) found that there exist gender and SC/ST gaps in achievement. Mother's and father's education and father's occupation are positively associated with the pupil's achievement.

Jangira (1994), while synthesizing the results of Baseline Assessment Studies (BAS) of the eight District Primary Education Programmer (DPEP) States found that student performance was low in reading as well as in mathematics. There was a marked difference in achievement across schools as well as across states. The individual level predictors for language achievement were educational and occupational aspiration, TV-watching, receiving dictation and feedback on tests, opportunity to read whereas for prediction of science achievement, the individual level variables were father's education, reading other material, correcting home- task regularly and educational and occupational aspirations, etc.

Rath and Saxena (1995) indicated that SC/ST students scored lower than non-SC/ST students in science and language achievement and father's education contributed towards better achievement of SC/ST students.

Cheng (1996) conducted a study on the effect of classroom environment on students' satisfaction and academic achievement and suggests that classroom climate and management style contribute differently towards different aspects of satisfaction or achievement.

Padhi and Jadhoo (1997) while conducting a study on school effectiveness and learner's achievement at the primary stage concluded

that parents' education and father's occupation were positively associated with a pupil's achievement.

Sahoo (1998) conducted a study on socio-institutional Factors on learning achievement of tribal primary school children and found that social Factors have positive influence on enhancing learning achievement in science and language achievement.

Pradhan (1999) conducted a study on the effects of home-and school-related Factors on learning achievement in science of Class V children and found that home Factors have positive effects on enhancing science achievement.

2.2 Within-school Factors

Within-school variables that affect school quality and pupil learning cover a broad range of Factors comprising the inputs, the resources and the process variables.

A large number of studies in the developing countries have consistently shown that availability of instructional materials positively influences learner achievement; the levels of infrastructure seem to have a close correlation with learner achievement and availability of textbooks and instructional materials has a consistently positive effect on learner achievement in developing countries (Heyremann Farnel and Sepulveda Stuardo, 1991). Similarly, Lockheed and Verspoor, 1991 found that school-based interventions raise student achievement. The levels of infrastructure seem to have a close correlation with learner achievement as one move from least facility schools (Govinda and Varghese, 1993).

Singh and Saxena (1995) found that school-level Factors of academic climate (test and feedback, homework, etc.) and teacher quality, (teachers' pay, teaching experience, etc.) are the prominent contributors

to learning achievement as compared to those of school resources (educational and physical facilities).

Jain and Arora (1995) conducted a study on the effect of school-level variables on achievement gap between boys and girls and found that the continuous stay of teachers for not more than five years in the same school, proper qualification of teachers, appropriate number of teachers and higher percentage of female teachers are likely to improve the performance of girls and, thus, primary education.

Gupta and Gupta (1995) conducted a study to see the effect of State interventions on students' achievement and found that the Operation Blackboard (OB) Scheme, supply of free textbooks, scholarship for regular attendance, and midday meals have indicated a positive and significant impact on students' achievement in science and language.

The academic and professional training of teachers has a direct and positive bearing on the quality of their performance and, consequently, on the achievement of the learners (Gusen, Saha and Nooman, 1978; Avalos and Hadded, 1981). However, studies conducted elsewhere have reported that teacher training does not make a difference in learner achievement (Fuller, 1971; Lockheed and Komenan, 1989).

Among the school context variables, mean Socio-economic Status (SES) has shown a positive association with school mean achievement. Teacher qualification, in-service training, and longer teaching experience lower the school mean achievement and play a negative role in pupil achievement in science and language subjects. Similarly, the school academic climate, teacher frequently taking tests and providing feedback, teacher assigning and correcting home-work and solving problems in the class have positive relation with the school mean achievement in mathematics. Teacher giving homework and correcting it

has positive relation with language achievement (Padhi and Jadhoo, 1997).

Sahoo (1998) and Pradhan (1999) conducted a study on the effects of school-related Factors on enhancing learning achievement and found that regularity in home-task giving and correction have positive effects on enhancing learning achievement in school subjects.

Das (2000) found that primary school children had severe learning difficulties in the areas of number and the four fundamental operations. Based on these difficulties, development of remedial package on place value and the four fundamental operations on whole numbers was done.

From the discussion on the school quality and learner's achievement, it could be concluded that within-school Factors such as curricular inputs, teaching-learning process, organizational climate, teacher's professional training, etc. play a significant role in determining and predicting learners' achievement. Hence, to understand the Factors which are affecting students' achievement in primary schools in Orissa, the present investigation has been undertaken.



