UNIVERSITY FOR DEVELOPMENT STUDIES

FACTORS DETERMINING THE ACADEMIC PERFORMANCE OF STUDENTS IN SECOND CYCLE INSTITUTIONS IN THE SISSALA EAST DISTRICT OF NORTHERN GHANA

BY

DENNIS KADUGA ZANTERA
(UDS / MDS / 0058 /07)

[THESIS SUBMITTED TO THE DEPARTMENT OF AFRICAN AND GENERAL STUDIES, UNIVERSITY FOR DEVELOPMENT STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PHILOSOPHY DEGREE IN DEVELOPMENT STUDIES]

OCTOBER, 2014
DECLARATION

I, Zantera K. Dennis hereby declare that the work presented in this thesis is the result of my original work; and that no part of it has been presented for another degree in this university or elsewhere:

Candidate’s Signature: .................................................................

Date: 29/10/14

Supervisor

I hereby declare that the preparation and presentation of the thesis is supervised in accordance with the guidelines on supervision of thesis laid down by the University for Development Studies:

Supervisor’s Signature: .................................................................

Name: Dr. Francis K. Okeng

Date: 29/10/14
ABSTRACT

Students’ academic performances in the country, especially in second cycle institutions over the years have not been the best. This study aimed at identifying the factors that determine students’ academic performance in second cycle institutions in the Sissala East district; and assessing how significantly these factors determine the students’ performance. The study was largely the research survey type. A sample size of 352 respondents from the district was covered for the study. Questionnaire, interview and personal observation instruments were used for gathering the data. Statistical Package for Social Scientists, specifically descriptive statistics (frequencies, and percentages), comparing of means, the five-point likert scale and regression analysis (linear regression) are the techniques adopted for the analysis. Availability of educational facilities, qualified teachers, teaching and learning materials; health status of students; level of discipline, teacher motivation, supervision, parental care; class sizes, socio-economic status of parents; time spent on teaching and environmental conditions were identified as the factors that determine students’ performance. Five among these were further identified as the key factors that determine the students’. It was also found that all the factors, especially the key factors affect significantly and relate positively to students’ academic performance. It is recommended that adequate classrooms, laboratories, workshops and textbooks among others be provided; discipline and congenial environment be maintained; and good health status and parental care of the students be ensured in order to achieve good student performance in the schools.
ACKNOWLEDGEMENTS

A study of this nature involves a lot of work; and for this reason, requires the efforts of people in diverse ways either as individuals or groups to ensure its success. In the course of this work, some people stood solidly behind me and gave me the necessary assistance in many ways. The contributions of these people towards the success of the work are so immense that they deserve special commendation. In this respect, I wish to show my appreciation to the following organisations and individuals:

First of all, I wish to express my gratitude to the University authorities, both past and present, for introducing the programme; and offering me admission to pursue it. In fact, in this regard, the efforts of the successive deans of the graduate school, Prof. David Millar Dr. Isarel Dzomeku and Prof. Herbert K. Dei are highly appreciated. I am equally very much grateful to all lecturers who handled me throughout the programme for their kind work which has brought me this far. Among these lecturers are Rev. Prof. Saa Dittoh, Rev. Dr. Augustine Abasi, Prof. Agnes Apusiga, Dr. Richard Yeboah, Prof. Francis Bacho and Dr. Edward Mahama Salifu. Mr. Gilbert Ansoglenang (Assistant Registrar, Graduate School) and Mrs. Juliana Agalga (Secretary, Graduate School) are not left out; their efforts are very much appreciated.

My supervisor, Dr. Francis Obeng, the head of Department of Agricultural Extension, Rural Development and Gender Studies of the Nyankwala Campus of the University, who was also one of the lecturers, deserves a special gratitude for
his fatherly and painstaking guidance given to me during this research. Despite his tight work schedule, he patiently, thoroughly and smoothly took me through the work successfully. In fact, his kind and envious supervision is highly appreciated.

The works of the authorities, teachers, students and parents of students of Kanton Senior High School (KSHS) and Tumu Senior High Technical School (TSHTS) in the district towards the success of this study are not forgotten. I sincerely thank them for their great assistance given to me during the data collection. Indeed, as respondents, they facilitated the data collection process; and provided me with relevant research data. The efforts of Mr. Aburiya Samuel of KSHS and Mr. Tunti Yaw Dominic and Nansia Iddrisu of TSHT who assisted me in the gathering of the research data are also highly acknowledged.

To all others who have contributed in diverse ways towards the success of this work but are not mentioned above, I say your kind and essential assistance offered me in various ways towards the successful completion of this work are very much remembered.
DEDICATION

This work is dedicated to my wife – Martha Badu; children – Diana Adeweh, Martin Atudeko and Bruno Wewonno; mother – Regina Gesika and father – Kaduga Zantera.
# TABLE OF CONTENTS

Declaration............................................................................................................. i

Abstract................................................................................................................... ii

Acknowledgement................................................................................................... iii

Dedication.................................................................................................................. v

Table of Contents.................................................................................................... vi

List of Tables........................................................................................................... xii

List of Figures.......................................................................................................... xv

List of Acronyms..................................................................................................... xvi

CHAPTER ONE: **INTRODUCTION**........................................................................... 1 - 14

1.1 Background information..................................................................................... 1

1.2 Research Problem.............................................................................................. 4

1.3 Research Questions........................................................................................... 9

1.4 Research Objectives......................................................................................... 10

1.5 Justification of Study....................................................................................... 11

1.6 Organisation of Study...................................................................................... 13
CHAPTER TWO: LITERATURE REVIEW .................................................. 15 – 28

2.0 Introduction ................................................................................. 15

2.1 The concept of education .......................................................... 15

2.2 Formal Education (Schooling) .................................................... 16

   2.2.1 Basic Philosophies of Formal Education .............................. 18

   2.2.2 The Output of Formal Education .......................................... 18

   2.2.3 Formal Education as an Investment ...................................... 20

2.3 Academic Performance of Students .......................................... 21

   2.3.1 Factors Affecting Students Academic Performance .............. 22

CHAPTER THREE: RESEARCH METHODOLOGY ................................. 29 – 64

3.0 Introduction ................................................................................. 29

3.1 Profile of Study District ............................................................. 29

   3.1.1 Location and Population .................................................... 26

   3.1.2 Relief and Drainage ............................................................ 31

   3.1.3 Climate and Vegetation ...................................................... 32

   3.1.4 Geology and Soil ............................................................... 32

   3.1.5 Political Structure ............................................................. 33
3.1.6 Economic and Agricultural Activities ........................................ 36

3.1.7 Education ............................................................................ 36

3.1.8 Ethnicity and Religion ............................................................ 37

3.1.9 Spatial Organisation .............................................................. 37

3.2 Research Approach ................................................................. 39

3.3 Research Design ..................................................................... 41

3.4 Study Population .................................................................... 43

3.4.1 Sample Frame and Size ....................................................... 44

3.4.2 Sampling Techniques ........................................................... 46

3.5 Data Collection Approach ....................................................... 48

3.5.1 Sources of Data ................................................................ 48

3.5.2 Types of Data .................................................................... 49

3.5.3 Data Collection Phases ....................................................... 50

3.5.4 Data Collection Techniques ............................................... 53

3.6 Data Analysis Approach ......................................................... 59

3.6.1 Data Analysis Process .......................................................... 59

3.6.2 Data Analysis Techniques ................................................... 60
CHAPTER FOUR: RESEARCH RESULTS AND DISCUSSIONS.... 65 – 102

4.0 Introduction................................................................................................... 65

4.1 Demographic Characteristics of Respondents............................................... 65

4.1.1 Age................................................................................................. 65

4.1.2 Gender.............................................................................................. 66

4.1.3 Religion............................................................................................. 67

4.1.4 Educational Status............................................................................. 68

4.1.5 Marital Status..................................................................................... 69

4.1.6 Occupation........................................................................................ 70

4.2 Factors that determine Academic Performance of Students......................... 71

4.2.1 The Identified Factors........................................................................ 71

4.2.2 The Effects of the Factors on Students’ Academic Performance............. 73

4.2.2.1 Effect of Availability of Educational Facilities and on Students’ 
Performance................................................................................................. 75

4.2.2.2 Effect of Availability of Competent Teachers on Students’ 
Performance................................................................................................. 78

4.2.2.3 Effect of Availability of Teaching and Learning Materials on
4.2.2.4 Effect of Health Status of Students on Students’ Performance........... 82
4.2.2.5 Effect of Level of Teacher Motivation on Students’ Performance......... 84
4.2.2.6 Effect of Level of Discipline on Students’ Performance.......................... 86
4.2.2.7 Effect of Situation of Supervision on Students’ Performance............... 88
4.2.2.8 Effect of Class Sizes on Students’ Performance................................. 90
4.2.2.9 Effect of Level of Parental Care on Students’ Performance................... 92
4.2.2.10 Effect of Socio-Economic Status of Parents on Students’
Performance........................................................................................................ 93
4.2.2.11 Effect of Time Spent on Teaching and Learning on Students’
Performance........................................................................................................ 95
4.2.2.12 Effect of Environmental Conditions on Students’ Performance............ 97
4.2.2.13 The key factors identified among the others. ....................................... 98
4.2.2.1.14 Relationship between the key factors and the students’
performance....................................................................................................... 100
CHAPTER FIVE: SUMMARY OF RESEARCH FINDINGS, CONCLUSION
AND RECOMMENDATIONS 103 - 115

5.1 Summary of Research Findings .................................................. 103

5.1.1 Identification of Factors ....................................................... 103

5.1.2 Assessment of the effects of the factors on Students’ Performance ... 103

5.2 Conclusion .............................................................................. 111

5.3 Recommendation .................................................................... 111

REFERENCES .................................................................................. 116–122

APPENDICES ................................................................................ 123 – 145

Appendix I: Questionnaire for Students ........................................... 123

Appendix II: Questionnaire for Teachers .......................................... 130

Appendix III: Questionnaire for Parents ........................................... 137

Appendix IV: Supplementary Questionnaire for Students ............... 141

Appendix V: Interview Guides for Respondents ............................... 144
LIST OF TABLES

1.1 WASSCE Examination pass rates by region and subjects, 2012 .................. 6
1.2 Students WASSCE examination performance by grades obtained in
Sissala East district (2000 - 2009) ............................................................... 7
3.1 Samples of Respondents for the Research ............................................. 45
4.1 Age distribution of respondents .......................................................... 66
4.2 Gender distribution of respondents ..................................................... 67
4.3 Religious distribution of respondents ................................................... 68
4.4 Educational distribution of respondents .............................................. 69
4.5 Marital status of teacher and parent respondents ............................... 70
4.6 Occupational distribution of parents .................................................. 71
4.7 Factors that determine Academic Performance of Students .................. 72
4.8 Perceived levels of significance of factors affecting academic performance of
students in secondary schools in the district .......................................... 74
4.9 Perceived effects of factors determining availability of educational facilities on
students' academic performance .............................................................. 76
4.10 Perceived effects of factors determining availability of competent teachers on
students' academic performance ............................................................. 79
4.11 Perceived effects of factors determining availability of teaching and learning material on students' academic performance........................................... 81

4.12 Perceived effects of health status of students on students' academic performance................................................................. 84

4.13 Perceived effects of factors determining level of teacher motivation on students' academic performance........................................... 85

4.14 Perceived effects of factors determining level of discipline on students' academic performance.................................................. 87

4.15 Perceived effects of factors determining level of supervision on students' academic performance........................................... 89

4.16 Perceived effects of class sizes of students on students' academic performance........................................................................ 91

4.17 Perceived effects of factors determining level of parental care on students' academic performance........................................... 92

4.18 Perceived effects of factors determining level of socio-economic status of parents on students' academic performance..................... 94

4.19 Perceived effects of time spent on teaching and learning on students' academic performance.................................................. 94
academic performance................................................................. 96

4.20 Perceived effects of environmental conditions on students’ academic performance......................................................... 97

4.21 Key factors that affect students’ academic performance in the schools.................................................................................. 99

4.22 Results of regression analysis on the relationship between the five (5) key factors and the students’ academic performance..................................................... 101
LIST OF FIGURES

1.1 National WASSCE Performance trends in core subjects (2006-2012)............. 5

3.1 Linkages between traditional and modern political structures..................... 34

3.2 Map of Upper West Region of Ghana locating Sissala East District............ 35

3.3 Functional map of Sissala East District (2010)........................................ 38
LIST OF ACRONYMS

AEF – Availability of Educational Facilities
ATLM – Availability of Teaching and Learning Materials
ATR – African Traditional Religion
ACT – Availability of Competent Teachers
CA – Continuous Assessment
CRS – Christian Religious Studies
CS – Class Size
DCD – District Coordinating Director
DCE – District Chief Executive
EC – Environmental Conditions
GES – Ghana Education Service
GNAT – Ghana National Association of Teachers
HSS – Health Status of Students
IRS – Islamic Religious Studies
KSHS – Kanton Senior High School
LoD – Level of Discipline
LoS – Level of Supervision
LPC – Level of Parental Care
LTM – Level of Teacher Motivation
MOE – Ministry of Education
NAGRAT – National Association of Graduate Teachers
NGO – Non Governmental Organisation
NHIS – National Health Insurance Scheme
PTA – Parent Teacher Association
SMC – School Management Committees
SSA – Sub Saharan Africa
SSP – Socio-economic Status of Parents
SSSCE – Senior Secondary School Certificate Examination
TLMs – Teaching and Learning Materials
TSHTS – Tumu Senior High Technical School
TSTL – Time Spent on Teaching and Learning
WAEC – West African Examination Council
WASSCE – West African Secondary School Certificate Examination
CHAPTER ONE

1 INTRODUCTION

1.1 BACKGROUND INFORMATION

The concept of education involves both formal and informal education provided by formal and informal institutions worldwide. Formal education (schooling) is that somewhat restricted part of education which is given by professional educators to those who come under their tutelage in organised institutions of learning. This form of education has prescribed curriculum and detail syllabuses. It is through this form of education that people are identified and selected for further education and employment; by means of test or examination and certification (Vaisey, 1973).

Formal education in the contemporary world is regarded as a form of investment. Thus it is seen as something that is purchased today for the sake of the benefits which are expected to yield in future (Sheehan, 1973). Investment in education is carried out by interested investors for future social and economic benefits. These expected social and economic benefits include high income earnings, high status acquisition, gaining of prestige and community development among others. Individuals, families, societies, organisations, communities, nations and international bodies therefore invest financially and physically in the education of their wards or members in anticipation of these future economic and social benefits. In line with this, Woodhall (1972) stated that education is ultimately financed either directly or indirectly by private individuals or by enterprises such
as business firms, churches or charitable organisations by means of fees, endowments, taxes and rates.

The ultimate goal of education is happier and more fulfilled life for families and development for societies (Vaisey, 1973). This goal is achieved by means of training people from childhood at the basic education level to adulthood at the tertiary education level. In this training process is a critical stage named second cycle education. This stage of the educational process is viewed as a critical one because it is a stage at which a student’s future career is determined. It is at this stage that the decision about the student’s future career or profession is taken. Thus the student’s desire to become a nurse, a teacher, a doctor, a manager, an engineer, a lawyer, an accountant, to mention but few in the future is determined at this stage. Second cycle education is obtained at Senior High, Technical or Vocational Schools; and is considered both as a terminal for entry into the world of work, and a preparatory stage for entry into tertiary education (Sekyere, 2010). The success or failure in the life of a student therefore, begins at this phase of the educational process. In this respect schools are expected to justify spending of huge sums of money by governments, organisations and individuals on education by producing people who can help hasten the pace of development. That is to produce people of high calibre who can transform our societies into richer and happier societies (Bledge, 1986: 8).

The production of this high calibre of people who would help propel national development highly depends on the academic performance of such people in their schooling process; especially at the second cycle stage. Many of the students who
perform well in their final examinations at this level may eventually become professionals and may contribute greatly to national development; whereas some of those who perform poorly may eventually become social deviants and may threaten national development. In view of this, the academic performance of students in second cycle institutions is very crucial to national development. Despite the crucial role education plays in national development, performance of students in second cycle institutions in recent years is not the best. This calls for measures to be put in place in order to ensure good student academic performance in such institutions in the nation.

The performance of students in second cycle institutions worldwide is determined by various factors. These factors vary from one institution to the other depending on the location of the institution. The factors, with regards to a particular school, may be identified as either internal or external or a combination of the two. The factors are usually and largely administrative, economic, social and environmental in nature; and are most often linked to the government, the school, the teachers, the parents and the students. The degree of influence of a factor on the performance of the students, however, depends largely on the prevailing situation. The factors are usually several and interlinked.

This study specifically focused on the various factors that determine the academic performance of the students of second cycle institutions in the Sissala East district of the Upper West region. Much emphasis is placed on the identification and assessment of the effects of these factors on student performance.
1.2 RESEARCH PROBLEM

Over the years, there has been poor academic performance of students in second cycle institutions in the country; particularly Sissala East District. That is, academic performance of students in second cycle institutions in Ghana as a whole and Sissala East district in particular has been low for years; a situation that is of great concern to Ghanaians, especially stakeholders in the educational sector; and as such, needs serious and urgent intervention. Records show that a large number of students either fail or obtain poor grades in their registered subjects especially the core ones; which cannot qualify them for further education (WAEC, 2008). See figure 1.1 for students' academic performance trends in the core subjects nationally for the period 2006 – 2012.

![Graph showing academic performance trends in core subjects (2006-2012)](source: Educational Sector Performance Report)

Figure 1.1: National WASSCE Performance Trends in Core Subjects (2006-2012)
The inability of these students to continue their education in the tertiary and other professional institutions to train and become doctors, lawyers, nurses and engineers among others therefore leaves their future undetermined.