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter discusses the methods the researcher used in carrying out research

3.1 Design

The study followed a descriptive research design. Both qualitative and quantitative methods were used. The quantitative technique was used to collect and analyze data on academic performance in sciences as well as different responses from both students and teachers. The qualitative technique was used to assess the factors affecting academic performance in respect in respect to poor performance in sciences.

3.2 Environment

The research was carried out in Kakuzi zone, Thika District Kenya.

3.3 Respondents

The study included ideas from students and teachers of the school and the district education officer Thika District

3.4 Instruments

A self administered questionnaire were used to gather information from students at school and then interviews with teachers. Questionnaires were used because of the advantage of obtaining data within a short time. It also had an element of privacy so students were able to express themselves freely.

3.5 Data collection procedures

The researcher obtained an introductory letter from the institute of continuing and distance studies. This enabled the researcher to go to the field to carryout the study. The researcher personally distributed and supervised the filling into questionnaires by students. This was done with the help of school authorities. The interviews with the teachers were held at school. The same was done with the district education officer at the district headquarters.

3.6 Statistical treatment of Data

Quantitative analysis. Data was categorized according to the research variables. Data was then coded on sheets from which it was keyed into the computer. Quantitative data generated from questionnaires was computed into frequency counts and percentages using the formula below;

$$\text{Percentage (\%)} = \frac{F}{\text{Total number of respondents}} \times 100$$

Where F = number of respondents
Observed

Qualitative analysis. Data from semi-structural, observation, and in-depth interviews was not standardized hence requiring no categorization. Such data was presented in a descriptive form and used to discuss the results of quantitative data.

CHAPTER FOUR

FINDINGS AND INTERPRETATIONS

4.0 Introduction

This chapter is a presentation, interpretation and discussion of the field results. The results are presented in tables and in form of frequency counts and percentages. The results and discussions are centered on the set objectives of the study.

4.1. Profile of the respondents

Table 4.1: Shows the profile of the respondents.

Respondents	Frequency (fo)	Percentage (%)
Sex		
Male	40	57
Female	30	43
Total	70	100
Age		
10 yrs and below	13	19
11-13yrs	35	50
14 and above	22	31
Total	70	100
Academic level		
Class five	12	17
Class six	18	25
Class seven	20	29
Class eight	20	29
total	70	100

Source field data

Eighty (80) questionnaires were distributed to the students and 70 were filled and returned this therefore represents 87.5 % of the total number of questionnaires that were distributed.

The study covered 70 randomly selected students of whom (57%) were male and (43%) were female

The age category of the respondents were divided in three groups that are 10 years and below which were [19%], 11-13 yrs were (50%) and 14 and above were representing (31%) of the respondents.

The academic level of the respondents was divided in four categories that is class five, class six, class seven and class eight. (17%) of the respondents were in class five, (25%) were in class six, [29%] were in class seven and (29%) of the respondents were in class eight.

Interviews were used to extract data from the teachers and. 15 teachers were selected and 7 of the members were female and 8 were male.

4.2 Relationship between social economic background and poor performances in sciences amongst students in Kenya.

The respondents were asked whether children from poor families perform poorly in science and this was their response

Table 4.2: Children from poor families perform poorly in science

Response	Frequency	Percentage
Strongly agree	20	29
Agree	15	21
Strongly disagree	15	21
Disagree	20	29
total	70	100

Source; primary data

Chart 4.2: Children form poor families perform poorly in science

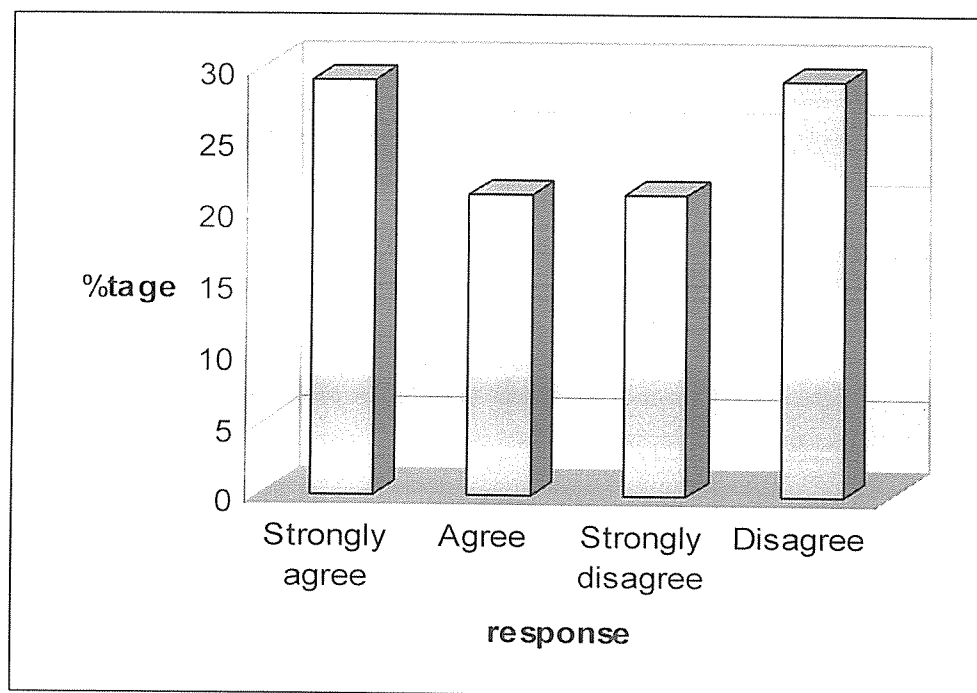


Table and chart 4.2 indicates that 20(29%) of the respondents strongly agreed that children from poor families perform poorly in science, 15(21%) agreed while 15(21%) strongly disagreed and 20(29%) disagreed. The teachers revealed that children from poor families do not have enough materials like text books, and equipments to help them study well because their parents cannot afford to buy them.

The respondents were asked whether Children from homes where parents are illiterate perform poorly in science and this was their response

Table 4.3: children from homes where parents are illiterate perform poorly in science

Response	Frequency	Percentage
Strongly agree	20	29
Agree	15	21
Strongly disagree	16	23
Disagree	19	27
total	70	100

Source: primary data

According to table 4.3, 20(29%) of the respondents strongly agreed that children from homes where the parents are illiterate perform poorly in science, 15(21%) agreed while 16(23%) strongly disagreed and 19(27%) disagreed. the teachers revealed that illiterate parents do not encourage their children because they do not have the knowledge or skills required to help or monitor their children's academic work.

“.....most illiterate parents do not follow their children's education because they know little or nothing about what they are studying. This lack of encouragement leads to reluctance on the side of the children and hence leads to poor performance in some subjects especially science.....”
(Interview with a teacher)

The respondents were asked whether social status of the parents contributes to how children perform in science and this was their response

Table 4.4: social status of parents contribute to how children perform in science

Response	Frequency	Percentage
Strongly agree	25	36
Agree	10	14
Strongly disagree	15	21
Disagree	20	29
total	70	100

Source: primary data

Table 4.4 shows that 25(36%) of the respondents strongly agreed that social status of parents contribute to how children perform in science, 10(14%) agreed while 15(21%) strongly disagreed and 20(29%) disagreed.

According to the teachers social status includes the academic background of the parent, the economic background among others. According to them children from high class back grounds are likely to perform well in science than children from low class backgrounds. They revealed that children from low class backgrounds are likely to be sent home for school fees and therefore miss classes and sometimes study on an empty stomach because they cannot afford to pack food. All these affect the performance of a child in science.

4.3 To investigate the relationship between attitudes and poor performances in sciences amongst students in Kenya.

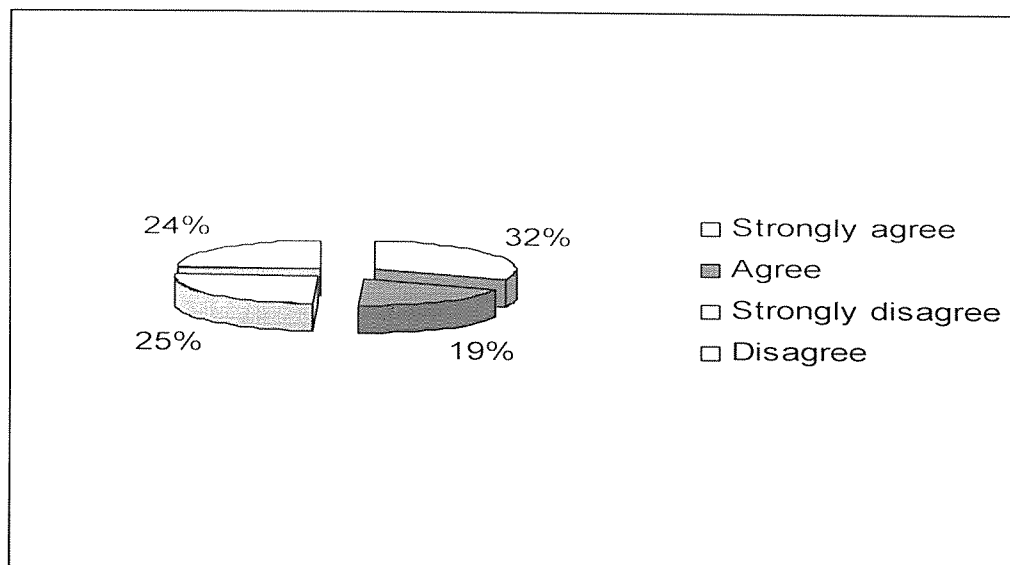
The respondents were asked whether students perform poorly because they think science is difficult and this was their response