The performance of students in second cycle institutions in the country is ultimately assessed by West African Examination Council (WAEC) by means of West African Secondary School Certificate Examination (WASSCE) formally Senior Secondary School Certificate Examination (SSSCE). Records of students' performance, especially in the core subjects nationally and Upper West Region in particular are below expectation. Nationally, except social studies which has a record of 87%, the pass rates range from 50% (Core Mathematics) to 68% (English Language). The region has a pass record range of 54% (Core Mathematics) to 70% (Integrated Science); with only Social Studies recording a pass rate of 89%. This poor performance of students in their external examinations in the nation and for that matter the region has prevailed for more than a decade now (WAEC, 2008). See table 1.1 for the national and regional WASSCE examination performance levels in core subjects of the 2012 candidates.
Table 1.1: WASSCE Examination Pass Rates by Region and Subject, 2012

<table>
<thead>
<tr>
<th>Region</th>
<th>English Language</th>
<th>Mathematics (Core)</th>
<th>Integrated Science</th>
<th>Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern</td>
<td>76%</td>
<td>57%</td>
<td>64%</td>
<td>91%</td>
</tr>
<tr>
<td>Greater Accra</td>
<td>73%</td>
<td>43%</td>
<td>57%</td>
<td>83%</td>
</tr>
<tr>
<td>Brong Ahafo</td>
<td>70%</td>
<td>56%</td>
<td>58%</td>
<td>90%</td>
</tr>
<tr>
<td>Volta</td>
<td>68%</td>
<td>38%</td>
<td>50%</td>
<td>79%</td>
</tr>
<tr>
<td>Ashanti</td>
<td>68%</td>
<td>53%</td>
<td>57%</td>
<td>90%</td>
</tr>
<tr>
<td>Central</td>
<td>68%</td>
<td>48%</td>
<td>54%</td>
<td>88%</td>
</tr>
<tr>
<td>Western</td>
<td>66%</td>
<td>55%</td>
<td>56%</td>
<td>91%</td>
</tr>
<tr>
<td>Upper West</td>
<td>65%</td>
<td>54%</td>
<td>70%</td>
<td>89%</td>
</tr>
<tr>
<td>Upper East</td>
<td>62%</td>
<td>54%</td>
<td>66%</td>
<td>91%</td>
</tr>
<tr>
<td>Northern</td>
<td>48%</td>
<td>34%</td>
<td>41%</td>
<td>72%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>68%</strong></td>
<td><strong>50%</strong></td>
<td><strong>57%</strong></td>
<td><strong>87%</strong></td>
</tr>
</tbody>
</table>

Source: Educational Sector Performance Report

The performances of students in the second cycle institutions in the district follow the trend of the performance of the region. Few of the students pass yearly with grades (Grades A – C6) in their subjects which can qualify them for further education in the higher institutions in the country. Many however obtain weak pass grades (grades D7 – F9) which cannot qualify them for further studies in the higher institutions of learning. See Table 1.2 for the academic performance trends of the second cycle schools in the district for the period 2000 – 2009.
<table>
<thead>
<tr>
<th>Year</th>
<th>Exam</th>
<th>Number of candidates obtaining each grade</th>
<th>Total No. Pass (A-E)</th>
<th>Pass %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SSSCE</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WASSCE</td>
<td>A1</td>
<td>B2</td>
</tr>
<tr>
<td>2000</td>
<td>KSHS</td>
<td>2</td>
<td>30</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>1</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>2001</td>
<td>KSHS</td>
<td>7</td>
<td>62</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>-</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>2002</td>
<td>KSHS</td>
<td>7</td>
<td>65</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>-</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>2003</td>
<td>KSHS</td>
<td>9</td>
<td>69</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>3</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>2004</td>
<td>KSHS</td>
<td>15</td>
<td>82</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>3</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>2005</td>
<td>KSHS</td>
<td>42</td>
<td>183</td>
<td>217</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>1</td>
<td>7</td>
<td>31</td>
</tr>
<tr>
<td>2006</td>
<td>KSHS</td>
<td>28</td>
<td>43</td>
<td>226</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>-</td>
<td>-</td>
<td>17</td>
</tr>
<tr>
<td>2007</td>
<td>KSHS</td>
<td>61</td>
<td>54</td>
<td>302</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>-</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>2008</td>
<td>KSHS</td>
<td>54</td>
<td>42</td>
<td>272</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>1</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>2009</td>
<td>KSHS</td>
<td>57</td>
<td>66</td>
<td>326</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>-</td>
<td>-</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: Documents of schools’ examination offices.
Public reactions to these poor results of the students indicate that the results are far below the expectation of investors and/or beneficiaries in the sector. The implication is that few of the students who take the examinations secure places in the tertiary and other higher institutions of learning annually to pursue courses/programmes in disciplines of their choices.

Many other students who fall outside these categories of students over the years are dropped and left alone to their own fate. Some of such students eventually learn technical and vocational trades to enable them earn living in the future. A number of the failed students at this level who cannot retake the examinations or find places to learn trades migrate to the already overpopulated urban areas searching for non-existent jobs. Some of them take to the streets doing hawking and other related jobs. Indeed, a good number of these drop-outs virtually idle about in the rural and urban areas. Any of these activities expose(s) the drop-outs to a high risk of social vices such as armed robbery, prostitution and drug abuse among others. These social vices that come as a result of the poor academic performance of the students constitute a serious threat to the socio-economic development of the nation.

In fact, Governments, organisations, religious bodies, and individuals heavily invest their scarce resources in education with the aim of making economic and social gains; and ultimately, attaining high quality of life and development in the future (Sheehan, 1973; Vaisey, 1973). The investors’ dream of meeting this objective would therefore become a reality only if the students go through their education successfully. That is, the students obtaining good final examination
results. Where the students obtain poor final examination results, the investors’
dream of meeting the objective becomes a mirage. This loss to the investors most
often discourages them from making further investments in the sector which
threatens the development of communities and states.

The academic performance – good or bad – of students in second cycle institutions
in the country in general and in the Sissala East district in particular is determined
by several factors. Thus the successes or failures of the students in the district’s
second cycle institutions are attributed to certain factors. Though some of these
factors are known, several others are yet to be identified and assessed as to how
they determine the performance of the students. This study therefore sought to
determine the effects of these factors on the performance of students in second
cycle institutions in the district.

1.3.0 RESEARCH QUESTIONS

1.3.1 Main Question

What factors determine students’ academic performance; and how significantly do
these factors determine the academic performance of students at the Senior High
School Level in the Sissala East District?

1.3.2 Sub-questions

1. What are the demographic characteristics of the respondents of the study in the
   Sissala East district?

2. What factors determine students’ academic performance at the Senior High
School level in the Sissala East District?

3. How significantly do the factors determine the academic performance of students at the Senior High School level in the Sissala East District?

4. Which of the factors are the key ones that determine students’ academic performance at the Senior High School level in the Sissala East District?

5. What is the relationship between the key factors and the students’ academic performance at the Senior High School Level in the Sissala East District?

1.4.0 RESEARCH OBJECTIVES

1.4.1 Main Objective

To identify the factors that determine students’ academic performance; and assess how significantly these factors determine the academic performance of students at the Senior High School level in the Sissala East District.

1.4.2 Specific objectives

1. To examine the demographic characteristics of the respondents of the study in the Sissala East District.

2. To identify factors that determine students’ academic performance at the Senior High School level in the Sissala East District.

3. To assess how significantly these factors determine the academic performance of students at the Senior High School level in the Sissala East District.
4. To identify among the factors the key ones that determine students' academic performance at the Senior High School level in the Sissala East District.

5. To establish the relationship between the key factors and the students' academic performance at the Senior High School level in the Sissala East District.

1.5 JUSTIFICATION OF STUDY

Governments, schools, parents/communities, organisations and students contribute in diverse ways towards the success of education. These stakeholders/partners in education are therefore responsible for its successes and failures. Education, especially second cycle education in a country is however regarded as a successful one if students' performance levels are high (World Bank, 2008).

Secondary education in Ghana is provided by many public and private institutions. These institutions vary from the well endowed ones in the urban areas to the deprived ones in the rural areas. Irrespective of the location and status of the institutions attended by the students however, the investors are much mindful of the performance of the students in whose education they invest their scarce resources. This is for the reason that the investors as individuals, organisations and nations have economic and social developmental motives (Sheehan, 1973). In this respect, good academic performance of the students, especially in the second cycle institutions of the district is the primary objective of all those who invest in the education of the students; hence the relevance of the study.
The study is therefore expected to contribute to community and national development in the following manner:

The findings of the study will inform the public, especially stakeholders and development agents about the kind of factors that influence academic performance of students in second cycle institutions in the nation in general and in the Sissala East district in particular. This information would serve as a data base for future planning purposes.

The research results revealed to the general public the availability levels of the factors such as educational facilities, teaching and learning materials and competent teachers among others; and levels of discipline, supervision and class sizes among others in the schools. Based on this information, measures would be taken to improve upon their situations for better teaching and learning in the schools.

As a result of the study also, levels of parental care, health status of students and time spent on teaching and learning would be improved to ensure good health and parental care for the students. Adequate time would also be made available for the students to have effective learning in the schools.

The study is also useful to the teachers for the reason that its recommendations would lead to high level of teacher motivation (improvement of teachers’ salary levels and providing them with accommodation) and provision of adequate
teaching and learning materials which would ensure effective teaching by the teachers of the schools for better student results.

The research results are of relevance to the parents in the sense that the health status and discipline levels of their wards would be improved to enable them learn effectively in the schools. The results of the study would also lead to the improvement of the socio-economic status of the parents to enable them offer better assistance to their wards in the schools.

The information gathered as a result of the study which is specifically on factors that determine the performance of students in second cycle institutions in the Sissala East district would also serve as a source of relevant information for further research works by researchers; and reference material for the general public, especially educationists.

1.6 ORGANISATION OF THE STUDY

The study is organised in a structure of five major chapters. The study began with an introductory chapter (Chapter 1) which embodied background to the study, problem statement, research questions and objectives, intended benefits and the organisation of the study. The introduction is followed by a literature review (Chapter 2) which examined relevant literature of the study. The next chapter (Chapter 3) of the study is research methodology which assessed the various
research methodologies employed in the study – their theoretical basis; and for what, how, when and why they are used in the study. Following the research methodology is chapter 4 which deals with research results and discussions. It examined how the research data is organised and summarised; and the research results obtained and discussed. The last chapter (Chapter 5) of the study embodies the summary of the research findings, conclusions of the study and recommendations for the attention of concerned individuals and organisations in addressing the problem.
CHAPTER TWO

2 LITERATURE REVIEW

2.0 INTRODUCTION

This chapter examines the review of all relevant literature on the topic. It examined critically the documented theoretical dimensions of the concept involving education and academic performance of students in second cycle institutions. Specifically however, literature related to formal education - its philosophies, financing, and output and investment status - is critically reviewed. Also, literature on students' performance assessment and grading systems; and factors affecting the students' academic performance are critically reviewed.

2.1 THE CONCEPT OF EDUCATION

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) (2006) International Standard Classification, “Education” is viewed to comprise of organised and sustained communication designed to bring about learning. It involves activities both outside and inside institutions of learning; aiming at reforming the child for the better. It is regarded as very essential for meeting the individual and societal needs of people. Ultimately therefore, education is aimed at transforming our societies into richer and happier societies (Bledge, 1986).

In the view of John Stuart Mill (a philosopher) quoted in Agyeman (1993), Education is defined as “the totality of influence that nature or other men are able
to exercise either on our intelligence or on our will." He asserted that education includes "all that we ourselves do and all that others do for us to the end of bringing us closer to perfection of our nature." According to Mill, the objective of education is to "make the individual an instrument of happiness for himself and his fellow." This concept of education places emphasis on the perfection of man's nature through the development of his mental, physical and psychic faculties (Agyeman, 1993).

Basically, education is classified into two major types. These are the informal and formal types of education. This classification of educational typology is based largely on the functions performed by the education. Each type of education is, however, adopted based on the set objectives of the society involved. Informal education is carried out outside organised institutions of learning whereas formal education is carried out in organised formal institutions of learning. It is believed by many people world-wide in recent years however, that due to high concentration on schooling, formal education is gradually replacing the informal type of education by means of assuming its functions (Thompson, 1981). In the context of this study however, emphasis is placed on the formal education for the reason that the study is examining factors that determine the academic performance of students in second cycle institutions in the district.

2.2 FORMAL EDUCATION (SCHOOLING)

Formal education is strictly carried out in organised formal institutions of learning in accordance with laid-down guidelines and procedures; and under specified
conditions. Formal education is that part of education which is given by those who have professional expertise in education to those who need it in organised institutions of learning. In this view, formal education is distinguished from informal education in terms of its outward characteristics rather than its basic function. This form of education has prescribed curriculum and syllabuses for adoption; and it is through this type of education that people are identified and selected by means of examination and certification for further education and gaining employment.

Formal education in the contemporary world therefore has social and economic values. The ultimate goal of formal education is to prepare the learners to play social roles so that the society will be assured of its continued existence and survival. Among these social roles, the most basic one for individual and collective survival is the economic role. For that reason, education has been described as the process of preparing the learners to acquire the skills necessary to enter the economy. Thus, school education in the modern world has been viewed as “labour force preparation.” In this regard, Swift (1969: 102) cited in Agyeman (1993) stated that education mainly influences the development of the economy through its effect upon the social, physical and intellectual skills of its products – the learners.

The study in this respect focuses on the progression of the students from the stage of second cycle institutions to institutions of higher learning or world of employment. That is, how students would learn effectively in second cycle
institutions in order to improve upon their performance for economic gains in the interest of the students themselves, their families and societies in which they live.

2.2.1 Basic Philosophies of Formal Education

There are three basic philosophies in formal education. In the opinion of Thompson (1981), schooling is viewed to be essentially:

- **Conservative:** That is, formal education is meant to conserve traditional values of a society in the rising generations of societies. In this sense, formal education plays the role of socialisation which hitherto was the preserved function of informal education.

- **Innovative:** This means formal education is seen as an instrument meant purposely for initiating, controlling and directing positive change in society.

- **Liberative:** By this philosophy, schooling is meant for freeing individuals from their cultural and intellectual blinkers. Thus, formal education allows individuals to make their decisions free from cultural barriers.

These philosophies of formal education are in the same way applicable to the Sissala East of northern Ghana as it is applicable in the rest of the districts or/and societies in the world.

2.2.2 The output of formal education

In recent years, there has been a general ‘explosion’ of educational demand in many countries. In response to this, almost all countries including the poor
developing ones world-wide have adopted as one of their priorities; a policy of universal primary and secondary education. As a result, there has been an enormous growth in enrolments in schools. Enrolments in secondary education vary across countries in Sub Saharan Africa (SSA) due to population sizes and educational policies (World Bank, 2008). Enrolments in Ghana in particular and Sub Saharan Africa in general are high; and have increased rapidly in recent years. Enrolment figures of UNESCO (2006) cited in World Bank (2008) indicates that the enrolments in Ghana and Sub Saharan Africa stood at 3,412,740 and 61,148,360 respectively.

This growth in enrolments in secondary education in the last quarter of the century is an indication that millions of families believe that education has something (output) for them and their children; and this output can be measured in terms of objectives or purpose (Vaizey, 1973). Vaizey stated the objectives (purpose) of schooling to the families as:

- To give the child happier and more fulfilled life.
- To socialize the child for his or her proper integration into the society.

The achievement of these objectives by the families of the students, however, depends largely on the performance of the students in their schooling times. The achievement of the objectives is more often highly assured if the student’s performance is good. The objectives of families in Sisala East district for investing
in the education of their children cannot be different from parents in other parts of the world.

2.2.3 Formal Education as an Investment

Investment involves committing resources into a business with the aim of making gains in the future. Education as an investment connotes that education is not pursued for the sake of pursuing it (consumption) but for the sake of making future gains (investment). Thus education as an investment is regarded as a commodity which is purchased for the sake of the benefits which are expected to yield in future (Sheehan, 1973).

Investment in Education can take the form of either personal or social. The concept of education as a personal investment implies that education is purchased by individual people for future gains such as high income levels, high standard of living and high level of social status among others. Education as social investment on the other hand implies that resources are committed into education for the general future benefit of family members, neighbours, work colleagues, community and the like. In this regard therefore, education is viewed philosophically, and in a more economic terms as a means to an end but not an end in itself (O’Donoghue, 1971).
The indication therefore is that individuals, families, societies and communities invest in education for future benefits. In this respect, future benefits of education in the interest of the investors are indeed a driving force for them to invest further in the sector. Investors in education in the Sissala East district either as individuals or societies or communities share the same motive of obtaining future benefits for investing in the sector.

2.3. ACADEMIC PERFORMANCE OF STUDENTS

Academic performance is academic achievement gained by pupils/students over time. Academic performance consists of how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. The success or failure of students and schools is therefore highly determined by the performance of the students in the schools (World Bank, 2008). Despite several criticisms levelled against examination as the major indicator for measuring performance in schools, performance in examinations is still the most reliable indicator of the success or failure of schools in their primary function of educating children in the elements of literacy, numerals and some knowledge and understanding of our intellectual heritage (Dennison, 1984). The academic performance of students, especially those in second cycle institutions is measured largely by means of assessing and grading the students according to their performance levels. The academic of students in the Sissala East district is measured by the same of examination

www.udsspace.uds.edu.gh
2.3.1 Factors Affecting Students' Academic Performance

The literature on factors affecting students' performance was largely sourced from the works of some authors and researchers who set out to investigate such factors. Ehrenberg and Brewer (1994), cited in Oredein and Oloyede (2007) highlighted seven important factors an effective school must exhibit. These include: instructional leadership, clear and focused mission, safe and orderly environment and climate of high expectation, frequent monitoring of students' progress and teachers' performance, positive home-school relations and opportunity to learn and student time on task.

2.3.1.1 Educational Facilities

Facilities in schools in SSA are often sub-standard, especially in rural areas where they are the barest necessities for adequate teaching and learning. Some countries, notably Ghana and South Africa channel large portions of their available funding to less well endowed schools. UNESCO (2006) cited in World Bank (2008) that, in South Africa for instance, the poorest 20% schools receive 35% of the resources. Availability of educational facilities is a crucial factor that determines students' performance. Investigating whether availability of educational facilities has effect on students' performance, Olufunke (2012) established in a study that availability of such facilities, especially Physics laboratories, have significant effect on students' performance. Similarly, Owoeye and Yara (2011) also realised...
in their study conducted with same objective that availability of educational facilities has significant effect on the performance of students. On the contrary however, Sabitu, Batunde and Oluwole (2011) on their part revealed in their study that availability of educational facilities has no significant effect on students' performance; especially public and private schools.

2.3.1.2 Competent Teachers

In a study conducted by Oredein and Oloyede (2007) to find out the effect of availability of competent teachers on students' performance, they found out that availability of competent teachers in the schools has a significant effect on the performance of the students. Similar results were recorded by Lai, Sadoulet and Janvry (2007).

2.3.1.3 Teaching and Learning Materials

Teaching and learning materials constitute an important factor that determines students' academic performance. This is revealed by some researchers in their studies. Oladejo, Olosunde and Ojebisi (2011) in their study arrived at the conclusion that availability and use of instructional materials have significant effect on the performance of students in schools. Sharing the same view with these writers are Oguntuase, Awe and Ajayi (2013) who also concluded in their study that availability of teaching and learning materials has a significant influence on
students' performance. Similarly, Dahar and Faize (2011) established in their study that the availability of instructional materials, especially textbooks have significant effect on students' academic performance.

2.3.1.4 Teacher Motivation

Some studies have shown that teacher motivation affects students' academic performance significantly. Adedeji (2007) established in his study that motivation for teachers and students has significant impact on the achievement of secondary school students. Contrary to his study results, McKinney (2000) established in her study that, teacher motivation has no significant effect on students’ academic achievement. This was established when she set out to assess the relationships among student achievement, teacher motivation and incentive pay.

2.3.1.5 Health Status of Students

Rothestein (2004) tried to find out in his study also whether the health status of students has significant effect on the performance of the students. The results of his study however showed that health status of students has no significant effect on their academic performance.
2.3.1.6 Discipline

Discipline among students in schools in recent years continued to be a major worry both to educators and the general public. Studies have shown that level of discipline in schools affect significantly the performance of the students. The results of the study by Karanja and Bowen (2012) finding out the relationship between discipline and students' academic performance, have revealed that the performance of students in Secondary Schools is significantly influenced by the level of discipline prevailing in the schools. Mumo (2004) cited in Karanja and Bowen (2012) also established in her studies with the same objective that discipline is very vital for students’ academic performance and social successes.

2.3.1.7 Supervision

Supervision has been conceptualized differently by different writers. Ministries of Education consider supervision as an attempt through second party intervention to ascertain, maintain and improve the quality of work done (Olembo et al., 1992). According to Olivia (1976) supervision is a service to teachers, both as individuals and in groups, as a means of offering specialized help in improving instruction. Okumbe (1999) considers supervision as an administrative strategy aimed at stimulating teachers towards greater pedagogic effectiveness and productivity. In this respect, it is argued that the process of teaching and learning functions efficiently if there is proper system of supervision.
In a study, Oredein and Oloyede (2007) found out that supervision in the schools have significant effect on the performance of the students. Too, Kimutai and Kosgei (2012) also share a similar view with Oredein and Oloyede when they also established in their study that supervision has positive relationship with students’ performance in schools.

2.3.1.8 Class Size (Student/Teacher Ratio)

On the student/ teacher ratio, Kershaw (1965) argued that there is significant difference between class situations of high and low student/teacher ratios. In his opinion, smaller class sizes guarantee good students performance. He established that the maximum student/teacher ratio should be 30. He added that any ratio greater than this is regarded indecent; hence causes a rapid fall in the quality of education. The fact is however that the ‘best’ ratio undoubtedly varies greatly according to the subject, the teacher, the method of instruction and other variables (Kershaw, 1965). The research results of the study of Dennison (1984), who tried to find out whether class size has influence on students' academic performance, are however contrary to that of Kershaw. The results of his study established that class size does not influence significantly the performance of students. Thus, smaller class sizes do not guarantee good performance of students or pupils.

2.3.1.9 Expenditure (Parental Care) and parental involvement

In a study to find out whether the performance of children/students in schools is influenced by care for students by their parents, the research results of Dennison (1984) showed that high expenditure on children/students in school by their parents does not guarantee good results but rather encourage poor results. Thus, there is no significant difference in academic performance between students on whom high expenditure is made by their parents and those on whom low expenditure is made.

2.3.1.10 Social-economic Status of parents

In the view of Rothestein (2004), parents of different occupation classes often have different styles of child rearing, different ways of disciplining their children and different ways of reacting to their children. He established in his study that socio-economic status of parents has no significant effect on the performance of students. He further established specifically that parental educational status has no significant effect on students' academic performance. Dennison (1984) also tried to find out in his study whether there is significant difference in the performance
of children of parents of high, average and low occupations. The research results showed that there is no significant difference in performance of children of parents of these social classes.

2.3.1.11 Time spent on task (Teaching and Learning)

In Sub Saharan Africa, there has been limited time spent on task which strongly influences students’ performance. The reasons for this limited time on task include low time allocation for teachers, absenteeism, lack of discipline, lack of teaching materials and a large number of co-curricular activities, among others. In South Africa, teachers spend less time on teaching (46 percent) than on administrative duties (World Bank, 2008)

2.3.1.12 Environmental Conditions

Berry (2002) tried to find out in his study whether environmental conditions in schools have significant effect on students’ performance. The results of his study indicated that environmental conditions, especially cleaning effectiveness and sanitation in schools have significant effect on students’ academic performance.

These factors determine the academic performance of students in the Sissala East district as they do to the academic performance of students in the rest of the world; hence the need for the study.
CHAPTER THREE

3 RESEARCH METHODOLOGY

3.0 INTRODUCTION

This chapter basically describes the way the research is carried out. It presents a vivid explanation of the profile of the study area, the research design adopted, sampling methods used and the approaches of data collection and analysis. The selection of a suitable research methodology is however determined by certain important factors. These factors among others are the purpose (goal and objectives) of the study; the nature of the research problem; the time required; the type of respondents involved; the financial resources available and the research skills of the researcher.

3.1 PROFILE OF STUDY DISTRICT

The profile of the study area in the context of this study is studied to include its location and population, relief and drainage, climate and vegetation, geology and soil, political structure, economic and agricultural activities, education, ethnicity and religion and its spatial organisation.

3.1.1 Location and Population

Sissala East district is one of the old districts in the region but was formerly part of the Sissala district in the late twentieth century. The district is located at the North-Eastern part of the Upper West Region of Ghana. It falls between Longitudes 1.30° W and Latitude 10.00° N and 11.00° N. It shares boundaries with Burkina
Faso on the north; Kassena-Nankana and Builsa Districts on the East; West Manprusi district on the South-East; Wa East and Nadowli Districts on the South-West and Sissala West district on the West. The district is made up of several sub-settlements; with Tumu, Wellembelle and Bugubelle as the only towns and the rest, villages. The district has a land mass of 4,744 square kilometres (26%) of the total landmass of the region. See figure 3.1 for details of the location of Sissala East District in the Upper West Region of Ghana.


**Figure 3.1:** The Map of Upper West Region Locating Sissala East District
The location of the district gives it the advantage of enhancing its socio-economic development through cordial relationships with the neighbouring districts and Burkina Faso. The cordial relationship between the district and the neighbouring districts and Burkina Faso allow for commercial activities to be carried out easily and peacefully in the area. The location of the district however gives it the problem of being threatened by illegal immigrants.

Sissala East district has an estimated total population of 49,835. The population of the district grows at an annual rate of 1.7%. The district has an average population density of 11 persons per square kilometre as compared to the regional and national average densities of 24 and 77 respectively. The sex ratio of the population is 24males: 25females. As high as 57% of the district’s population constitutes dependents, indicating there is high dependency ratio which implies there is much pressure on the active productive populations. The settlement pattern of the district is the highly dispersed type.

3.1.2 Relief and Drainage

The topography of the area is gently slopy. It is characterised by gentle latitudes of between 330m and 365m in the northern part descending to 220m and 290m in the valley of the Sissili River. The district is mainly drained into the White Volta by the Sissili River and its tributaries flowing in the south-eastern direction. The rivers and streams in the area are perennial in nature. They however facilitate the drilling of boreholes in the area which helps reduce the problem of seasonal water shortages in the area.
3.1.3 Climate and Vegetation

The climate of the study area is the Equatorial Savannah type with two distinct seasons – the wet and dry seasons. The wet and rainy season is experienced from April / May to October / November and the dry and drought season from November / December to March / April. The average annual rainfall of the area is 121mm with the least rainfall experienced in April / May and the highest experienced in July / August. The average annual temperature is 33°C with the minimum of 23°C experienced at night in December and the maximum of 42°C experienced during the day in March.

Sissala East district has the Guinea Savannah woodland vegetation type. The area has the semi-forest type with fairly distributed deciduous trees and a lot of shrubs and grasses that get dried up and burnt by bush fires during the long dry season. The trees that have economic value in the area are the Sheanuts and Dawadawa trees. The vegetation of the area is however influenced greatly by the long dry season and the economic activities such as cultivation, bush burning, wood harvesting for fuel and buildings and livestock grazing among others in the area. Most of the trees in the area are however by their nature fire resistant (Kasanga, 1992).

3.1.4 Geology and Soil

The district has granite and bromine rock outcrop characterised by meta-sediments and meta-volcanic rock formation giving it a whale-back landscape appearance. These rocks weather fast as a result of low rainfall; high evaporation and sparse
vegetation cover to form soils of lesser depths rich in minerals such as Savannah Ochrosols, Tropical Brown Earths and Alluvial Soils.

The soil of the study area is the loamy type with traces of sand and clay; and is good for the cultivation of crops such as maize, yam, groundnuts and beans among others. The soil is also good for the cultivation of vegetables such as tomato, pepper and onions among others which is usually done during the dry season by means of small scale irrigation. The area has a flat landscape but dotted with few deposits of igneous rock which constitutes a serious check on the farming activities of the people.

3.1.5 Political Structure (Traditional and Modern)

Traditionally, the district is headed and administered by two paramount chiefs, "Tumu Kuoro" who has his palace at Tumu and "Wellembelle Kuoro" who has his palace at Wellembelle. The paramount chiefs are assisted administratively by councils of elders at their palaces. Each village in the district is also headed and administered by a chief and council of elders. The chiefs of the villages are responsible in some domains of their functions to the paramount chiefs. These village chiefs are also assisted in the performance of their functions by councils of elders at the village level. Besides the chiefs and council of elders in the district, there are clan and sectional heads that also support the chiefs and councils of elders in the performance of their functions. The functions of all these categories of leaders are largely traditional and include performance of ceremonial functions, handling of traditional and land cases, managing local resources, among others.
The modern political structure of the district is similar to that of any district in the country. It is made-up of the district assembly, the town/area council and the unit committees. The district assembly is headed by the District Chief Executive (DCE) who performs his or her functions with the support of the District Coordinating Director (DCD) and other schedule officers such as that of budgeting, planning and procurement among others. The town/area councils and the unit committees also have their appropriate executives who steer the affairs of the areas at the various levels.

Both the traditional and modern political structures facilitate the decision making process in the district. Outcomes of decisions taken at the top levels of both structures are passed down to the ordinary people of the area by means of instructions whereas outcomes of decisions taken at the low levels of the structures are passed up to the top people by means of suggestions. The people at each level of both structures play similar roles at their respective positions. They understand each other and supplement each others’ efforts in any developmental process in the district. Thus there is harmony of roles and functions among the people of both structures. The roles and functions of both the traditional and the modern political systems are therefore similar and interlinked. Refer to figure 3.2 for an Illustration of the relationship between both systems.
Source: Author’s Construct

**Figure 3.2:** The linkage between the traditional and the modern political structures of the district.
3.1.6 Economic and Agricultural Activities

The economy of the district is largely agrarian (69%), service and commerce (15%), and the industrial sector (16%). The Sissala East District is basically rural with more than eighty percent (80%) of the people living in rural settlements and is engaged in farming.

The economic activities of the people in the area are largely dependent on the ecological conditions of the area. In this regard, the people depend heavily on the natural resources of the area for survival. These resources are the wood and forest products, agricultural land, weather conditions and the few water resources among others in the area. Depending on these resources, the people perform economic activities such as cultivation of crops, rearing of livestock, harvesting of fire wood, charcoal burning and trading among others to earn living.

The people of the area are predominantly peasant farmers who cultivate mainly crops such as maize, yam, groundnuts and beans among others. The major limitations of agricultural activities in the area are inadequate rainfall; fast declining of soil fertility; indiscriminate tree felling and bush burning; prevalence of pests and diseases; seasonal migration of the youth to urban areas; low prices for farm products; poor road network; lack of credit facilities for the farmers and lack of irrigation facilities among others.

3.1.7 Education

The District has a district education office with staff strength of about 30 headed by a district director of education. There are also one (1) College of Education,
two (2) Senior High Schools and forty seven (47) Basic Schools in the district. The total pupil/student enrolment in the district is nearly 13,600. Out of this number, about 500 are in the district’s college of education (Tumu College of Education); an estimate of 1300 in the Senior High Schools (Kanton Senoir High School and Tumu Senior High/Technical School); and close to 11800 in the Basic Schools. About 600 teachers work in the district. The daily activities of the school administrators are supported by nearly 40 supporting staff and 130 other workers in the schools. (Zantera, 2008 cited in Apusigah, 2008).

3.1.8 Ethnicity and Religion

The district has four main ethnic groups. These are the Sissalas (88%), Kassenas (5%), Dagabas (3%), Moshies (2%) and other ethnic groups (2%). Despite all the differences in languages and cultural practices among the people of the ethnic groups, they co-exist cordially in the interest of integrated development of the area.

There are three main religions practiced in the area. These religions are the Islam (80%), Christianity (15%) and the Traditional religion (5%). These diverse religions also co-exist cordially which contributes greatly towards the development of the area.

3.1.9 Spatial Organisation

Sissala East district is located in the north eastern part the Upper West region of Ghana. The district has a total of 64 communities with Tumu as the district capital and the largest populated settlement. Other highly populated communities in the
district include Wellembelle, Bugubelle, Chinchen, Taffiasi, Bujan, Nabugubelle, Sakai and Nabulo among others.

As the largest populated settlement in the district, Tumu attracts most economic activities which receive high patronage. The status of Tumu as the district capital has also made it the seat of local government as well the seat of local authority. The long existence of Tumu as the district capital of the then Sissala district and presently the Sissala East district has made it a common area of facility concentration.

Sissala East district is a transit for traders bound for Burkina Faso and this has made it a vibrant commercial district. The district attracts immigrants from the various districts of the nation and Burkina Faso; who stimulate development in the district. Basic facilities and services in the district are not evenly distributed. For instance, out of the 64 communities, only 7 are connected to the national grid.

The district hospital, which is the only standard hospital in the district, is located in Tumu. There are, however, Health centres in the district located in Wellembelle Nabulo, Kulfuo and Kunchogu. Telephone services are more concentrated in Tumu township and its surrounding communities. Mobile telephony operated by MTN, Tigo, Airtell and Vodafone are currently in operation in the district. These cellular communication networks are enhancing socio-economic activities in the district.

Other facilities and infrastructure available in the district are one Post Office, two police stations, one police post, one magistrate court, two commercial banks and
one rural bank. Figure 3.3 below provides a spatial overview of the distribution of services in the district.

![Functionality map of Sissala West District (2010)](image)

Source: Sissala East Community Profile

**Figure 3.3:** Functionality Map of Sissala East District (2010)

### 3.2 RESEARCH APPROACH

Both qualitative and quantitative research approaches are employed in the study. The reason for using both approaches is that they are both necessary and important for the research. Many research experts admit the fact that qualitative and quantitative research approaches exist distinctively; and that the differences
between the two lie in the nature of data gathered by each approach and how each approach treats data (Strauss and Corbin, 1990; Twumasi, 2001). The issue of great concern in social science research, however, is the choice of appropriate research approach for the investigation of a specific problem.

Researchers commonly adopt both research approaches in their studies in order to give more meanings to their research results. The proponents of the various approaches, however, attest to the fact that each is more appropriate; and hence more applicable in certain situations than the other. It is ascertained that the quantitative approach is more appropriate in a clearly defined research situation with simple and specific questions; whereas the qualitative approach is more appropriate in an unclear defined research situation with complex and more general questions (Brown, 1996). Both methods are, however, hardly exclusively used. The qualitative approach is commonly used to explain quantitative research results whereas the quantitative approach is used to measure qualitative research findings or conclusions (Strauss and Corbin, 1990).

Based on the above argument, many researchers tend to believe that they are more safe and accurate in their research results if they combine both approaches. In line with this, I employed both research approaches in the conduct of my study. The reason for this choice is that clear and systematic presentation and analysis is required in the study in order to obtain safely valid and accurate research results.
3.3 RESEARCH DESIGN

In order to conduct the research successfully and to obtain valid and accurate results, it is required that an appropriate research design is selected for the study. A research design is a plan for an investigation which facilitates the search for answers in response to the research questions and problems. The design outlines what the researcher should do from data collection to data analysis. It involves the operationalisation of variables, selection of sample, collection of data; and analysis of data (Thyer, 1993: 94). Research design serves as a model for research work which helps scientists to seek information and analyse their evidence (Twumasi, 2001).

Many researchers adopt qualitative and quantitative survey research design to investigate both small and large populations when trying to discover relative incidence, distribution and interrelations of variables (Yin, 1993; Brown, 1996). The design involves investigating a population and analysing the data to respond to a hypothesis or describe set characteristics (Saunders et. al., 1997).

According to Brown (1996), quantitative survey research design has the following advantages among others:

- Facilitates fast and easy collection of large amount of data.
- Facilitates the collection of retrospective data.
- Makes it possible for variables to be compared and assessed to establish their relationship.
- Facilitates the collection of data from a large cross-section of respondents.
• Allows for possible and easy generalisation of sample data to a population.

Like these researchers, I employed the quantitative survey research design in carrying out my study. I used this design for the reason that it has several advantages as compared to the others. Some of the advantages are those stated above by Brown.

Basically, the instruments that were used for the data collection are observation, questionnaire and interviews. Observation was used to assess the situation of school facilities and school environment and attitudes of teachers and students towards class attendance. This is done by observing critically the situation of the physical facilities and equipment available in the school; the prevailing environment (whether conducive for teaching and learning or not); and how teachers and students conduct themselves in the school.

The questionnaire was administered to obtain relevant information from the appropriate respondents such as school administrators, teachers, parents and students. Interview was used to obtain information which could not easily be obtained by means of either observation or questionnaire.

The gathered information was largely analysed by means of descriptive using frequencies, percentages, means. Regression analysis was also carried out to find out the predictors of academic performance of students.
3.4 STUDY POPULATION

Every research that requires data from a primary source has a study population. A study population is the population targeted by a researcher for investigation at an instance of a problem or a desire to study a phenomenon. A study population defines distinctively the kind or category of people to be considered as possible respondents in a study. The study population in the context of this study therefore comprises of teachers and students in the Senior High Schools; and parents of Senior High School students in the district who have knowledge in the topic.

Researches can be conducted on either an entire study population or on sample(s) of a study population. Due to time, resource and financial constraints however, most researches are conducted on sample populations; and the results generalised for a whole population (Yin, 1993). It is argued that it is economically viable for researchers to select and study few items in a larger population than studying all the items in the whole population since the same information is sought for the same purpose.

In this respect therefore, a sample of 352 respondents with sub-samples of various sizes was drawn from the study population by means of appropriate sampling techniques for the study. This was done based on the proportions of the various categories of people in the study population and the prospective participants' level of knowledge in the topic. The choices of the sample sizes and sampling methods were made in order to ensure more and fair representation of the respondents.
3.4.1 Sample Frame and Sample Size

The choice of a sample size is usually left to the discretion of the researcher; though it is highly recommended that the required sample size should be optimal to ensure fair representation, efficiency, reliability and flexibility (Saunders et. al., 1997; Karma, 1999). This study was conducted on a total sample size of 352 respondents in the Sissala East District.