Table 4.5: students perform poorly because they think science is difficult

Response	Frequency	Percentage
Strongly agree	22	31
Agree	13	19
Strongly disagree	18	25
Disagree	17	24
total	70	100

Source: primary data

Chart 4.5: students perform poorly because they think science is difficult



According to table and chart 4.5, 22(31%) of the respondents strongly agreed that students perform poorly because they think science is difficult, 13(19%) agreed while 18(25%) of the respondents strongly disagreed and 17(24%) disagreed. According to the teachers the attitudes children have toward science play a prominent role in student's lower performance and participation in science.

“.....students think science is difficult and therefore with such attitudes they do not Endeavour to try to improve on their grades.....”
(Interview with a teacher)

The respondents were asked whether teacher's attitudes towards some students in regards to science do not encourage them and therefore perform poorly and this was their response

Table 4.6: Teacher's attitudes towards some students in regards to science do not encourage them

Response	Frequency	Percentage
Strongly agree	30	43
Agree	15	21.4
Strongly disagree	10	14.2
Disagree	15	21.4
total	70	100

Source: primary data

Table 4.6 indicates that 30(43%) of the respondents strongly agreed that teachers attitudes towards some students in regards to science do not encourage them and therefore perform poorly, 15(21.4%) agreed while 10(14.2%) strongly disagreed and 15(21.4%) of the respondents disagreed. The study revealed that teacher's attitudes towards science contributes to their inability to motivate the pupils to learn science. The teaching methods that are used remain predominantly the traditional 'talk and chalk' mode of delivery. The teachers are under pressure to enable their pupils pass examinations and are therefore forced to water down the implemented curriculum. Although teachers attempt to cover all the content of the syllabus, the frequent disruptions in the teaching time due to un-gazetted holidays, late start of the term and so on do not

allow the completion of the syllabus in most schools. This therefore leads to poor performance.

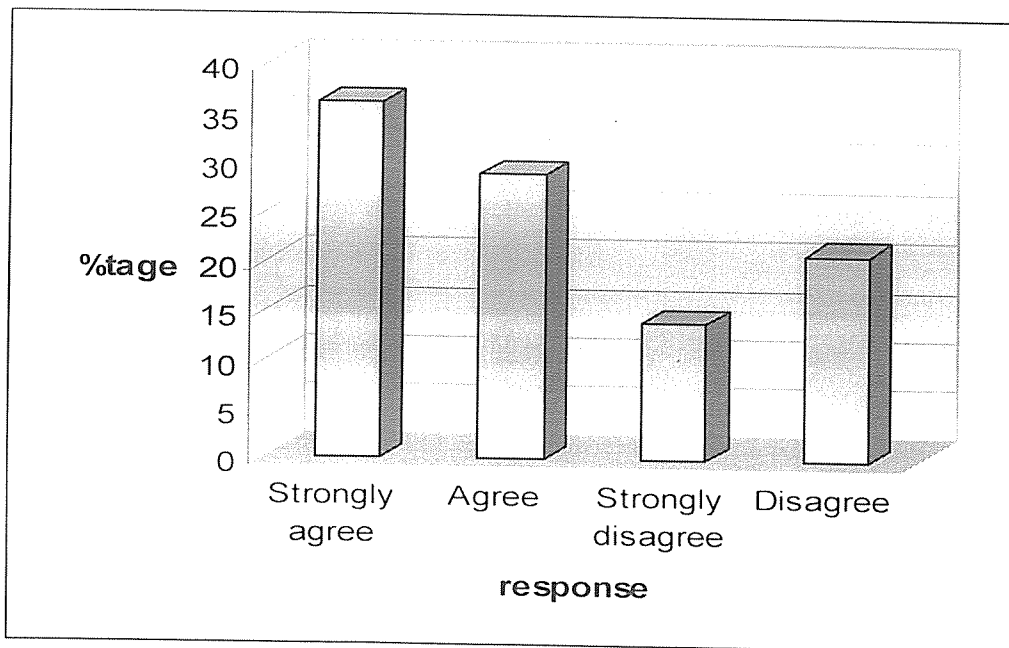
The respondents were asked whether some students especially girls think that science is for boys and therefore they end up performing poorly and this was their response