The sample (352) is drawn from totals of 830 students, 98 teachers and 535 registered parents of students of Kanton Senior High School and Tumu Senior High Technical School who are resident in the district. Out of the 352 respondents, 217 of them were covered in KSHS (104 students, 51 teachers and 62 parents) and 135 of them covered in TSHTS (62 students, 28 teachers and 45 parents). About two-thirds (242) of the selected respondents (116 students, 54 teachers and 72 parents) were covered by questionnaire whiles about one-third (110) of them (50 students, 25 teachers and 35 parents) were covered by interview. Categorically, 166 student respondents (116 covered by questionnaire and 50 covered by interview), 79 teacher respondents (54 covered by questionnaire and 25 covered by interview) and 107 parent respondents (72 covered questionnaire and 35 covered by interview) were covered for the study. The questionnaire instrument is largely used for gathering the data (242 respondents) as compared to that of the interview (110 respondents) for the reason that most of the respondents are literates. See table 3.1 the breakdown of this information.
<table>
<thead>
<tr>
<th>Type of Respondent</th>
<th>School</th>
<th>Respondents Covered by:</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Questionnaire</td>
<td>Interview</td>
</tr>
<tr>
<td>Students</td>
<td>KSHS</td>
<td>74</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>42</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>116</td>
<td>50</td>
</tr>
<tr>
<td>Teachers</td>
<td>KSHS</td>
<td>36</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>54</td>
<td>25</td>
</tr>
<tr>
<td>Parents</td>
<td>KSHS</td>
<td>42</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>TSHTS</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>72</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>242</td>
<td>110</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010.

Generally, all the permanent teachers (79), constituting 80% of the total teacher population in both the schools, were covered; whiles 20% in each case of the 830 students and the 535 parents categories of the respondents were covered for the study. The teachers, students and parents were chosen as the appropriate
respondents for the study for the reason that they have high level of knowledge in the study topic.

3.4.2 Sampling Techniques

The two major sampling techniques that were applied in the study were the probability and non-probability sampling techniques. The probability sampling techniques were used to ensure fair representation of the individual respondents whereas the non-probability sampling techniques were used to ensure fair representation of classes of people such as age, sex, students, teachers, and parents among others. Non-probability sampling techniques were also used to ensure convenient selection of the respondents; and the selection of respondents with specific knowledge of the topic.

3.4.2.1 Probability Sampling Techniques

The probability sampling techniques that are commonly used by researchers in carrying out studies are simple random, systematic, stratified and cluster sampling techniques among others. These probability sampling techniques are commonly used because they give every potential respondent and impliedly the universe, equal chance of representing the whole population (Yin, 1993). It is however argued strongly that probability sampling techniques are hardly used exclusively in a field of study but are commonly used with other appropriate techniques in different situations (Bernard, 1994).

In respect of this study, the students were put into strata of sex, religion and class levels; after which the individual sampling units of the 166 students were selected
from the various strata using the simple random sampling method. The parents (107) were likewise selected by the simple random method after they are stratified based on religion since almost all of them were males. Basically the stratified and simple random sampling techniques were the probability sampling techniques used to select the student and parent respondents. The use of these techniques enabled all sex and religious groups to have fair representation in the study.

3.4.2.2 Non-probability Sampling Techniques

The use of purposive sampling technique facilitates the selection of respondents with specific knowledge about the research problem; the use of quota sampling technique ensures proportional representation of respondents in a study; and the use of accidental (convenience) sampling technique ensures easy reaching of respondents (Twumasi, 2001).

In the context of this study, the quota and convenience sampling techniques were the non-probability sampling techniques adopted for the selection of the respondents. Quotas were assigned proportionally to the various categories of students and parents after which the individual student respondents were selected by the simple random sampling technique whereas the individual parent respondents were selected by means of convenience sampling. The use of the techniques ensured fair representation of the students and parents; and adequate coverage of parents in the study.

All the permanent teachers in the two schools (79) were however included in the study. The total sample size of respondents for the study was 352.
3.5 DATA COLLECTION APPROACH

This part of the research methodology involved the sources and types of data that are collected, the data collection phases adopted and the data collection techniques that are employed for the research.

3.5.1 Sources of Data

Research data are commonly gathered from primary and secondary sources. Primary data sources are mainly views and opinions of respondents gathered by means of interviews, questionnaire and observations; whereas secondary data sources are mainly written materials available in any form (books, journals, documents, and the like). The data for the study were gathered from both primary and secondary sources.

3.5.1.1 Sources of Primary Data

The primary data for the study were largely sourced from the appropriate respondents by means of contacts. The views of the respondents about the topic were solicited by the researcher(s) by means of interviews and administering of questionnaires. Some of the information gathered by the use of the questionnaire and interview were verified and validated by personal observation which was made by the researcher(s) during the study.

3.5.1.2 Sources of Secondary Data

The secondary data for the study were obtained from already existing information which is found in documents, books, journals, magazines, gazettes and internet.
Specifically, the secondary data obtained for the study include literature on the research problem from relevant books and documents; and students’ average scores from students terminal report books.

3.5.2 Types of Data

All researches make good use of both qualitative and quantitative data. The type of research (qualitative or quantitative) however depends greatly on the extent to which a particular type of data is used. Qualitative research is more interpretive and descriptive; and depends largely on qualitative data whereas quantitative research is more numerical; and depends largely on quantitative data (Best and Kahn, 1995). Both qualitative and quantitative data were gathered in the conduct of this study.

3.5.2.1 Qualitative Data

Qualitative data takes the form of word description but not numerical values. In the context of the study, the qualitative data gathered involves the views of the respondents about the factors that determine the academic performance of the students in the district’s Senior High Schools. These include the availability or/and situation of the schools’ facilities/equipment; competent teachers; parental care of the students; the environment, discipline and class sizes among others. According to Marshall and Rossman (1989) cited in Best and Kahn (1995), the two techniques that are the critical procedures for collecting qualitative data are observation and interviewing. Thus, the qualitative data for the study were gathered largely by means of observation and interviews.
3.5.2.2 Quantitative Data

Quantitative Data takes the form of numerical values but not in word description of events. Quantitative data is commonly used by many researchers in many studies in the world; perhaps for the reason that it is easier to analyse. The quantitative data of this study are mainly the estimated levels of the key factors gathered through the use of the supplementary questionnaire and the average scores (continuous assessment and examination) of the students. The data were gathered by means of referencing in documents such as the students' terminal report books which are retrieved from the schools' examination offices. A large proportion of the qualitative data gathered during the study is however also quantified and analysed as quantitative data.

This study made use of both qualitative and quantitative data. The qualitative gathered and used during the study include the responses of the respondents on their demographic characteristics (sex, religion, marital status educational status and occupation); the effects of the factors on the performance of the students; and how levels/situations of the factors would be improved among others for effective teaching and learning in the schools. The quantitative data gathered and used include the ages of the respondents and the pass scores of the students in both their terminal and final examinations.

3.5.3 Data Collection Phases

Data collection in a research, like any other activity, is effectively carried out in phases. There are three basic phases in any data collection exercise. These are the
phase of reconnaissance, the phase of main survey and the phase of in-depth survey. The reconnaissance survey familiarises the researcher with the situation of the study area; and involves mainly activities such as observations and transect walks. The main survey phase is the stage at which the required information is gathered by means of interviews and questionnaires. The in-depth survey phase involves critical sourcing of in-depth information and cross-examination of already gathered information during the study. These phases all together are very important because they facilitate fast, efficient and accurate data collection in a research. For this reason, all the three phases were adopted in the conduct of this study.

3.5.3.1 Phase 1 (Reconnaissance Survey)

This phase of the survey was used to visit the schools and other places that were to be covered for the data collection. During this phase, the researcher familiarised himself with the environment of the study district. The researcher also introduced himself to, interacted with and built good relations with the respondents (Heads of the institutions, teachers, students and parents). Phenomena of interest to the study such as educational facilities, environment of schools and discipline situations in schools among others were observed during this phase. The reconnaissance survey was carried out within two months (October – November). This phase of the survey was adopted to ensure sufficient and successful collection of the research data.
3.5.3.2 Phase 2 (Main survey)

During this phase of the survey, the main activity carried out is primary data collection. The views of the sampled respondents (teachers, students and parents) about the performance of the students and the factors affecting their performance among others were solicited. This is done by means of data collection instruments such as interview schedules and questionnaire. This phase of the data collection is carried out within two months (January - February). The main survey phase is adopted to ensure detail collection of data relevant to the study.

3.5.3.3 Phase 3 (In-depth Survey)

The in-depth survey was employed during the data collection in order to ensure deeper understanding of issues which would not been made clear during the reconnaissance and main survey phases. These issues were clarified by means of critical and thorough investigation by the researcher. All relevant supplementary data left out during the earlier phases of the data collection are also gathered during this phase in order to ensure complete and comprehensive study. This is done by means of follow-up visits to the second cycle institutions in the district. The data is gathered at this stage mainly by means of observations, interviews (unstructured), questionnaire and discussions. The in-depth survey is important for the study for the reason that it ensures a deeper understanding of the research phenomena and facilitates the complete and comprehensive collection of research data. This phase of the data gathering took one month (April).
3.5.4 Data Collection Techniques

Data collection techniques are techniques that were employed by many social researchers in their studies; and include personal observation, interviews and questionnaire to mention but few. In the common view of Marshall and Rossman (1989) cited in Best and Kahn (1995), while several approaches exist for data collection, it appears that most qualitative research studies in education utilize observation, interviews, or a combination of the two as all or part of their data collection procedures. The data collection techniques that were employed for the collection of primary data for this research are interviews, questionnaire and personal observation.

3.5.4.1 Interview

An interview is viewed as a method of field investigation which involves person-to-person interaction between researchers and respondents during which specific questions are asked for specific answers. This method is applicable when respondents are willing to talk and have knowledge of the research problem. An interview can either be structured or unstructured in nature (Karma, 1996; Twumasi, 2001).

The purpose of interviewing is to find out what is in or on someone else's mind. Interviews range from the quite informal and completely open-ended type (unstructured) to the very formal type (structured) with the questions predetermined and asked in a standard manner. In the case of the formal interview, the questions may be read to the interviewee to assure the same wording with all
those being interviewed (Best and Kahn, 1995). Patton (1990:278) cited in Best and Kahn (1995) stated that the purpose of open-ended interviewing is not to put things in someone’s mind but to access the perspective of the person being interviewed. In line with this, it is argued by some researchers that a good interview is the one that allows the interviewee to take over control of the interview situation and talk freely (Yin, 1993).

In the context of this study, both the structured and the unstructured interview types were employed. By the structured type, well defined formal questions were designed and used by the researcher to gather the data for the study. In this case, every respondent was asked the same questions which generated similar responses from the individual respondents. By the unstructured type, the respondents were asked open-ended questions which gave them the opportunity to express themselves fully about the problem; and hence generated detailed data for the study.

The choice of the use of the structured type was to enable the researcher obtain specific results for specific questions; whereas the choice of the use of the unstructured (in-depth) type was to enable the researcher obtain in-depth information from the respondents by allowing them to express their opinions about the research problem. Interview, especially the structured type, is commonly administered by a guide described as interview guide.

The interview instrument enabled the researcher solicit freely the views or feelings of respondents about the factors that determine the academic performance of
students in the district. The instrument was used specifically to find out from the respondents how each factor determines teaching and learning and the performance of students; and how the level/situation of each factor can be improved in the schools. The interview instrument was also used to verify certain information gathered during the study by the use of either questionnaire or personal observation.

3.5.4.2 Questionnaire

Questionnaire is made up of formal questions that are framed and written down for respondents to provide answers to. This method enables as many respondents as possible to be reached within the shortest possible time during a research. The method also facilitates efficient collection of statistically quantifiable information (Twumasi, 2001). Questions in a questionnaire can either be the pre-coded or the open type or a combination of both (Best and Kahn 1995). The pre-coded type provides possible answers for the respondents to choose from; whereas the open type allows the respondents to provide the answers to the questions in their own way. The choice of using the questionnaire technique, however, depends largely on the characteristics of the respondents; size of the sample; type and number of questions involved and the relative importance of the respondents among others.

Questionnaire is used when factual information is required. According to Best and Kahn (1995: 230), the advantages of using questionnaire include the following among others:

• The researcher establishes rapport with respondents.
Based on the above analogy on questionnaire, the researcher used the questionnaire technique among others to gather the data for the study. The questionnaire that was drawn for the study is made up of both pre-coded and open types of questions. The questionnaires were issued to the respondents to complete on their own with little guidance from the researcher and his assistants. Some of the questionnaires were, however, administered by the researchers to the parents, especially the illiterate ones who could not complete them on their own. They were thus used as interview guides.

The pre-coded questions facilitated the collection of information about the respondents' personal particulars; and respondents' perceptions about how the factors determine students' performance; and how the two (the factors and students' performance) relate. Through the questionnaire (a supplementary one) also, the students were made to indicate the availability levels / situations of the identified key factors in quantities; the figures of which are analysed with the students average scores (performance) from terminal reports to establish the relationship between the factors and the students' performance. The open ended questions on the other hand facilitated the collection of information on how the
factors affect the performance of the students; and how their levels/situations can be improved in order to improve the academic performance of students in the second cycle institutions in the district.

The use of the instrument facilitated adequate, easy, early and comprehensive collection of data from both literates and illiterates for the study. Besides, the technique is highly efficient in the collection of statistically quantifiable information as required by the research. The challenge associated with the use of the instrument was that some of the responses were irrelevant whilst in few cases there were no responses to some of the questions.

3.5.4.3 Observation

Observation is the process of watching respondents, their activities or any phenomena of investigation without communicating with the respondents for a period of time with the aim of achieving certain required results. According to Karma (1999), observation is a purposeful and selective watching and listening to an interaction or phenomena as it takes place without asking the respondent. Observation is more appropriate in situations where accurate information cannot easily be obtained by questioning; hence it is good for learning interactions, functions and behaviours of people in a group; and for studying phenomena as they naturally exist or made by human. It can be used to obtain fresh data or verify already available data.
Observation in qualitative research consists of detail notion of behaviours, events and the contexts surrounding the events and behaviours; whereas in quantitative research, it is usually employed to collect data regarding the number of occurrences in a specific period of time, or the duration of every specific behaviours or events (Best and Kahn, 1995).

The researcher strictly employed the observation method to study the geo-physical settings of the area; the availability levels/situations of facilities and equipment in the schools; the attitude of teachers and students towards lessons; class sizes in the schools and environmental conditions in the schools.

3.5.4.4 Use of Documents

Secondary data is data that is already gathered, refined and stored in documents, books, magazines, gazettes and internet among others. The choice of any of these sources therefore depends on the type of data needed, the accessibility of the data and the importance of the data among others. The advantages derived from the use of secondary data as compared to that of primary data is that the information already exists in a summarised form; hence it saves time and money for the researcher (Saunders et.al., 1997).

In the context of this study, I relied on books, documents, gazettes journals, magazines, student terminal reports, students’ exeat books and internet to gather
the secondary information for the study. The literature of the research problem is gathered from books, journals, magazines and internet among others whereas the average scores of the students are obtained from documents such as terminal report books in the offices of examination officers of the various second cycle institutions in the district.

3.6 DATA ANALYSIS APPROACH

3.6.1 Data Analysis Process

Data analysis is the process of critically examining and evaluating data to ascertain all existing possible relationships; and drawing conclusions on such relationships. The process of data analysis is a continuous one and involves stages such as editing, tabulation/illustration, coding, punching and computer processing. The process of data analysis requires skill, patience and thoroughness (Twumasi, 2001). It is strongly believed by many researchers that data analysis focuses on establishing patterns of relationships among data-groups; hence the data is summarised and organised in a manner that it would provide answers to the research questions (Yin, 1993; Karma, 1999).

Basically, the data analysis in this study involved the phases of data editing, coding, summary (tabulation/illustration), and computer processing and results interpretation. The data gathered were edited, coded, processed and summarised
by means of tabulation, illustration, and calculation of percentages, means and ratios among others; and the results interpreted by means of describing the summarised research results.

The data analysis part of the study is very important because it summarises the comprehensive information that would be gathered to simple percentages, means and ratios among others; which give more meaning to the research results.

3.6.2 Data Analysis Techniques

Data analysis is done by means of several techniques. Research data can be analysed qualitatively by means of description of events and situations or/and quantitatively by means of using relevant and appropriate statistical tools.

In the context of this study, the data gathered were analysed both qualitatively and quantitatively. Qualitatively, the results of the research were described in words to explain vividly the situation of the phenomena and show the relationship between patterns. Quantitatively, frequencies, percentages and means were computed with the aid of the Statistical Package for Social Science (SPSS) software. The five-point Likert scale was largely used to measure the perceptions of respondents. The scale was interpreted as: 1 = Very Significant, 2 = Significant, 3 = Slightly Significant, 4 = Insignificant, 5 = Very Insignificant.
Regression analysis was also done to determine the predictors of student academic performance. Students’ academic performance constituted the dependent variable whereas the key factors constituted the independent variables.

The Model

Specifically, the linear regression model was used for the regression analysis. The model is formulated and stated as:

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \epsilon \]

\( Y \) represents the dependent variable – academic performance;
\( \beta_1, \beta_2, \beta_3, \beta_4 \) and \( \beta_5 \) represent the coefficients;
\( \beta_0 \) is the coefficient of determination;
\( X_1, X_2, X_3, X_4 \) and \( X_5 \) represent the independent variables – key factors; and
\( \epsilon \) represents other factors different from the key factors.

Definition of the Variables

Dependent Variable

\( Y = \) Students Academic Performance: The students performance in the end of year examination, based on which they are promoted to the next level is taken as the dependent variable.
Independent Variables

$\beta_0 = \text{autonomous influence (coefficient of determination)}$

$X_1 = \text{Availability of Educational Facilities (AEF): This measures the level of availability of classrooms, laboratories, workshops and libraries in the schools; which reflects on how conveniently the students learn or study in the schools. The factor was measured by determining how adequately classrooms, furniture, laboratories, workshops and libraries are available in the schools. This is done by making the students to indicate among options such as: very inadequate, inadequate, slightly adequate, adequate, and very adequate.}$

$X_2 = \text{Availability of Competent Teachers (ACT): This measures the level of availability of competent teachers; which gives a reflection of the certainty of the students that they will be effectively be taught by the teachers; and hence stand a greater chance of passing well in their final examinations. This was measured by determining the punctuality, absenteeism (regularity) and relations of the teachers in the schools. The options considered for the students to make a choice on the availability of competent teachers are less than quarter (very inadequate) about quarter (inadequate), about half (Slightly Inadequate), about three-quarters (adequate) and about all (very adequate) of the teachers.}$
$X_3 = \text{Availability of Teaching/Learning Materials (ATLM): This measures the level of availability of teaching and learning materials; specifically textbooks which reflects on the readiness/preparedness of the student for learning/studies. This is measured by finding out from the students how many among the eight (8) of the examinable subjects they have textbooks for. Each student indicated whether he/she had for 0 - 1 subject (Very Inadequate), 2 - 3 subjects (inadequate), 4 – 5 subjects (Slightly Inadequate), 6 - 7 subjects (adequate) and 8 or more subjects (very adequate). The students were also asked to indicate whether availability of chalk/markers in the schools is lacking, very inadequate, inadequate, adequate, slightly adequate or very adequate.}$

$X_4 = \text{Health Status of Students (HSS): This measures the health status of the student; which is a reflection on the stability and ability of the student to learn/study. This was done by finding out how often the student falls sick and attends hospital whilst in school. The options considered are not at all (very healthy), 1 – 3 times (healthy), 4 – 6 times (fairly healthy), 7 – 10 times (unhealthy) and several times (very unhealthy).}$

$X_5 = \text{Level of Discipline (LoD): This measures the discipline level of the students; which is a reflection on the concentration or seriousness of the students on their studies. The students’ conduct whilst in school, which indicates the}$
students' discipline levels are assessed by their form masters during the completion of their terminal reports. Form masters of each student indicates whether the conduct of the student is very unsatisfactory (highly indiscipline), unsatisfactory (indiscipline), quite satisfactory (slightly disciplined), satisfactory (disciplined) or very satisfactory (highly disciplined). The form masters assess the discipline level of the students taken into consideration the students' obedience to school rules and regulations, respect for authority and the way they perform their duties among others.