Table 4.7: Girls think science is for boys

Response	Frequency	Percentage
Strongly agree	25	36
Agree	20	29
Strongly disagree	10	14
Disagree	15	21
total	70	100

Source: primary data

Chart 4.7: Girls think science is for boys



The table and chart 4.7 shows that 25(36%) of the respondents strongly agreed that some students especially the girls think that science is for

boys and therefore end up performing poorly, 20(29%) agreed while 10(14%) strongly disagrees and 15(21%) of the respondents disagreed. The teachers indicated that Science is generally considered to be the one of the most difficult subjects. It is also considered to be a "masculine" subject. Because girls are considered less capable than boys, parents, peers, many teachers and the girls themselves do not expect them to excel at in science. There is often, therefore, conscious and unconscious discouragement of girls' participation in this subject both from the school and home. Because of such attitudes many girls are reluctant to try and excel in science.

4.4 To investigate the relationship between learning resources and poor performances in sciences amongst students in Kenya.

The respondents were asked whether Students in schools with enough science text books perform well and this was their response

Table 4.8: Students in schools with enough science text books perform well

Response	Frequency	Percentage
Strongly agree	35	50
Agree	20	29
Strongly disagree	5	7
Disagree	10	14
total	70	100

Source: primary data

According to table 4.8, 35(50%) of the respondents strongly agreed that Students in schools with enough science text books perform well, 20(29%) agreed while 5(7%) strongly disagreed and 10(14%) disagreed. Teachers agreed that when students have enough text books they

perform well because they are able to refer to the book what they have been taught.

The respondents were asked whether Schools with no science apparatus do not perform well in science and this was their response

Table 4.9: Schools with no science apparatus do not perform well in science

Response	Frequency	Percentage
Strongly agree	40	57
Agree	25	36
Strongly disagree	-	-
Disagree	5	7
total	70	100

Source: primary data

Table 4.9 indicates that 40(57%) of the respondents strongly agreed that schools with no enough science apparatus do not perform well in science while 25(36%) agreed and 5(7%) disagreed. The study revealed that science equipments are vital for practices which are part of science and therefore without them children are likely to perform poorly.

The respondents were asked whether schools that lack enough trained teachers to teach science perform poorly and this was their response

Table 4.10: schools that lack enough trained teachers to teach science perform poorly

Response	Frequency	Percentage
Strongly agree	35	50
Agree	25	36
Strongly disagree	5	7
Disagree	5	7
total	70	100

Source: primary data

Chart 4.10: schools that lack enough trained teachers to teach science perform poorly