The information is gathered largely by administering a supplementary questionnaire on the selected students. It is however verified and validated by making follow-up interviews, personal observations, checking or physical counting; and making references to the students terminal report books and health record books kept by the school to ensure the accuracy of the data.

e = Error term. This measures the influence of all other factors different from the identified key factors.
CHAPTER FOUR

4 RESEARCH RESULTS AND DISCUSSIONS

4.0 INTRODUCTION

This chapter presents the information gathered during the research in a well organised form for easy interpretation. It is done by the use of charts, tables, graphs and some relevant mathematical and statistical formulae. The summarised results commonly take the form of means, frequencies and percentages. It embodies discussion of factors determining students’ performance in the schools.

4.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

4.1.1 Age

The age distribution of the respondents is structured as those with 15 – 24 years, those with 25 - 40 years and those with 40+ years. The study revealed that all the 116 student respondents (104 from KSHS and 62 from TSHTS) fall within the age group of 15 - 24 years; 55 out of the 79 teachers (36 from KSHS and 19 from TSHTS) fall within the age of 25 - 40 years; with the rest of 24 (15 from KSHS and 9 from TSHTS) being above 40 years. Regarding the parents, 45 (24 from KSHS and 21 from TSHTS) out of the 107 parents (59.7%) fall within the age group of 25 - 40 whiles 62 of them (38 from KSHS and 24 from TSHTS) fall within 40+ years. No teacher or parent falls within the age group of 15 – 24 years. See table 4.1.
Table 4.1: Age Distribution of respondents.

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students</td>
</tr>
<tr>
<td></td>
<td>KSHS</td>
</tr>
<tr>
<td>15–24</td>
<td>104</td>
</tr>
<tr>
<td>25–40</td>
<td>---</td>
</tr>
<tr>
<td>40+</td>
<td>---</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

4.1.2 Gender

The gender distribution of the respondents is made up of more males than females. The 166 student respondents are made up of 106 males (64 from KSHS and 42 from TSHTS) and 60 females (40 from KSHS and 20 from TSHTS). More male students than female students were covered during the study because the schools have more male students than female ones. For the 79 teacher respondents, 67 of them (43 from KSHS and 24 from TSHTS); are males whereas only 12 of them (8 from KSHS and 4 from TSHTS) are females. More of the teacher respondents are males because more males than females progress and attain tertiary education which is a requirement for teaching in second cycle institution. The majority of the parents, 87 out of 107 are males. More male parents were covered during the study.
because male parents, as required by the practise of paternal family system, are responsible for the upkeep of the child in this part of the country. Refer to table 4.2 for details of this information.

**Table 4.2: Gender Distribution of Respondents.**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students</td>
</tr>
<tr>
<td></td>
<td>KSHS</td>
</tr>
<tr>
<td>Male</td>
<td>64</td>
</tr>
<tr>
<td>Female</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

**4.1.3 Religion**

The majority of the respondents covered during the study are Muslims because the study area is largely a Muslim community. The students are made up of 46 Christians (31 from KSHS and 15 from TSHTS), 115 Muslims (70 from KSHS and 45 from TSHTS) and 5 African Traditional Religion believers (3 from KSHS and 2 from TSHTS). The parents comprise 36 Christians (21 from KSHS and 15 from TSHTS) (36.1%), 55 Muslims (32 from KSHS and 23 from TSHTS), 11 believers of African Traditional Religion and 5 people who do not believe in any religion – pagans. The teacher respondents are also made up of 34 Christians, 43
Muslims and 2 other believers. The Christians in the communities are mainly settlers such as Dagarbas, Kasenas and Frafras. Refer to table 4.3.

**Table 4.3: Religious Distribution of Respondents**

<table>
<thead>
<tr>
<th>Religion</th>
<th>Frequency of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Students</strong></td>
</tr>
<tr>
<td></td>
<td>KSHS</td>
</tr>
<tr>
<td>Christianity</td>
<td>31</td>
</tr>
<tr>
<td>Islam</td>
<td>70</td>
</tr>
<tr>
<td>ATR</td>
<td>3</td>
</tr>
<tr>
<td>Others</td>
<td>---</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>104</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

**4.1.4 Educational Status**

Regarding the educational status of the respondents, the study covered people without formal education and those with Middle School, Junior High School (JHS), Senior High Schools and Tertiary education qualifications. All the 166 student respondents are at Senior High School Level. Similarly, all the 79 teachers have attained Tertiary education (Diploma, Higher National Diploma and Degree). Some of the parents, 40 (22 from KSHS and 18 from TSHTS) 27 out of 107 have had no formal education; whiles the rest of them have attained various levels of
formal education. Among those who have attained various levels of formal education, 32 (20 from KSHS and 12 from TSHTS) have Tertiary qualification, 23 (14 from KSHS and 9 from TSHTS) have Senior High School qualification and 12 (6 each from KSHS and TSHTS) hold Middle School Leaving Certificate qualification. All of the teachers hold tertiary education qualification because that is the minimum requirement for teaching in second cycle institutions in the country. Table 4.4 presents details of the educational status of the respondents.

**Table 4.4: Educational Distribution of Respondents**

<table>
<thead>
<tr>
<th>Educational Status</th>
<th>Frequency of Respondents</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students</td>
<td>Teachers</td>
<td>Parents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KSHS</td>
<td>TSHTS</td>
<td>Total</td>
<td>KSHS</td>
<td>TSHTS</td>
<td>Total</td>
</tr>
<tr>
<td>No Formal Education</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>MSL</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>SHS</td>
<td>104</td>
<td>62</td>
<td>166</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Tertiary</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>51</td>
<td>28</td>
<td>79</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>62</td>
<td>166</td>
<td>51</td>
<td>28</td>
<td>79</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

**4.1.5 Marital Status of Teachers and Parents**

Out of the 79 teacher respondents, 47 of them (30 from KSHS and 17 from TSHTS) are married whereas 32 of them (21 from KSHS and 11 from TSHTS) are single. The 107 parent respondents are made up of married, single and divorced people. Out of the number, 83 of them (47 from KSHS and 36 from TSHTS) are
married, 20 (12 from KSHS and 8 from TSHTS) of them are single and 4 of them (3 from KSHS and 1 from TSHTS) are divorced. None of the respondents is separated. Find details of the marital status of the respondents in table 4.5.

Table 4.5: Marital Distribution of Respondents

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Frequency of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teachers</td>
</tr>
<tr>
<td></td>
<td>KSHS</td>
</tr>
<tr>
<td>Married</td>
<td>30</td>
</tr>
<tr>
<td>Single</td>
<td>21</td>
</tr>
<tr>
<td>Divorced</td>
<td>---</td>
</tr>
<tr>
<td>Separated</td>
<td>---</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

4.1.6 Occupation of Parents

By occupational distribution, the parent respondents are made up of government employees, traders, farmers and others. Out of the 107 parents, 1 (1.4%) of them is a student, 36 (22 from KSHS and 14 from TSHTS) of them are government employees, 58 (31 from KSHS and 27 from TSHTS) of them are farmers, 7 of them are traders and 4 of them are engaged in other occupations such as charcoal burning, carpentry and masonry works, firewood harvesting and shear butter extraction. Refer to table 4.6 for a detail presentation of this information.
Table 4.6: Occupational Distribution of Parent Respondents

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency of Parent Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>KSHTS</td>
</tr>
<tr>
<td>Student</td>
<td>1</td>
</tr>
<tr>
<td>Employee</td>
<td>22</td>
</tr>
<tr>
<td>Trader</td>
<td>5</td>
</tr>
<tr>
<td>Farmer</td>
<td>31</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

4.2.0 FACTORS THAT DETERMINE ACADEMIC PERFORMANCE OF STUDENTS

4.2.1 The Identified Factors

As indicated in table 4.7 twelve (12) factors were identified during the study as the major factors that determine students' academic performance in the second cycle institutions in the district. These factors and their sub-factors affect the performance of the students in diverse ways. The results again show that with the exception of class size (88.9%, parents) and time spent on teaching and learning (86.1%, parents) not less than 90% of each of the three groups of respondents (students, teachers and parents) identified these twelve factors as the ones that determine the academic performance of students in the district. This is indicated in table 4.7 below. The combined responses for the three categories of respondents
indicate a minimum of 91.3% for 'Socio-economic status of parents and a maximum of 99.6% for 'Level of teacher motivation.

**Table 4.7: Factors that Determine Academic Performance of Students.**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Frequency and percentage of Respondents indicating ‘Yes’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students (n=116)</td>
</tr>
<tr>
<td>Average availability of educational facilities</td>
<td>114 98.3</td>
</tr>
<tr>
<td>Availability of qualified teachers</td>
<td>110 94.8</td>
</tr>
<tr>
<td>Average availability of teaching and learning materials</td>
<td>114 98.3</td>
</tr>
<tr>
<td>Level of teacher motivation</td>
<td>116 100</td>
</tr>
<tr>
<td>Health status of students</td>
<td>105 90.5</td>
</tr>
<tr>
<td>Level of discipline</td>
<td>110 94.8</td>
</tr>
<tr>
<td>Level of supervision</td>
<td>113 97.4</td>
</tr>
<tr>
<td>Class sizes</td>
<td>106 91.4</td>
</tr>
<tr>
<td>Parental care</td>
<td>110 94.8</td>
</tr>
<tr>
<td>Average socio-economic status of parents</td>
<td>105 90.5</td>
</tr>
<tr>
<td>Average time spent on teaching and learning</td>
<td>113 97.4</td>
</tr>
<tr>
<td>Environmental conditions</td>
<td>114 98.3</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

The results are a clear indication of the fact that all categories of respondents see these twelve factors to be very important in determining how well students...
perform academically in the district. Those who do not see these factors to be important form very insignificant percentages of the respondents, with the highest being 8.7\% for socio-economic status of parents.

4.2.2 The Effects of the Factors on Students' Academic Performance

Further analysis to determine the perceived levels of significance of the twelve factors in determining academic performance of students using a five point Likert scale yielded the results in table 4.8 below. The mean values in table 4.4 represent the mean of means of the various variables that constitute each of the twelve main factors that were initially identified by respondents as affecting the academic performance of students in the district.

The results indicate that generally all respondents perceive the factors to be significant in determining the academic performance of students in the schools. With the exception of socio-economic status of parents (2.76, SD=1.08) and environmental conditions (2.62, SD=1.06) teachers generally perceived the levels of significance of all the factors to be significant (approximately 2; from 1.66 to 2.41). For the parents only class size was perceived to be slightly significant (approximately 3; 2.78, SD = 1.09). All the other factors were perceived to be significant (approximately 2; from 1.53 – 2.47). Students, on the other hand, perceive three of the factors to be very significant – availability of educational facilities (1.28, SD=0.79), availability of qualified teachers (1.35, SD = 0.78 and availability of teaching and learning materials (1.44, SD = 1.01). All the other
factors are perceived by the students to be significant in determining academic performance (approximately 2; from 1.62 – 2.33).

Table 4.8: Perceived levels of significance of factors affecting academic performance of students in secondary schools in the district.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Students</th>
<th></th>
<th>Teachers</th>
<th></th>
<th>Parents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Availability of Educational</td>
<td>1.28</td>
<td>0.79</td>
<td>114</td>
<td>1.66</td>
<td>1.02</td>
<td>54</td>
</tr>
<tr>
<td>Facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Competent</td>
<td>1.35</td>
<td>0.78</td>
<td>113</td>
<td>1.73</td>
<td>1.12</td>
<td>53</td>
</tr>
<tr>
<td>teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Teaching and</td>
<td>1.44</td>
<td>1.01</td>
<td>114</td>
<td>1.87</td>
<td>1.19</td>
<td>54</td>
</tr>
<tr>
<td>Learning materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of teacher motivation</td>
<td>2.23</td>
<td>1.04</td>
<td>116</td>
<td>2.09</td>
<td>1.05</td>
<td>54</td>
</tr>
<tr>
<td>Health status of students</td>
<td>1.63</td>
<td>0.91</td>
<td>108</td>
<td>2.22</td>
<td>1.04</td>
<td>53</td>
</tr>
<tr>
<td>Level of discipline</td>
<td>1.62</td>
<td>0.75</td>
<td>110</td>
<td>1.88</td>
<td>1.03</td>
<td>53</td>
</tr>
<tr>
<td>Level of supervision</td>
<td>2.05</td>
<td>0.94</td>
<td>113</td>
<td>2.35</td>
<td>0.98</td>
<td>53</td>
</tr>
<tr>
<td>Class size</td>
<td>2.33</td>
<td>1.33</td>
<td>108</td>
<td>2.37</td>
<td>1.00</td>
<td>53</td>
</tr>
<tr>
<td>Parental care</td>
<td>1.93</td>
<td>1.09</td>
<td>110</td>
<td>2.27</td>
<td>0.81</td>
<td>54</td>
</tr>
<tr>
<td>Socio-econ. status of parents</td>
<td>2.16</td>
<td>0.99</td>
<td>110</td>
<td>2.76</td>
<td>1.08</td>
<td>51</td>
</tr>
<tr>
<td>Time spent on teaching and</td>
<td>2.00</td>
<td>0.94</td>
<td>113</td>
<td>2.41</td>
<td>1.04</td>
<td>53</td>
</tr>
<tr>
<td>learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental conditions</td>
<td>2.05</td>
<td>1.10</td>
<td>116</td>
<td>2.62</td>
<td>1.06</td>
<td>54</td>
</tr>
</tbody>
</table>

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010
The perceptions of the students give very clear indication that to them the first three factors, namely, availability of educational facilities, availability of qualified teachers and availability of teaching and learning materials are the most important factors that help in determining academic performance in the schools. These perceptions are slightly different from those of teachers and parents who perceive these factors to be significant. This calls for critical look at levels of availability/situations of these facilities in the schools if good performance of students is to be achieved in these schools.

4.2.2.1 Effect of Availability of Educational Facilities on Students’ Academic Performance

Table 4.9 gives the mean values of factors that constitute availability of educational facilities. These factors were responded to by students and teachers. These mean values vary from factor to factor which factor has more significant on the students’ performance than the other.

Out of the eight factors constituting availability of educational facilities in the schools the students perceived four of them to be very significant (approximately 1) and these are library (1.32, SD=0.68), electricity (1.48; SD = 0.83), classroom (1.44; SD = 0.74) and science laboratories (1.27; SD = 0.75) whilst the rest were perceived to be significant. The teachers on the other hand perceived library alone to be very significant (1.38; SD = 0.68) and the rest to be significant. The perceptions of the students show that the facilities that contribute directly to the
enhancement of academic work are of more importance to them than the other facilities. All the four are critical facilities that must, of necessity, be available in order to create a congenial environment for effective teaching and learning to take place.

Table 4.9: Perceived effects of factors determining availability of educational facilities on students academic performance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Students</th>
<th></th>
<th>Teachers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Library</td>
<td>1.32</td>
<td>0.68</td>
<td>114</td>
<td>1.38</td>
</tr>
<tr>
<td>Electricity</td>
<td>1.48</td>
<td>0.83</td>
<td>114</td>
<td>1.90</td>
</tr>
<tr>
<td>Classrooms</td>
<td>1.44</td>
<td>0.74</td>
<td>114</td>
<td>1.61</td>
</tr>
<tr>
<td>Science Laboratories</td>
<td>1.27</td>
<td>0.75</td>
<td>114</td>
<td>1.68</td>
</tr>
<tr>
<td>Technical and Vocational</td>
<td>2.12</td>
<td>1.12</td>
<td>114</td>
<td>2.14</td>
</tr>
<tr>
<td>Workshops</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Furniture</td>
<td>1.64</td>
<td>0.96</td>
<td>114</td>
<td>1.74</td>
</tr>
<tr>
<td>Halls/Hostels</td>
<td>1.59</td>
<td>0.97</td>
<td>114</td>
<td>1.79</td>
</tr>
<tr>
<td>Staff Bungalows</td>
<td>1.70</td>
<td>1.08</td>
<td>114</td>
<td>1.77</td>
</tr>
<tr>
<td>Mean of means</td>
<td>1.57</td>
<td>0.89</td>
<td></td>
<td>1.75</td>
</tr>
</tbody>
</table>

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010
Libraries create a very congenial atmosphere or environment for independent study by students and teachers. In addition to these well equipped libraries help teachers to research and prepare better lessons to enhance students' understanding and thus help in ensuring good academic performance. Laboratories, on the other hand, are basic requirements for science based programmes. Without laboratories science students will find it very difficult to understand scientific concepts. This is because scientific concepts are practicalised in the laboratory and this helps in facilitating and deepening the understanding of the concepts.

The availability of classrooms is another critical factor that the students perceived to be very significant in determining academic performance. Inadequate classrooms result in overcrowding thus leading to ineffective teaching and learning. This eventually leads to poor class management on the part of teachers and poor understanding on the part of the students because of large class sizes. Adequate attention to relatively weak students by teachers cannot be guaranteed since the overcrowding makes it difficult for the teacher to attend to them in class. The overcrowding in the classrooms as a result of inadequate classrooms also has health implications on the students since it brings about poor ventilation in the classrooms. The results of the study is in line with that of Olufunke (2012), who established in a study that availability of such facilities, especially Physics laboratories, have significant effect on students' performance; and that of Owoeye and Yara (2011) who also established in their study that availability of educational facilities has significant effect on the performance of students. Contrary to the results of this study however, Sabitu, Batunde and Oluwole (2011) on their part
revealed in their study that availability of educational facilities has no significant effect on students’ performance.

On the whole it is evident from the perceptions of both students and teachers that adequate, if not more, quantities of the facilities in table 4.5 need to be provided to enhance teaching and learning and hence good academic performance by students. Necessary measures therefore need to be taken to facilitate adequate provision of such facilities in the second cycle institutions in the district.

4.2.2.2 Effect of Availability of Competent Teachers on Students’ Performance

Competent teachers are those with the knowledge, expertise, skills and experience, among other things, to handle the subjects they are assigned to teach and to teach them well. There is therefore no gainsaying the fact that their availability in a school contributes immensely to good academic work. Table 4.10 shows the perceived levels of significance by students and teachers of the factors that make a teacher qualified to teach.

Factors such as teacher punctuality (1.53; SD = 0.83), relationship of teachers with students (2.05; SD = 0.92) and teacher appearance in class (2.34; SD = 1.22) were perceived by students to be the significant qualities that competent teachers must possess. This means that apart from the teachers’ qualification, students expect that they will be punctual to classes, have very good relationships with them and appear very decent in class for lessons. The students, however, perceived teacher
absenteeism (3.14; SD = 1.53) to be slightly significant (approximately 3). The perceptions of teachers about these factors on the availability of competent teachers are not different from those of the students. Generally the teachers perceived all the factors to be significant (approximately 2).

Table 4.10 Perceived effects of factors determining availability of competent teachers on students' academic performance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Students</th>
<th></th>
<th>Teachers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Teacher punctuality</td>
<td>1.53</td>
<td>0.83</td>
<td>113</td>
<td>1.61</td>
</tr>
<tr>
<td>Teacher regularity</td>
<td>3.14</td>
<td>1.52</td>
<td>113</td>
<td>2.38</td>
</tr>
<tr>
<td>Relationship with students</td>
<td>2.05</td>
<td>0.92</td>
<td>113</td>
<td>2.01</td>
</tr>
<tr>
<td>Teacher Appearance</td>
<td>2.34</td>
<td>1.22</td>
<td>113</td>
<td>2.31</td>
</tr>
<tr>
<td>Mean of means</td>
<td>2.27</td>
<td>1.12</td>
<td></td>
<td>2.08</td>
</tr>
</tbody>
</table>

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010

The results of this study are in line with those of Oredein and Oloyede (2007) which established that availability of qualified teachers in the schools has significant effect on students’ academic performance. In a similar study conducted by Lai, Sadoulet and Janvry (2007), it was also revealed that availability of qualified teachers has a significant effect on the performance of students.
The students view is based on the fact competent are able to make them understand as they teach. The students have the belief that competent teachers teach them effectively which enhances their understanding. The findings of the study imply that students perform better when more competent teachers are available in the school and vice versa.

The effect of the availability of competent teachers on students' performance is, however, dependant on the availability of educational facilities, availability of teaching and learning materials, level of supervision, situation of discipline and the time made available for teaching and learning in the schools. Competent teachers will not be very much effective if there are inadequate classrooms, textbooks, science equipment, machinery and tools for practical lessons; and there is high indiscipline among students in the schools.

4.2.2.3 Effect of Availability of Teaching and Learning Materials on Students’ Performance

Teaching and learning materials play very significant roles in education. Their absence makes both teaching and learning a near impossibility. For this study teaching and learning materials comprised textbooks, drawing instruments, teaching aids and chalk or marker. Table 4.11 shows the means and standard deviations of these factors as perceived by students and teachers.

As indicated in table 4.11 the mean of means for students (1.53; SD = 0.78) and teachers (1.71; SD = 0.88) puts the perceptions of both teachers and students as significant. This implies that on the whole both groups perceive the availability of
teaching and learning materials to be crucial and its contribution to the academic performance of students is not in doubt.

Table 4.11: Perceived effects of factors determining availability of teaching and learning materials on students academic performance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Students</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Availability of textbooks</td>
<td>1.27</td>
<td>0.61</td>
</tr>
<tr>
<td>Availability of drawing instruments</td>
<td>1.74</td>
<td>0.90</td>
</tr>
<tr>
<td>Availability of teaching aids</td>
<td>1.64</td>
<td>0.93</td>
</tr>
<tr>
<td>Availability of chalk/marker</td>
<td>1.48</td>
<td>0.69</td>
</tr>
<tr>
<td>Mean of means</td>
<td>1.53</td>
<td>0.78</td>
</tr>
</tbody>
</table>

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010

Among all the materials, however, both students and teachers perceive textbooks availability as very significant (1.27; SD = 0.61 and 1.40; SD = 0.68 for students and teachers respectively). Textbooks are reference materials for teachers and students alike. Without them teachers find it very difficult to prepare their lessons and this affects the quality of teaching and the academic performance of students. Students also tend to rely solely on the teachers’ notes in the absence of textbooks. They have no other material to refer to when they are studying on their own. Their knowledge of the subject is thus limited to what the teacher gives to them and this
tends to affect their academic performance negatively, especially where the teacher also has a problem with textbooks.

Chalk or marker is another material the students perceive to be very significant as a teaching and learning material (1.48; SD = 0.69). Teachers need to write on either the blackboard or whiteboard during lessons and the absence of chalk or marker makes this impossible. Writing on the board helps improve students understanding of lessons because it puts the sense of sight into effect. When more senses are used during learning students gain better understanding of the lessons and this in turn affects their academic performance positively. These results of the study conform with those of Oladejo, Olosunde and Ojebisi (2011), Oguntuase, Awe and Ajayi (2013) and Dahar and Faize (2011) who also concluded in their separate studies that availability of teaching and learning materials has significant effect on students' performance.

It is obvious from the discussion above that for students to perform better academically they need to have adequate quantities of the teaching and learning materials; especially textbooks and drawing instruments. Teachers also need adequate quantities of these materials; especially textbooks, markers or chalk and teaching aids in order to prepare their lessons well and to adequately inform themselves and build up their confidence levels in the various subjects they teach.

4.2.2.4 Effect of Health Status of Students on Students’ Performance

The health status of students is a key factor that helps in determining how well the student performs academically. Table 4.12 shows that 60.2% and 19.4% of the
students indicated that their health status affects their academic performance very significantly and significantly respectively. Put together these two response categories constitute 79.6% and this implies that the students place a premium on their health whilst in school. When students are healthy they are very active both physically and mentally and can thus study very hard and this has an overall positive effect on their academic performance. A student who falls sick is often weak, inactive and is most likely to skip classes so as to attend hospital and this does not auger well for academic work.

The perceptions of parents are not different from those of the students with respect to the effects of students' health on academic performance. Whilst 51.4% perceive the health of students to be very significant in terms of academic performance 41.4% of them perceive it to be significant. In all 92.8% of the parents indicated that health status of the students affects their academic performance significantly.

On the part of the teachers, 28.3% and 34.0% share the same view with the students and parents that the health status of students affects the academic performance of the students very significantly and significantly respectively. This study's result is, however, contrary to that of Rothestein (2004) which established that health status of students has no significant effect on their academic performance. More parents than teachers and students regard the factor to have significant effect on the performance of the students because they are very much concerned about the lives and education of their wards.
Table 4.12: Perceived Effect of Health Status of Students (HSS) on Academic Performance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Perceived effect of factor on students’ performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Significant</td>
</tr>
<tr>
<td></td>
<td>S</td>
</tr>
<tr>
<td>HSS</td>
<td>60.2</td>
</tr>
</tbody>
</table>

S = Students  T = Teachers  P = Parents

Source: field Data, 2010

Good health status of students affects students’ positively whereas poor health status of students affects students’ negatively. This is so because the healthy students have smooth and continuous learning process since they do not interrupt their learning processes in order to attend to their health problems. Poor health status of the students in the schools is highly attributed to poor environmental conditions prevailing in the schools; and sometimes the type of food taken by the students which is usually attributed to the unhygienic conditions under which the food is prepared.

4.2.2.5 Effect of Level of Teacher Motivation on Students’ Performance

Teacher motivation has direct effect on students’ academic performance. The study shows, as indicated in table 4.13 by teachers, that teachers perceive motivation to be significant in the performance of their duties. This is reflected in
the mean of means value of 2.26; SD = 1.28). Four factors, namely, salary level (1.81; SD = 0.99), allowances (1.94; SD = 1.26), accommodation (1.94; SD = 1.32) and welfare services (2.29; SD = 1.38) have been perceived as contributing significantly to teachers motivation.

Table 4.13: Perceived effects of factors determining the level of teacher motivation on students academic performance.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary level</td>
<td>1.81</td>
<td>0.99</td>
<td>54</td>
</tr>
<tr>
<td>Allowances</td>
<td>1.94</td>
<td>1.26</td>
<td>54</td>
</tr>
<tr>
<td>Accommodation</td>
<td>1.94</td>
<td>1.32</td>
<td>54</td>
</tr>
<tr>
<td>Welfare services</td>
<td>2.29</td>
<td>1.38</td>
<td>54</td>
</tr>
<tr>
<td>Means of transport</td>
<td>2.59</td>
<td>1.38</td>
<td>54</td>
</tr>
<tr>
<td>Credit facilities</td>
<td>3.01</td>
<td>1.39</td>
<td>54</td>
</tr>
<tr>
<td><strong>Mean of means</strong></td>
<td><strong>2.26</strong></td>
<td><strong>1.28</strong></td>
<td></td>
</tr>
</tbody>
</table>

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010

When salary levels are low teachers use part of the contact hours to look for other sources of income such as trading, farming, and even organising extra classes to supplement their incomes. Staff accommodation affects the students' performance in the sense that teachers staying on the schools compound normally report early for their lessons whereas those staying outside the schools sometimes report late.
for their lessons. Teachers accommodated on the school compound also freely and easily give academic assistance to students outside normal classes periods. The study shares common results with those of Adedeji (2007), who in a study established that motivation for teachers and students has significant impact on the achievement of secondary school students.

Two factors, on the other hand, are perceived not to be all that significant with respect to teacher motivation. These are means of transport (2.59; SD = 1.38) and credit facilities (3.01; SD = 1.39). The mean perceptions of the teachers of these two factors are approximately 3 and this corresponds to slightly significant on the response scale. This implies that the absence of a means of transport and credit facility does not affect the performance of the teacher that much.

A well motivated teacher derives a lot of satisfaction from the work he/she does. This means that teachers put up their best by way of performance of their duties when they are motivated. This is reflected in their lesson preparation, lesson delivery and punctuality to class among others. All these ultimately affect the academic performance of the student.

4.2.2.6 Effect Level of Discipline on Students’ Performance

Discipline among students is essential for good academic performance. A disciplined student is serious with studies, tries to conform to school rules and does not waste time on issues that are not deemed relevant whilst in school. This study sought to find out the perceptions of respondents on discipline as it relates to academic performance of students.
Table 4.14: Perceived effects of factors determining the level of discipline on students’ academic performance

| Factor                        | Students | | | | Teachers | | | |
|-------------------------------|----------|--------|--------|----------|----------|--------|--------|
|                               | Mean     | SD     | N      | Mean     | SD       | N      |
| Obedience to rules and regulations | 1.50     | 0.79   | 110    | 1.61     | 0.83     | 54     |
| Respect for authority         | 1.65     | 0.89   | 110    | 2.00     | 0.82     | 54     |
| Punctuality at school         | 1.56     | 0.81   | 110    | 1.57     | 0.68     | 54     |
| Performance of duties         | 1.65     | 0.81   | 110    | 2.09     | 0.95     | 54     |
| Mean of means                 | 1.59     | 0.82   | 110    | 1.81     | 0.82     | 54     |

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010

Table 4.14 shows the perceptions of respondents about the effect of discipline on student academic performance. The factors contributing to discipline as defined in this study are obedience to rules and regulations, respect for authority, punctuality to school and performance of duties. For all categories of respondents, namely, students and teachers, the perceptions are that the level of discipline affects academic performance of students significantly. The perceptions range from a mean of 1.50 for students to 2.09 for teachers. This means that on the whole respondents perceive the effect of discipline on academic performance to be approximately 2 and this represents significant on the response scale. This is confirmed by the mean of means for students (1.59; SD = 0.82) and teachers...
(1.81; SD = 0.82). The findings of this study are in line with the results of Karanja and Bowen (2012), who concluded that the performance of students in Secondary Schools is significantly influenced by the level of discipline prevailing in the schools.

All the respondents regard the level of discipline to have significant effect on the performance of students because it is a factor that helps in determining the stability and concentration of the minds of students and teachers on teaching and learning. This happens because students who break school rules and regulations are punished, sometimes during contact hours or even suspended thus making them to miss classes hence disrupting their learning process; which eventually affectively their academic performance in the schools.

4.2.2.7 Effect of level of supervision on Students’ Performance

Level of supervision also has significant effect on the performance of students in the schools. The study revealed that the perception of teachers about the level of significance of supervision with respect to the academic performance of students is high. Both internal and external supervision were perceived by the teachers to be significant, which is approximately 2. Internal supervision had a mean score of 1.51, SD = 0.66 whilst external supervision had a mean score of 2.22, SD = 0.94. This information is contained in table 4.15 below as indicated by teachers.
Table 4.15: Perceived effects of factors determining the level of supervision on students' academic performance.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal supervision</td>
<td>1.51</td>
<td>0.66</td>
<td>54</td>
</tr>
<tr>
<td>External supervision</td>
<td>2.22</td>
<td>0.94</td>
<td>54</td>
</tr>
<tr>
<td>Mean of means</td>
<td>1.86</td>
<td>0.80</td>
<td></td>
</tr>
</tbody>
</table>

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010

Supervision has a direct effect on the performance of teachers. When supervision is effective teachers prepare well for classes and are therefore able to deliver their lessons well. In addition to this they are punctual and give exercises that enable the students to understand concepts better and this will lead to better student performance. Effective supervision (internal and external) ensures that teachers are up to date regarding the preparation of their schemes of work, lesson notes and teaching aids among others; which contribute greatly towards the effectiveness of teaching and learning; and consequently good student performance in the schools. The outcome of this study shares a common view with that of Oredein and Oloyede (2007) which established that there are significant effects of supervision on students' academic performance in schools. Similarly, Too, Kimutai and Kosgei (2012) also arrived at a conclusion in their study that Supervision has positive relationship with students' performance in schools.
Internal supervision involves inspection of teachers' work, students' attendance to classes; and students' observation of preps periods among others, by school authorities and this affects the students' performance significantly. External supervision involves the inspection of the works of both teaching and non-teaching staff by education officers from the district and regional inspectorate divisions and this affects students' performance significantly. Frequent visits and inspection of the works of the staff of the schools by the supervisors ensure regular attendance and punctuality of teaching and non-teaching staff which consequently leads to early completion of syllabus. The teachers also prepare their schemes of work, lesson notes and teaching aids well and ahead of time since these are all inspected by the supervisors during their visits.

4.2.2.8 Effect of Class sizes on Students' Performance

The effect of class size on the overall performance of students cannot be overemphasised. The study revealed, as indicated in table 4.16 that 38.9%, and 20.4% of the students perceived the effect of class size on student performance to be very significant and significant respectively. This implies that 59.3% of the students found the effect of class size on student performance to be at least significant. Similarly, 20.8% and 35.8% of the teachers share that view with the students, that class size has very significant and significant effect respectively on students' academic performance. Together the two come up to 56.6%. Few of the respondents in each group (less than 20%), however, indicated that the effect of class size on students' performance is insignificant or very insignificant.
Class size has direct influence on the use of teaching and learning materials; and the effectiveness of teaching. Larger classes are difficult to handle and control and thus makes teacher and student interaction difficult. Teachers are unable to give class assignments frequently and cannot give special attention to relatively weak students. This slows down the teaching and learning process in the classrooms; resulting at low syllabus coverage on the part of both the teacher and the students. Larger classes also threaten the health status of students in the classes since such classroom situations are usually characterised by poor ventilation. See table 4.16.

**Table 4.16: Perceived Effect of Class Sizes (CS) on Students’ Performance**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Effect of Factor on students’ performance (in percentages of respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Significant</td>
</tr>
<tr>
<td>CS</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>38.9</td>
</tr>
</tbody>
</table>

S = Students  
T = Teachers

Source: Field Data, 2010

This result of the study is in line with the results of studies of Kershaw (1965) who established that there is significant difference between class situations of high and low student/teacher ratios. In his opinion, smaller class sizes guarantee good students performance. The research results of Dennison (1984) on the contrary, established that class size does not influence significantly the performance of
students. Thus, smaller class sizes do not guarantee good performance of students or pupils.

4.2.2.9 Effect of Level of Parental Care on Students' Performance

There is no denying the fact that how well a parent takes care of his/her child in school is very important. The care comes in various forms including payment of school fees, and providing the basic needs of the children. See table 4.17.

Table 4.17: Perceived Effect of Parental Care on Academic Performance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Student</th>
<th></th>
<th></th>
<th>Parent</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Payment of school fees</td>
<td>1.29</td>
<td>0.62</td>
<td>110</td>
<td>1.86</td>
<td>1.16</td>
<td>72</td>
</tr>
<tr>
<td>Provision of basic needs</td>
<td>1.38</td>
<td>0.69</td>
<td>110</td>
<td>1.80</td>
<td>1.12</td>
<td>72</td>
</tr>
<tr>
<td>Relationship with ward</td>
<td>1.70</td>
<td>0.62</td>
<td>110</td>
<td>1.94</td>
<td>1.19</td>
<td>72</td>
</tr>
<tr>
<td>Concern for ward</td>
<td>1.54</td>
<td>0.68</td>
<td>110</td>
<td>1.69</td>
<td>1.00</td>
<td>72</td>
</tr>
<tr>
<td>Mean of means</td>
<td>1.47</td>
<td>0.65</td>
<td></td>
<td>1.82</td>
<td>1.11</td>
<td></td>
</tr>
</tbody>
</table>

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010

The results of the study as indicated in table 4.17 show that on the whole students attached much more importance to parental care. A mean of means of 1.47 (SD = 0.65) for students as against 1.82 (SD = 1.11) for parents shows that the students take this issue of parental care more seriously than the parents. Whilst parents perceived school fees payment (1.82, SD = 1.16) and provision of basic needs
(1.80, SD = 1.12) to be significant (approximately 2), payment of school fees (1.29; SD = 0.62) and provision of basic needs (1.38; SD = 0.69) were perceived to be very significant by the students. Non-payment of school fees sometimes attracts a sanction of being driven away from school by the authorities until the fees are paid. For the period that the student is out of school he/she misses all lessons and this tends to affect their academic performance adversely. Providing the student with the basic needs, for example books, uniform and provisions ensures that the student stays focused. Their absence cause them to have divided attention since they sometimes spend quality time thinking of when they will be provided with such needs instead of concentrating on their studies.