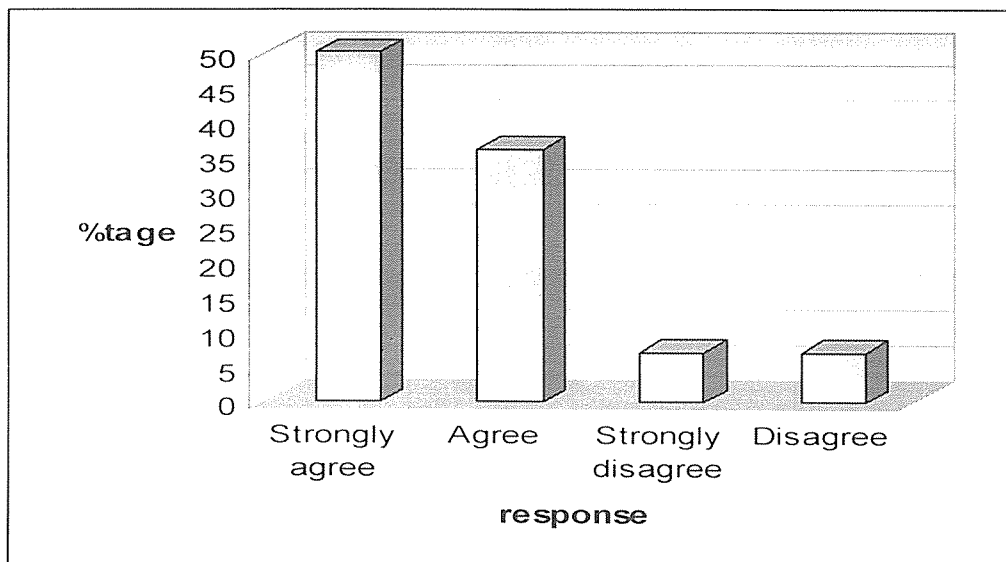


Table and chart 4.10 shows that 35(50%) of the respondents strongly agreed that schools that lack enough trained teachers to teach science perform poorly, 25(36%) agreed while 5(7%) strongly disagreed and 5(7%) of the respondents disagreed. According to the teachers because of the negative attitudes towards science few teachers and especially women are not trained and therefore students are faced with a problem of few teachers and this affects their performance.

“.....sometimes a school has two science teachers who have to teach all the classes. This means they will have to miss teaching in some classes and therefore it is difficult to complete the syllabus which results into poor performance.....” (Interview with a teacher)

4.5 To investigate the relationship between infrastructure and poor performances in sciences amongst students in Kenya.

The respondents were asked whether schools with a well stocked library perform well in science and this was their response

Table 4.11: schools with a well stocked library perform well in science

Response	Frequency	Percentage
Strongly agree	25	36
Agree	25	36
Strongly disagree	10	14
Disagree	10	14
total	70	100

Source: primary data

Table 4.11 indicates that 25(36%) of the respondents strongly agreed that schools with a well stocked library perform well in science, 25(36%) agreed while 10(14%) strongly disagreed and 10(14%) disagreed. the teachers revealed that for students to perform well in science they need books to help them understand the subjects.

“.....books help them refresh their memory by remembering what they have been taught in class.....” (Interview with a teacher)

The respondents were asked whether class sizes contribute to how students perform in science and this was their response

Table 4.12: Class size contributes to how students perform in science

Response	Frequency	Percentage
Strongly agree	28	40
Agree	15	21
Strongly disagree	15	21
Disagree	12	17
total	70	100

Chart 4.12: Class size contributes to how students perform in science

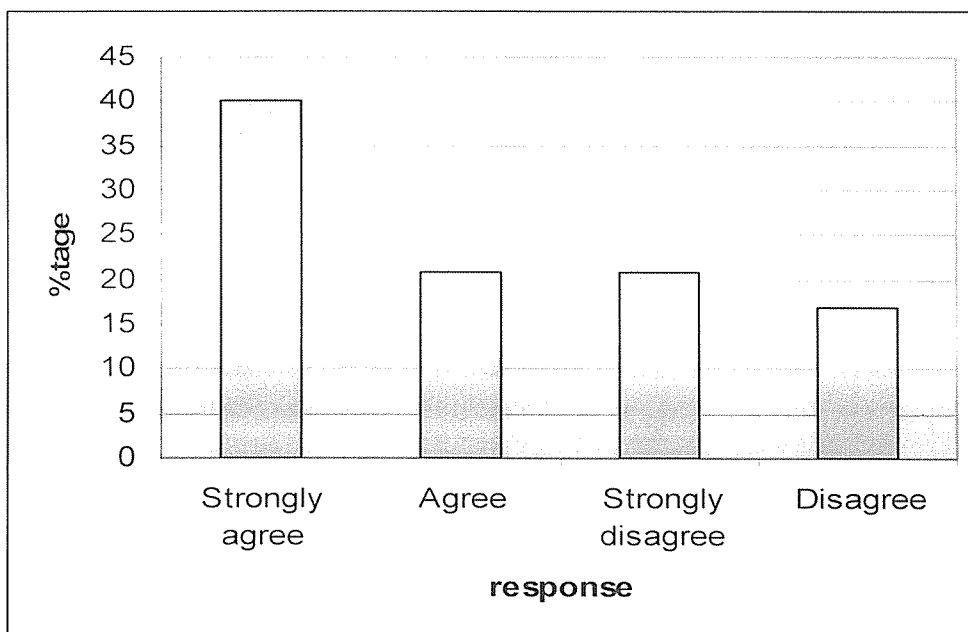


Table and chart 4.12 indicates that 28(40%) of the respondents strongly agreed that class sizes contribute to how students perform in science, 15(21%) agreed while 15(21%) strongly disagreed and 12(17%) of the respondents disagreed. The teachers revealed that when teaching in large classes they provide fewer exercises and practice so as to reduce the amount of marking to do. There is also limited space to conduct group work that would enhance effective coverage of content. The overcrowded

curriculum minimises students' opportunity-to-learn science as teachers try to cover too much content in too little time available.