4.2.2.10 Effect of Socio-economic Status of Parents on Students’ Performance

The effect of socio-economic status of parents of students in the schools on the performance of the students is perceived to be significant. This is shown in table 4.18 with mean of means values for students (1.96, SD = 1.04) and for parents (1.76, SD = 0.85). Even though both the students and the parents perceive all the factors that determine the socio-economic status of parents to have significant effect on the performance of students the perceptions of the parents are slightly stronger than those of the students. The results in the table shows the mean values for the students ranging from 1.77 with standard deviation 0.99 (for employment status) to 2.15 with standard deviation 1.00 (for social status) and those for the parents ranging from 1.56 with standard deviation 0.69 (for educational status) to 1.98 with standard deviation 0.99 (for wealth status).
Table 4.18: Effect of Socio-Economic Status of Parents on Students Academic Performance

| Factor         | Student | | | | | | Parent | | | | |
|----------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|
|                | Mean    | SD | N | Mean | SD | N |
| Social status  | 2.15    | 1.00 | 107 | 1.87 | 0.99 | 71 |
| Educational status | 1.79 | 0.95 | 107 | 1.56 | 0.69 | 71 |
| Employment status | 1.77 | 0.99 | 107 | 1.66 | 0.75 | 71 |
| Wealth status  | 2.14    | 1.25 | 107 | 1.98 | 0.99 | 71 |
| Mean of means  | 1.96    | 1.04 |       | 1.76 | 0.85 |       |

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010

The results show that, comparatively, both the students (1.79, SD = 0.95 and 1.56, SD = 0.69) and the parents (1.77, SD = 0.99 and 1.66, SD = 0.75) perceive the effects of educational status and employment status on students’ performance to be more significant than they perceive the effects of social status (2.15, SD = 1.00 and 1.87, SD = 0.99) by the students and parents respectively; and wealth status (2.14, SD = 1.25 and 1.98, SD = 0.99) by the students and parents respectively on the students’ performance. The implication of this outcome is that educational status and employment status of parents constitute the important factors that determine students’ academic performance. These factors are important because it is believed that educated parents can advise their wards more appropriately on educational issues than the uneducated ones. In the same vein, employed parents...
are more capable of paying their wards’ school fees and meeting the basic educational needs of their wards in school than the unemployed ones.

The results of this study are, however, contrary to the results of the study of Rothestein (2004); which established that parental socio-economic status has no significant effect on students’ academic performance in the schools. He further specifically established that parents’ educational status has no significant effect students’ academic performance.

4.2.2.11 Effect of Time Spent on Teaching and Learning on Students’ Performance

The time spent on teaching and learning has significant effect on the performance of the students. The results of the survey indicated that 34.5% and 29.3% of the students indicated that the time spent on teaching and learning has very significant and significant effect respectively on the students’ performance. For the teachers 11.1% and 42.6% perceive the effect of time spent on teaching and learning on academic performance to be very significant and significant respectively. Whilst the majority of the students (34.5%) perceive the factor to be very significant the majority of the teachers (42.6%) perceive it to be significant. Few of the students (8.6%) and the teachers (22.3%), however, indicated that the time spent on teaching and learning has insignificant or very insignificant effect on the students’ performance. Table 4.19 contains detail of this information. The result of this study share a common view with World Bank (2008) which established that time spent on teaching influences strongly students’ academic performance in schools.
Table 4.19: Perceived Effect of Time Spent on Teaching and Learning on Academic Performance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Effect of Factor on students’ performance (in percentages of respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Significant</td>
</tr>
<tr>
<td>S T</td>
<td>S T</td>
</tr>
<tr>
<td>TSTL</td>
<td>34.5 11.1 29.3 42.6 22.4 24.1 3.4 16.7 5.2 5.6</td>
</tr>
</tbody>
</table>

S = Students  T = Teachers

Source: Field Data, 2010

The more the quality time spent on teaching and learning the better the quality of teaching and learning and the better the performance of students. This is because teacher-student contact is improved and students get to understand lessons better. Spending less time on teaching and learning is likely to result in the non completion of syllabus and this has dire consequences on the academic performance of the students. Less time made available for teaching and learning is also likely to compel teachers to hurriedly complete their syllabus without making the students understand well the topics taught; which may also lead to poor student performance.
4.2.2.12 Effect of Environmental Conditions on Students’ Performance.

Environmental conditions in schools and homes of students have effects on the performance of the students. Generally, the students have the perception that the factor has very significant effect on their performance; whereas the teachers have the perception that it has significant effect on the students’ performance. These perceptions are contained in table 4.20 with a mean of means values of 1.48 (approximately 1) with standard deviation 0.66 for the students; and 1.93 (approximately 2) with standard deviations 0.92 for the teachers.

Table 4.20: Perceived Effect of Environmental Conditions on Academic Performance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Students</th>
<th></th>
<th>Teachers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>School surroundings</td>
<td>1.62</td>
<td>0.71</td>
<td>116</td>
<td>2.13</td>
</tr>
<tr>
<td>Ventilation</td>
<td>1.34</td>
<td>0.62</td>
<td>116</td>
<td>1.73</td>
</tr>
<tr>
<td>Mean of means</td>
<td>1.48</td>
<td>0.66</td>
<td></td>
<td>1.93</td>
</tr>
</tbody>
</table>

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010

Out of the two factors determining environmental conditions in the schools, ventilation is perceived by the students (1.34, SD = 0.62) to have very significant effect on students’ performance (approximately 1); and by the teachers (1.73, SD = 0.81) to have significant effect on the students’ performance (approximately 2).
The surroundings of schools are, however, perceived by the students and the teachers to have significant effect on the students' performance. Table 4.20 presents these perceptions of the respondents. The results of this study is not different from those of Berry (2002) which also established that environmental conditions of schools significantly affect the performance of students in such schools.

The respondents, especially the students regard environmental conditions as an important factor affecting their performance because it has health implications. Poor environmental conditions make the students often fall sick which often makes them miss some of the lessons; and consequently makes them perform poorly. Good environmental conditions, on the other hand, make the students healthy, active and motivated to learn. In this respect, there is the need for school authorities and parents to help create good environmental conditions in the schools and at the homes of the students; under which the students will learn to ensure their good academic performance.

4.2.2.13 The key Factors that determine Students’ Academic Performance

Based on the perceptions of all the three categories of respondents (students, teachers and parents) about the effects of the factors on students’ performance, availability of educational facilities, availability of quality teachers, availability of teaching and learning materials, health status of students and level of discipline are identified as the five (5) key factors determining the students performance. These factors were identified by comparing the means of means of all the categories of
the respondents in respect of each of the identified factors presented in table 4.8 above. As indicated in table 4.21, availability of educational facilities is the leading key factor with mean of means score of 1.49 whereas level of discipline is the least key factor with mean of means score of 1.85.

Table 4.21: Key factors determining students' academic performance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Students (Mean)</th>
<th>Teachers (Mean)</th>
<th>Parents (Mean)</th>
<th>Mean of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of Educational</td>
<td>1.28</td>
<td>1.66</td>
<td>1.53</td>
<td>1.49</td>
</tr>
<tr>
<td>Facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Competent</td>
<td>1.35</td>
<td>1.73</td>
<td>1.54</td>
<td>1.54</td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Teaching and</td>
<td>1.44</td>
<td>1.87</td>
<td>1.73</td>
<td>1.68</td>
</tr>
<tr>
<td>Learning Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Status of Parents</td>
<td>1.63</td>
<td>2.22</td>
<td>1.59</td>
<td>1.81</td>
</tr>
<tr>
<td>Level of Discipline</td>
<td>1.62</td>
<td>1.88</td>
<td>2.04</td>
<td>1.85</td>
</tr>
</tbody>
</table>

1 = Very Significant; 2 = Significant; 3 = Slightly Significant; 4 = Insignificant; 5 = Very Insignificant

Source: Field Data, 2010

These factors are identified as the key factors for the reason that they constitute the core of the teaching and learning processes in the schools. Thus effective teaching and learning cannot take place without facilities such as classrooms, laboratories, workshops, libraries, textbooks, qualified teachers, markers or chalk, drawing instruments and teaching aids among others in the schools. The health
status of students and the level of discipline among students in the schools are key factors because they determine greatly the stability and concentration level of the students on their learning and studies; which consequently determine the performance of the students in the schools.

4.2.2.14 The Relationship between the key factors and the Academic Performance (Average Scores of the Students)

Regression analysis performed on quantified data about the levels of the key factors and the average scores (academic performance) of the students in terms of the effects of the factors on the performance of the students established that the key factors and the students' performance relate significantly and positively. The results of the analysis indicated that the relationship between the key factors all together and the students' academic performance is statistically significant ($F = 20.195, P = 0.000$). This confirms the perceptions of the respondents that the factors have significant effect on students' performance. The results further indicated that the relationships between the individual factors (predictor variables) and the performance of the students are statistically significant and positive. This is because all the five key factors have their t-values ranging from 3.664 to 5.043 and p-values of 0.000 (all the factors). This is an indication that each of the factors has significant effect on the performance of the students; and for that reason, the improvement in each of the factors implies improvement in the performance of the students. The results also showed $R^2$ value of 0.59, an indication that the key factors account for 59% of the influences of all factors; with all other factors accounting for the rest of the 41%. See table 4.22 for details of this information.
Table 4.22: Results of Regression Analysis on the Relationship between the five (5) Key Factors and Students’ Average Examination Scores

**Regression Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.768&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.591</td>
<td>0.561</td>
<td>1.00160</td>
</tr>
</tbody>
</table>

a. Predictors: (Constants), Availability of Educational Facilities (AEF), Availability of Competent Teachers (ACT), Availability of Teaching and Learning Materials (ATLM), Health Status of Students (HSS), Level of Discipline (LoD)

**ANOVA<sup>b</sup>**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>121.555</td>
<td>6</td>
<td>20.259</td>
<td>20.195</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>84.269</td>
<td>84</td>
<td>1.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>205.824</td>
<td>90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constants), Availability of Educational Facilities (AEF), Availability of Competent Teachers (ACT), Availability Teaching and Learning Materials (ATLM), Health Status of Students (HSS), Level of Discipline (LoD)

b. Dependent Variable: Students’ Average Score
Critically looking at the results in table 4.20, there is no doubt that the five factors, namely availability of educational facilities, availability of qualified teachers, availability of teaching and learning materials, health status of students and level of discipline among students are key determinants of students' academic performance in schools. It is therefore clear that measures necessarily be taken to solve all problems related to these factors in the schools in order to make teaching and learning more effective. In respect of this, it is recommended that all stakeholders in education contribute their quotas in diverse ways in finding solutions to these problems in the schools in order to ensure good student performance in the schools.
5 SUMMARY OF RESEARCH FINDINGS, CONCLUSION AND RECOMMENDATIONS.

5.1 SUMMARY OF RESEARCH FINDINGS

5.1.1 Identification of factors

As a result of the investigation, the major factors that determine the academic performance of students in the second cycle institutions in the district are identified as: availability of educational facilities, availability of qualified teachers, availability of teaching and learning materials, health status of students, level of teacher motivation, level of discipline, level of supervision, class sizes, level of parental care, socio-economic status of parents/guardians, time spent on teaching and learning, and environmental conditions in schools and homes.

5.1.2 Assessment of the effects of the factors on students' performance.

The results indicate that generally all respondents perceive the factors to be significant in determining the academic performance of students in the schools. With the exception of socio-economic status of parents (2.76, SD=1.08) and environmental conditions (2.62, SD=1.06) teachers generally perceived the levels of significance of all the factors to be significant (approximately 2; from 1.66 to 2.41). For the parents only class size was perceived to be slightly significant (approximately 3; 2.78, SD = 1.09). All the other factors were perceived to be significant (approximately 2; from 1.53 – 2.47). Students, on the other hand,
perceive three of the factors to be very significant – availability of educational facilities (1.28, SD=0.79), availability of qualified teachers (1.35, SD = 0.78 and availability of teaching and learning materials (1.44, SD = 1.01). All the other factors are perceived by the students to be significant in determining academic performance (approximately 2; from 1.62 – 2.33).

5.1.2.1 Educational facilities

Availability of educational facilities in the schools has significant effect on students’ performance. Out of the eight factors constituting availability of educational facilities (libraries, electricity, classrooms, laboratories, workshops, furniture, residential halls and staff bungalows), students perceived four of them to be very significant (approximately 1) and these are library (1.32, SD=0.68), electricity (1.48; SD = 0.83), classroom (1.44; SD = 0.74) and laboratories (1.27; SD = 0.75) whilst the rest were perceived to be significant. The teachers on the other hand perceived only library to be very significant (1.38; SD = 0.68) and the rest to be significant.

5.1.2.2 Competent Teachers

Factors such as teacher punctuality (1.53; SD = 0.83), relationship of teachers with students (2.05; SD = 0.92) and teacher appearance in class (2.34; SD = 1.22) were perceived by students to be significant qualities that teachers must possess. The students, however, perceived teacher regularity (3.14; SD = 1.53) to be
slightly significant (approximately 3). The perceptions of teachers of these factors on the availability of competent teachers are not different from those of the students. Generally the teachers perceived all the factors to be significant (approximately 2).

5.1.2.3 Teaching and Learning Materials

Level of availability of teaching and learning materials affects students' performance significantly. This is evidently indicated by the perceptions of both the students and teachers with mean of means score for students (1.53; SD = 0.78) and teachers (1.71; SD = 0.88). Among all the materials (textbooks, markers or chalk, drawing instruments and instruments) however, both students and teachers perceive textbooks availability as very significant (1.27; SD = 0.61) and (1.40; SD = 0.68) for students and teachers respectively). Students also perceive chalk/marker as another very significant teaching and learning material (1.48; SD = 0.69). The rest of the factors (drawing instruments and teaching aids) are however perceived by the respondents to have significant effect on the students' performance.

5.1.2.4 Health status of students

Health status of students is perceived by all the three categories of respondents to have significant effect on students' performance. The results of the study indicate that 79.6% of the students perceived the factor to have very significant (60.2%) and significant (19.4%) effects on the performance of the students. Compared with
the students, more of the parents (92.8%) perceived the factor to be very significant (51.4%) and significant (41.4%) regarding its effect on the performance of the students. Though the teachers also perceived the factor to have significant effect on students’ performance, they do not have high perception as the students and parents do. Only 62.3% of them perceive the factor to have very significant (28.3%) and significant (34.0%) effects on the students’ performance.

5.1.2.5 Teacher motivation

Level of Teacher motivation in schools is perceived by the sole teacher respondents to have significant effect on the performance of students. This is reflected in the mean of means value of 2.26; SD = 1.28). Four factors, namely, salary level (1.81; SD = 0.99), allowances (1.94; SD = 1.26), accommodation (1.94; SD = 1.32) and welfare services (2.29; SD = 1.38) have been perceived as contributing significantly to teachers motivation.

5.1.2.6 Discipline

All the categories of respondents, namely, students, teachers and parents have the perception that the level of discipline affects academic performance of students significantly. The perceptions range from a mean score of 1.50 for students to 2.09 for teachers. The indication is that on the whole, respondents perceive the effect of discipline on academic performance to be approximately 2; which represents significant on the response scale. This is confirmed by the mean of means for students (1.59; SD = 0.82) and teachers (1.81; SD = 0.82).
5.1.2.7 Supervision

Level of supervision was also perceived by the respondents to have significant effect on the performance of students. This was detected when the study results recorded a mean of means score of 1.86 with standard deviation of 0.80 for the sole teacher respondents in respect of the effect of the factor on the students' performance. Though both internal and external supervision have significant effect on students' performance, internal supervision is perceived to have more effect than external supervision. The results recorded the mean for internal supervision (1.51, SD = 0.66) as compared to that of external supervision (2.22, SD = 0.94).

5.1.2.8 Class sizes

Class size is also a factor perceived to have significant effect on students' performance in second cycle institutions in the district. The study results indicate that 38.9% and 20.4% (a total of 59.3%) of the students perceive the effect of the factor on students' performance to be very significant and significant respectively. The teachers shared a similar view; 20.8% and 35.8% (a total of 56.6%) of them perceived the factor to have very significant and significant effects respectively on the performance of the students in the schools.

5.1.2.9 Parental Care/involvement

Mean of means scores for students (1.47, SD = 0.65) and parents (1.82, 1.11) indicate that the students perceive the factor to be very significant (approximately 1) whilst the teachers perceive it to be significant (approximately 2).
factors determining parental care, payment of school fees (1.29, SD = 0.62) and 
provision of basic educational needs (1.38, SD = 0.69) are perceived by the students 
to be very significant (approximately 1); but perceived by the parents – payment 
of school fees (1.86, SD = 1.16) and provision of basic educational needs (1.80, 
SD = 1.12) to have significant effect on the students’ performance (approximately 
2). Relationship with ward and concern for ward are however perceived by the 
respondents to be significant; with mean range 1.54 to 1.94 (approximately 2).

5.1.2.10 Socio-economic Status of Parents

The effect of socio-economic status of parents of students in the schools on the 
performance of the students is perceived to be significant. Mean of means values 
for students (1.96, SD = 1.04) and for parents (1.76, SD = 0.85) indicate these 
perceptions. All the factors that determine the socio-economic status of parents are 
perceived by the respondents (both the students and parents) to be significant. The 
results show the mean values for the students ranging from 1.77 with standard 
deviation 0.99 (for employment status) to 2.15 with standard deviation 1.00 (for social status); and those for the parents ranging from 1.56 with standard deviation 0.69 (for educational status) to 1.98 with standard deviation 0.99 (for wealth status).

The results showed that, comparatively, both the students (1.79, SD = 0.95 and 
1.56, SD = 0.69) and the parents (1.77, SD = 0.99 and 1.66, SD = 0.75) perceive 
the effects of educational status and employment status on students’ performance 
to be more significant than they perceive the effects of social status – students
(2.15, SD = 1.00) and parents (1.87, SD = 0.99); and wealth status - students (2.14, SD = 1.25) and parents (1.98, SD = 0.99) on the students’ performance.

5.1.2.11 Time Spent on teaching and learning

The respondents (students and teachers) perceive the effect of time spent on teaching and learning on the performance of students to be significant. The study results indicate that 63.8% of the students perceive the factor to have very significant (34.5%) and significant (29.3%) effects on the performance of the students. Similarly, 53.7% of the teachers have the perception that the factor affects the performance of the students very significantly (11.1%) and significantly (42.6%). This indicates that whilst the majority of the students (34.5%) perceive the factor to be very significant, the majority of the teachers (42.6%) perceive it to be significant in respect of its effect on the performance of the students in the schools in the district.

5.1.2.12 Environmental Conditions

Environmental conditions in schools of students have significant effects on the performance of the students. This is indicated with mean of means value of 1.48 (approximately 1) with standard deviation 0.66 for the students; and mean of means value of 1.93 (approximately 2) with standard deviation 0.92 for the teachers. Ventilation out of the two factors determining environmental conditions is perceived by the students (1.34, SD = 0.62) to have very significant effect on students’ performance (approximately 1); and by the teachers (1.73, SD = 0.81) to have significant effect on the students’ performance (approximately 2). The mean
scores for students (1.62, SD = 0.71) and teachers (2.13, SD = 1.04) in the results indicate the perceptions of the respondents that the surroundings of the schools have significant effect on students’ performance in the schools.