Teachers reported that overcrowding results in stressful and unpleasant working conditions and therefore leads to absenteeism among teachers and students which in turn leads to poor performance in science.

"..... overcrowded classes are noisier, which makes it difficult to effect teaching and learning....."(Interview with a teacher)

The respondents were asked whether schools with well stocked science laboratories perform well in science and this was their response

Table 4.13: schools with well equipped science laboratories perform well in science

Response	Frequency	Percentage
Strongly agree	35	50
Agree	20	29
Strongly disagree	5	7
Disagree	10	14
total	70	100

Source: primary data

Table 4.13 shows that 35(50%) of the respondents strongly agreed that schools with well stocked science laboratories perform well in science, 20(29%) agreed while 5(7%) strongly disagreed and 10(14%) disagreed.

According to the teachers laboratories are important because science involves practical work and therefore for students to understand what they are being taught they need well equipped laboratories.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0. Introduction

The major purpose of the study was to determine the factors leading to poor performance in science amongst primary school pupils of Kakuzi zone Thika district central province Kenya. This chapter focuses on the discussions of the findings, conclusions and recommendations. Finally the chapter ends with suggestions for further research.

5.1. Summary

The first research objective sought to investigate the relationship between social economic background and poor performances in sciences amongst students in Kenya. The study revealed that socio economic background contributed to student's low achievement in science because poor families could not afford to provide for all their children's needs. The study also revealed that illiterate parents do not help their children out because they know little or nothing on the subject. According to Kulkarni (1970) socio-economic conditions of parents is positively related with students' achievement.

The second research objective was to investigate the relationship between attitudes and poor performances in sciences amongst students in Kenya. The study revealed that the attitudes teachers have towards their work does not motivate students at all. It was also revealed that students negative attitudes especially girls towards science contribute to poor performance.

The third objective sought to investigate the relationship between learning resources and poor performances in sciences amongst students in Kenya. The study revealed that students need enough and useful learning resources to perform well in science. According to Gupta and Gupta (1995), supply of free textbooks, scholarship for regular attendance, and midday meals have indicated a positive and significant impact on students' achievement in science and language. The study also revealed that the quality of teachers contributed to achievement of students. This is supported by Padhi and Jadhoo,(1997) that teacher qualification, in-service training, and longer teaching experience lower the school mean achievement and play a negative role in pupil achievement in science and language subjects.

Finally the study sought to examine the relationship between infrastructure and poor performances in sciences amongst students in Kenya. The study revealed that infrastructure was important for students to perform well in science. The study also revealed that over crowded classes led to poor performance in science. According to Heyremanm Farnel and Sepulveda Stuardo, (1991) the levels of infrastructure seem to have a close correlation with learner achievement and availability of textbooks and instructional materials has a consistently positive effect on learner achievement in developing countries

5.2. Conclusion.

The main purpose of the study was to determine the factors leading to poor performance in science amongst primary school students of Kakuzi zone Thika district central province Kenya.

The study revealed that socio economic background contributed to student's performance in science.

It was also established that the attitudes teachers and students had towards science contributed to how students performed in science.

The study revealed that for students to perform well in science they needed learning resources like text books.

Finally the study revealed that the infrastructure of a school contributed to students' performance in science.

5.3. Recommendations.

Teachers should be encouraged to train for science subjects to fill the gap of limited teachers. Scholarships can be provided so that those who cannot afford training services benefit.

Communities should be encouraged to start income generating activities which would provide more disposable income to families and enable them to acquire essential goods and services, including education.

The government and other relevant organizations and institutions should provide academic scholarships and bursaries aimed at keeping children from disadvantaged families in school especially those who perform well in school. Scholarships and bursaries aimed at encouraging students to study science subjects and careers should also be established.

Parents should be encouraged to become more involved in the academic activities of their children. Parents should be sensitized to the importance of their involvement, especially in science subjects. Schools can be encouraged to adapt to an 'open-house' policy which would allow and encourage parents to visit the school as often as they wished to discuss their children's progress. Parents with the ability to help their

children in their work should be encouraged to do so. These measures provide motivation for children to participate more in science subjects.