5.1.2.13 Key factors determining students’ academic performance

The factors identified by comparison of means of means as the five (5) key factors among the twelve (12) factors determining the academic performance of students in the senior high schools in the district are availability of educational facilities (mean = 1.49), Availability of competent teachers (mean = 1.54), Availability of teaching/learning materials (mean = 1.68), Health status of students (mean = 1.81) and Level of discipline (mean = 1.85). The factors are identified taking into consideration how significantly they affect the performance of the students.

5.1.2.14 Relationship between key factors and students’ academic performance

All the key factors, both collectively and individually have significant effect(s) on students’ academic performance (F = 20.165, P = 0.000). All the key factors also have positive relationship with students’ academic performance. The factors have their t-values ranging from 3.665 to 5.043 and p-values of 0.000 (all the factors). The key factors account for 59% of the influences of all factors determining students’ academic performance; with all other factors accounting for the rest of 41%. This is indicated by the $R^2$ value of 0.591 obtained in the results.
5.2 CONCLUSION

The study reveals that many factors account for the academic performance of students in second cycle institutions in the district. Twelve factors were identified by the respondents to have effects on the performance of the students in the schools. The factors include availability of educational facilities; availability of qualified teachers; availability of teaching and learning materials; health status of students; teacher motivation; level of discipline; level of supervision; Class sizes and parental care among others. The factors were identified by the respondents with acceptance percentage range of (91.3% - 99.6%).

Availability of educational facilities, availability of qualified teachers, availability of teaching and learning materials; health status of students and level of discipline were identified as the key factors that affect student performance significantly.

It is also established that the factors, especially the key factors relate positively with the academic performance of the students.

5.3 RECOMMENDATIONS

- Adequate educational facilities such as classrooms, residential halls/hostels and staff bungalows among others should be made available in the schools in order to facilitate effective teaching and learning. The government through the district assembly should intervene in this respect.
- PTA's support by means of authorising the payments of special development levies by parents in response to appeals by authorities of the schools is also highly recommended.
• The poorly equipped libraries, laboratories and workshops in the schools should also be well equipped to support the effective teaching and learning of practical lessons. The intervention of old students associations, donor agencies, and NGOs as a result of the initiative of the authorities of the schools is very much necessary.

• Efforts should be made by government, school authorities and PTAs to provide the schools with competent teachers. Teachers without professional qualification in education should be encouraged and supported by the authorities of the schools to take advantage of the Distance Learning programmes available in the country to equip themselves with the requisite knowledge and skills so as to improve their competencies in teaching.

• The authorities of the schools should frequently assist teachers of the schools to attend the annual workshops organised by GES, teacher unions such as GNAT and NAGRAT and subject associations among others. In-service training programmes should also be organised locally by heads of the schools for the teachers to equip them with the necessary teaching methods and skills for effective teaching. The authorities of the schools should also ensure through frequent inspection of teachers’ work that appropriate teaching methods are adopted by the teachers during teaching in order to enhance their teaching abilities.

• Adequate teaching and learning materials such as textbooks, drawing instruments, chalk and markers and teaching aids should be made available
in the schools to enhance teaching and learning. This can be done through the efforts of the authorities of the schools by making sure that these basic and necessary materials are always adequately supplied to the schools in good time for use. Teachers should make the effort to prepare teaching aids and use them for the lessons they deliver.

- Appropriate measures should be put in place to ensure continuous good health status of the students in the schools. In this respect, measures such as making sure every student is registered with the National Health Insurance Scheme (NHIS); provision of functional first aid boxes for the schools; and organising frequent health talks and checks to be carried out by health officials from the district hospital to students in the schools. Parents should provide their wards with impregnated mosquito nets for use in schools.

- Through negotiations, government and the teacher unions such as Ghana National Association of Teachers (GNAT) and National Association of Graduate Teachers (NAGRAT) should come out with appropriate motivational packages for teachers. These may include enhanced salaries and allowances for teachers. The teacher unions should also provide easy access to financial assistance from the unions' funds to enable members acquire their own means of transport to make movements to and from their work places easier. Welfare societies in the schools should be well instituted and managed to provide welfare services to teachers in order to encourage them to work harder. Through the efforts of government, school
authorities and PTAs, teachers in the second cycle institutions should be provided with decent accommodation.

- Discipline situations in the schools should be improved. This can be done through the collaborative efforts of the schools’ authorities, teachers of the schools, students of the schools and parents of the students of the schools. Appropriate disciplinary measures should be taken and offenders appropriately punished to ensure effective discipline situations in the schools.

- Supervision exercise (internal and external) in the schools should be intensified and carried out frequently in order to ensure effective teaching and learning. This can be facilitated by the efforts of the headmasters and the assistant headmasters of the schools and the district and regional directors of education through their inspectorate divisions (by circuit supervisors). Offending teachers should be identified and sanctioned appropriately by the headmasters of the schools and the district director to ensure effective teaching and learning in the schools.

- Efforts should be made by government and the authorities of the schools to reduce the large class sizes in the schools to ensure effective teaching and learning. This can be done by providing more infrastructures such as classrooms, residential halls, laboratories and workshops to ease the congestion in the schools. The authorities of the schools can also limit their
yearly intake during admissions; taking into consideration the facilities available in the schools.

- Parents/guardians should make efforts to give their wards good parental care. In this respect, payment of school fees and provision of basic educational needs of wards by their parents is highly recommended. Parents should also be educated to relate well with their wards, talk to them often about their education, assist them to get extra tuition through extra classes; and monitor their progress by looking at their terminal academic reports regularly in order to encourage them to learn well.

- Environmental conditions in the schools need to be improved in order to make them more conducive for teaching and learning. The schools' surroundings should be made beautiful, shady and clean. In this respect, flower and tree planting and frequent cleaning exercises should be embarked upon in the schools by the joint efforts of the school authorities, the teachers and the students of the schools. The schools' authorities should negotiate with environmental management organisations such as Zoom Lion through the district assembly; and NGOs such as Action aid-Ghana and Plan-Ghana among others for the provision of enough refuse containers and ceiling fans at the schools.
REFERENCES


Publishers.


Africa Human Development Series. The World Bank


*Research in Britain.* NFER Publishing Company Ltd.


APPENDIX I: Questionnaire for Students

A. PERSONAL INFORMATION (DEMOGRAPHIC CHARACTERISTICS)

1. Age: Less than 25 years □ (25 – 40) years □ More than 40 years □

2. Sex: Male □ Female □

3. Religion: Christianity □ Islam □
   African traditional religion □ Others □ (specify) .......

4. Marital status: Married □ Single □ Divorced □ Separated □ Widow/Widower □

5. Occupation: Student □ Worker □ Others □ (specify) .......
   Farmer □ Trader □

6. Educational status: No education □ Middle school □ Junior High □
   Senior High □ Tertiary □

B. FACTORS THAT DETERMINE STUDENTS PERFORMANCE

7. In your opinion, which of the following are factors that determine the academic performance of students in the second cycle institutions in the district?

<table>
<thead>
<tr>
<th>Suggested Factor</th>
<th>Applicable factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of educational facilities</td>
<td>□</td>
</tr>
</tbody>
</table>
8. For each of the factors you have ticked above indicate how it affects students' academic performance in the schools. Use the scale (1, 2, 3, 4, 5) for the rating.

(Circle one response for each item.)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very</th>
<th>Slightly</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of educational facilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Availability of competent teachers</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Factor</td>
<td>Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of teaching/learning materials</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of teacher motivation</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health status of the student</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of discipline</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of supervision</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of class size (student : teacher ratio)</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of parental care for students</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socio-economic (wealth) status of parents</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time spent on task (Teach.&amp;Learn.)</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental situation (home and school)</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**a. Availability of Educational Facilities**

9. How significantly does the availability of each of the following educational facilities affect the students' academic performance in your school? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Facility</th>
<th>Very Significant</th>
<th>Slightly Significant</th>
<th>Very Insignificant</th>
<th>Insignificant</th>
<th>Insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

125
b. Availability of Competent Teachers

10. Indicate how significantly each of the following characteristics of the teachers affect the performance of the students in your school? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Very Significant</th>
<th>Slightly Significant</th>
<th>Insignificant</th>
<th>Very Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punctuality</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Absenteeism</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Relationship with students</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Appearance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
c. Availability of Teaching and Learning Materials

11. How significantly does each of the following teaching and learning materials affect the students' academic performance in your school? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Material</th>
<th>Very Significant</th>
<th>Very Significant</th>
<th>Slightly Significant</th>
<th>Insignificant</th>
<th>Insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text books</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Drawing instruments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Teaching aids</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Chalk / markers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

d. Level of Discipline

12. Indicate how significantly each of the following disciplinary factors affect the performance of the students in your school? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very Significant</th>
<th>Slightly Significant</th>
<th>Insignificant</th>
<th>Insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obedience of rules</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Respect for authority</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Punctuality at school 1 2 3 4 5
Performance of duties 1 2 3 4 5
e. Level of Parental Care

13. How significantly does each of the following parental care factors affect the performance of the students? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

Very Significant Slightly Insignificant Very
Significant significant
Payment of school fees 1 2 3 4 5
Provision of basic needs 1 2 3 4 5
Relationship with ward 1 2 3 4 5
Concern for ward 1 2 3 4 5

f. Socio-economic status of parents

14. How significantly does each of the following parental care factors affect the performance of the students? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item)

Very Significant Slightly Insignificant Very
Significant significant

g. Environmental conditions (School and Home)

15. How significantly do the following environmental factors affect the performance of the students in your schools? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very</th>
<th>Slightly</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Signif</td>
<td>Signif</td>
<td>Signif</td>
</tr>
<tr>
<td>Surroundings</td>
<td>1  2  3</td>
<td>4  5</td>
<td></td>
</tr>
<tr>
<td>Ventilation</td>
<td>1  2  3</td>
<td>4  5</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX II: Questionnaire for Teachers

A. PERSONAL INFORMATION (DEMOGRAPHIC CHARACTERISTICS)

1. Age: Less than 25 years [ ] (25 – 40) years [ ] More than 40 years [ ]

2. Sex: Male [ ] Female [ ]

3. Religion: Christianity [ ] Islam [ ]
   African traditional religion [ ] Others [ ] (specify) .........

4. Marital status: Married [ ] Single [ ] Divorced [ ] Separated [ ]
   Widow/Widower [ ]

5. Occupation: Student [ ] Worker [ ] Others [ ] (specify) .......
   Farmer [ ] Trader [ ]

6. Educational status: No education [ ] Middle school [ ] Junior High [ ]
   Senior High [ ] Tertiary [ ]

B. FACTORS THAT DETERMINE STUDENTS PERFORMANCE

7. In your opinion, which of the following are factors that determine the academic performance of students in the second cycle institutions in the district?

<table>
<thead>
<tr>
<th>Suggested Factor</th>
<th>Applicable factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Tick) Availability of educational facilities</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

130
8. For each of the factors you have ticked above indicate how it affects students’ academic performance in the schools. Use the scale (1, 2, 3, 4, 5) for the rating.

(Circle one response for each item.)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of educational facilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of competent teachers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Facility</td>
<td>Very Signif</td>
<td>Slightly Signif</td>
<td>Very Insignif</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------</td>
<td>----------------</td>
<td>--------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. How significantly does the availability of each of the following educational facilities affect the students' academic performance in your school? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)
### b. Availability of Competent Teachers

10. Indicate how significantly each of the following characteristics and instructional methods of the teachers affect the performance of the students in your school? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Very Significant</th>
<th>Slightly Significant</th>
<th>Insignificant</th>
<th>Very Insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punctuality to class</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absenteeism</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship with students</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

133
c. Availability of Teaching and Learning Materials

11. How significantly does each of the following teaching and learning materials affect the students’ academic performance in your school? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Teaching and Learning Materials</th>
<th>Very Significant</th>
<th>Very</th>
<th>Slightly Insignificant</th>
<th>Slightly</th>
<th>Insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text books</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Drawing instruments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Teaching aids</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Chalk / markers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

d. Level of Teacher Motivation

12. How significantly does each of the following teacher motivational factors affect the performance of the students in your school? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Teacher Motivational Factors</th>
<th>Very Significant</th>
<th>Very</th>
<th>Slightly Insignificant</th>
<th>Slightly</th>
<th>Insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary level</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Allowances</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Accommodation 1 2 3 4 5
Welfare services 1 2 3 4 5
Means of transport 1 2 3 4 5
Credit Facilities 1 2 3 4 5

e. Level of Discipline

13. Indicate how significantly each of the following disciplinary factors affect the performance of the students in your school? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th></th>
<th>Very</th>
<th>Significantly</th>
<th>Slightly</th>
<th>Insignificantly</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obedience of rules</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Respect for authority</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Punctuality at school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Performance of duties</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

f. Level of Supervision (Internal and external)

14. How significantly does supervision affect the performance of the students in your school?
### Environmental conditions (School)

15. How significantly do the following environmental factors affect the performance of the students in your schools? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item).

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very</th>
<th>Slightly</th>
<th>Significantly</th>
<th>Insufficient</th>
<th>Insufficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal supervision</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>External supervision</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Surroundings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ventilation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX III: Questionnaire for Parents

A. PERSONAL INFORMATION (DEMOGRAPHIC CHARACTERISTICS)

1. Age: Less than 25 years □ (25 – 40) years □ More than 40 years □

2. Sex: Male □ Female □


4. Marital status: Married □ Single □ Divorced □ Separated □ Widow/Widower □

5. Occupation: Student □ Worker □ Others (specify) □ Farmer □ Trader □

6. Educational status: No education □ Middle school □ Junior High □ Senior High □ Tertiary □

B. FACTORS THAT DETERMINE STUDENTS PERFORMANCE

7. In your opinion, which of the following are factors that determine the academic performance of students in the second cycle institutions in the district?

<table>
<thead>
<tr>
<th>Suggested Factor</th>
<th>Applicable factor (Tick)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of educational facilities</td>
<td>□</td>
</tr>
<tr>
<td>Availability of competent teachers</td>
<td>□</td>
</tr>
</tbody>
</table>
Availability of teaching and learning materials
Level of teacher motivation
Health status of the student
Level of discipline
Level of supervision
Class size (student/tr. Ratio)
Level of parental care for students'
Socio-economic status of parents
Time spent on task (teaching and learning)
Environmental situation (school)

8. For each of the factors you have ticked above indicate how it affects students' academic performance in the schools. Use the scale (1, 2, 3, 4, 5) for the rating.
(Circle one response for each item.)

<table>
<thead>
<tr>
<th></th>
<th>Very</th>
<th>Slightly</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of educational facilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Availability of competent teachers</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Availability of teaching/learning materials</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

138
Level of teacher motivation 1 2 3 4 5
Health status of the student 1 2 3 4 5
Level of discipline 1 2 3 4 5
Level of supervision 1 2 3 4 5
Level of class size 1 2 3 4 5
Level of parental care for students 1 2 3 4 5
Socio-economic status of parents 1 2 3 4 5
Time spent on Teaching and Learning 1 2 3 4 5
Environmental situations 1 2 3 4 5

a. Level of Parental Care

9. How significantly does each of the following parental care factors affect the performance of the students? Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very Significant</th>
<th>Significant</th>
<th>Slightly Significant</th>
<th>Insignificant</th>
<th>Very Insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment of school fees</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Provision of basic needs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Relationship with ward</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
b. **Socio-economic status of parents**

33. Indicate how significantly each of the following socio-economic status of parents factors affects students’ performance in the schools. Use the scale (1, 2, 3, 4, 5) for the rating. (Circle one response for each item.)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very Significant</th>
<th>Slightly Significant</th>
<th>Insignificant</th>
<th>Very Insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social status</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Educational status</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Employment status</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Wealth status</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX IV: Supplementary Questionnaire for Students

1. Assess the level of availability of the following educational facilities; or how adequately they are equipped in your school. (Tick the appropriate region).

<table>
<thead>
<tr>
<th>Facility</th>
<th>Level of Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
<td>Very Inadequate</td>
</tr>
<tr>
<td>Furniture</td>
<td>Inadequate</td>
</tr>
<tr>
<td>Laboratory</td>
<td>Slightly Adequate</td>
</tr>
<tr>
<td>Workshops</td>
<td>Adequate</td>
</tr>
<tr>
<td>Electricity</td>
<td>Very Adequate</td>
</tr>
<tr>
<td>Library</td>
<td></td>
</tr>
</tbody>
</table>

2. How adequately are competent teachers (regarding their punctuality, regularity and relationship with other teachers and students) available in your school? (Tick the appropriate region).
<table>
<thead>
<tr>
<th>Attribute of Competency</th>
<th>Level of Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Inadequate</td>
</tr>
<tr>
<td>Punctual</td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td></td>
</tr>
<tr>
<td>Relations</td>
<td></td>
</tr>
</tbody>
</table>

3. Assess the level of availability of the following teaching and learning materials in your school. (Tick the appropriate region).

<table>
<thead>
<tr>
<th>Material</th>
<th>Level of Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Inadequate</td>
</tr>
<tr>
<td>Textbooks</td>
<td></td>
</tr>
<tr>
<td>Drawing Instruments</td>
<td></td>
</tr>
<tr>
<td>Teaching Aids</td>
<td></td>
</tr>
<tr>
<td>Markers / Chalk</td>
<td></td>
</tr>
</tbody>
</table>
4. How many times do you attend hospital in a term while in school?

- Not at all □
- 1–3 times □
- 4–6 times □
- 7–10 times □
- Several times □

5. State how satisfactory the conduct of the student is in school (to be filled by form master of the student’s form).

- Very Unsatisfactory □
- Unsatisfactory □
- Quite Satisfactory □
- Satisfactory □
- Very Satisfactory □
APPENDIX V: Interview Guides for Respondents

a) Interview Guide for Students

1. How can the situation of less availability of educational facilities be improved?
2. How can the situation of less qualified/competent teachers be improved?
3. How can the situation of less availability of teaching and learning materials be improved?
4. How can the situation of poor health status of students be improved?
5. How can the situation of low level of discipline be improved?
6. How can the situation of low parental care be improved?
7. How can the situation of poor socio-economic status of parent be improved?
8. How can the situation of less time spent on task be improved?
9. How can the problem of poor environmental situation be improved?

b) Interview Guide for Teachers

1. How can the situation of less availability of educational facilities be improved?
2. How can the situation of less qualified/competent teachers be improved?
3. How can the situation of less availability of teaching and learning materials be improved?
4. How can the situation of poor health status of students be improved?
5. How can the situation of low teacher motivation be improved?

6. How can the situation of low level of discipline be improved?

7. How can the situation of ineffective supervision be improved?

8. How can the situation of high student-teacher ratio be improved?

9. How can the situation of less time spent on task be improved?

10. How can the problem of poor environmental situation be improved?

c) Interview Guide for Parents

1. How can the situation of poor health status of students be improved?

2. How can the situation of low parental care be improved?

3. How can the situation of poor socio-economic status of parent be improved?