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Kampala International University
Institute of Open and Distance Learning
P O Box 20000 Kansanga, Kampala, Uganda
256 41 373 498/ 256 41 373 889 (Ug) 254 20246275 (Ke)
e-mail: efagbamiye@yahoo.com Tel: 0753142725

Office of the Director

24th April 2008

TO WHOM IT MAY CONCERN:

Dear Sir/Madam,

RE: INTRODUCTION LETTER FOR MS/MRS/MR. JOHN HUGO NJUKI

REG. # BED/8969/51/DF

The above named is our student in the Institute of Open and Distance Learning (IODL), pursuing a Diploma/Bachelors degree in Education.

He/she wishes to carry out a research in your Organization on:

Factors leading to poor performance in Science
amongst primary school pupils of Kalduzi zone,
Thika District, Central province
Kenya

The research is a requirement for the Award of a Diploma/Bachelors degree in Education.

Any assistance accorded to him/her regarding research will be highly appreciated.

Yours Faithfully,

MUHWEZI JOSEPH
HEAD, IN-SERVICE



APPENDIX B: Questionnaire to the students

Dear respondent the purpose of the study is to determine the factors leading to the poor performance of science subjects amongst students in Kakuzi zone Thika District in Kenya and you have been chosen to participate in the study. You are requested to tick where appropriately and fill in the gaps. I would like to bring to your attention that the information will be treated with utmost confidentiality.

NB. Do not write your name anywhere on this paper

Personal information

Age

10 yrs and below []

11-13 yrs []

14 and above []

Sex

Female []

Male []

Educational level

Class five []

Class six []

Class seven []

Class eight []

Relationship between social economic background and poor performances in sciences amongst students in Kenya.

1. Children from poor families perform poorly in science

Strongly agree []

agree []

Strongly disagree []

disagree []

2. Children from homes where parents are illiterate perform poorly in science

Strongly agree | ☐ | agree | ☐
Strongly disagree | ☐ | disagree | ☐

3. Social status of the parents contributes to how children perform in science.

Strongly agree | ☐ | agree | ☐
Strongly disagree | ☐ | disagree | ☐

To investigate the relationship between attitudes and poor performances in sciences amongst students in Kenya.

4. Students perform poorly because they think science is difficult

Strongly agree | ☐ | agree | ☐
Strongly disagree | ☐ | disagree | ☐

5. Teachers attitudes towards some students in regards to science do not encourage them and therefore perform poorly

Strongly agree | ☐ | agree | ☐
Strongly disagree | ☐ | disagree | ☐

6. Some students especially girls think that science is for boys and therefore they end up performing poorly

Strongly agree | ☐ | agree | ☐
Strongly disagree | ☐ | disagree | ☐

To investigate the relationship between learning resources and poor performances in sciences amongst students in Kenya.

7. Students in schools with enough science text books perform well

Strongly agree | ☐ | agree | ☐

Strongly disagree [] disagree []

8. Schools with no science apparatus do not perform well in science

Strongly agree [] agree []

Strongly disagree [] disagree []

9. Schools that lack enough trained teachers to teach science perform poorly.

Strongly agree [] agree []

Strongly disagree [] disagree []

To investigate the relationship between infrastructure and poor performances in sciences amongst students in Kenya.

10. Schools with a well stocked library perform well in science

Strongly agree [] agree []

Strongly disagree [] disagree []

11. Class size contributes to how students perform in science

Strongly agree [] agree []

Strongly disagree [] disagree []

12. Schools with well stocked science laboratories perform well in science

Strongly agree [] agree []

Strongly disagree [] disagree []

APPENDIX C: INTERVIEW GUIDE

1. DO children from poor families perform poorly in science?
2. Do Children from homes where parents are illiterate perform poorly in science?
3. Do you think the social status of the parents contributes to how children perform in science?
4. Do you think Students perform poorly in science because they think it is difficult?
5. How do Teachers attitudes towards some students in regards to science contribute to their performance?
6. Comment on the statement that some students especially girls think that science is for boys and therefore they end up performing poorly
- 7 .What is the relationship between enough text books and performance of students in science.
8. Comment on the statement that schools with no science apparatus do not perform well in science
9. Do you agree with the statement that schools that lack enough trained teachers to teach science perform poorly and why?
10. What is the relationship between a well stocked library and performance of students in science?
11. Do you think Class size contributes to how students perform in science and why?
12. Comment on the statement that schools with well stocked science laboratories perform well in science.

