

**INFLUENCE OF INSTITUTIONAL CAPACITY ON
ACADEMIC PERFORMANCE OF STUDENTS IN PUBLIC
SECONDARY SCHOOLS IN USIGU DIVISION – BONDO
DISTRICT, KENYA.**

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DECLARATION

This research project report is my original work and has never been presented for a degree or any award in any other university.

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DEDICATION

This work is dedicated to my late father Erick Achiengø, my mother Selah Achiengø, my beloved wife Mission Onyango and my two sons Joseph and Emmanuel. Your love, support and encouragement inspired me.

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LIST OF ABBREVIATIONS AND ACRONYMS

BEd	Bachelor of Education
BOG	Board of Governors
BSc Educ	Bachelor of Science in Education
DEO	District Education Officer
DOS	Director of Studies
H/M	Head Master/Mistress
HOD	Head of Department
HOS	Head of Subject
KCSE	Kenya Certificate of Secondary Education
KIE	Kenya Institute of Education
KNEC	Kenya National Examinations Council
MOEST	Ministry of Education, Science and Technology
SEB	Socio-economic Background
SPSS	Statistical Package for Social Sciences
TSC	Teachers Service Commission
UON	University of Nairobi
US	United States

ABSTRACT

The education system in Kenya is largely examination oriented. The quality of education tends to be evaluated in terms of students passing national examinations. Academic performance of student results from factors related to pupils' personal characteristics and the pupils' environment- the school and the home. The poor KCSE results have denied many students who went through public secondary schools in Usigu division chances of competing favorably for national opportunities. This research aimed at investigating influence of institutional capacity on academic performance of students in public secondary schools in Usigu division- Bondo district, Kenya. To achieve this purpose, the study was guided by the following objectives: to establish the extent to which physical facilities as a component of institutional capacity influence academic performance of students in public secondary schools, to assess the level at which human resources as a component of institutional capacity influence academic performance of students in public secondary schools, to investigate the extent to which school leadership as a component of institutional capacity influences academic performance of students in public secondary schools and to explore strategies that can be used to improve academic performance of students in public secondary schools in Usigu division. This study sought to answer the following research questions: What is the extent to which school leadership influences academic performance of students in public secondary schools? To what extent do physical facilities influence academic performance of students in public secondary schools? What is the level at which human resources influence academic performance of students in public secondary schools? What are the strategies that can be used to improve academic performance of students in public secondary schools in Usigu division? The study was anchored on the theory of Educational Production Function and conceptual framework that showed the interrelatedness of various components of institutional capacity that influence academic performance of students in public secondary schools. The study utilized descriptive survey research design that involved administration of questionnaires to a sample of 97 respondents drawn from a target population of 130. This included 89 teachers and 8 principals. Since only 8 public secondary schools were considered for the study, all the principals were purposively sampled while the teachers were randomly sampled for the study. The data collected was edited, coded and analyzed using descriptive statistics such as frequency and percentage counts with the help of the Statistical Package for Social Sciences (SPSS). Correlation analysis was used to determine the relationship between the variables in the study. The analyzed data was then presented in form of frequency and percentage distribution tables. Study findings were discussed, conclusions drawn and finally recommendations made to deal with the challenges revealed by the study. Although the study findings revealed inadequate physical facilities, and understaffing, in the public secondary schools, the teachers were found to be highly motivated and happy. Some conclusions drawn from the findings were that the low academic performance in the division was due to inadequacy of most physical facilities, most teachers had accumulated few years of teaching experience, and high handedness in school leadership. This study recommends that the government employs more teachers to reduce understaffing, invent strategies for making teaching an attractive career through proper remuneration so that more people can be trained for employment by the TSC. Whereas this study revolved around the school environment, it further recommends investigations into influence of home environment and student characteristics on academic performance of students in public secondary schools in Usigu division.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Globally, the concept of institutional capacity has been studied by many scholars, in two facets of literature namely state capacity and institutional analysis. However, there has been lack of consensus on the meaning and measurement of institutional capacity both in research and practice (Honadle, 1981). Even so, behavioral approach has been widely adopted. According to Sokolow (1979), state capacity is defined as the ability of states to implement official goals, regardless of the position of powerful social groups or in the face of difficult economic circumstances. Howitt (1977) on the other hand describes management capacity as the ability to identify problems, develop and evaluate policy alternatives for dealing with them, and operate organizational programs.

The above definitions assume institutional capacity is the ability to carry out certain functions (Lindley, 1975). From this delineation, it is clear that the following three factors matter for institutional capacity. (1) What end (s) to pursue, (2) intention to act, and (3) ability to act. Institutional capacity is of central importance to performance. Generally, it is the desire to change performance that drives people to engage in institutional education. Performance can be conceived as the tip of the iceberg, the fruit of institutional capacity made visible to the outside world.

The institutions underlying capacity either supports or impedes its performance; thus an assessment of the academic performance of public secondary schools can be a tip off to weaknesses or strengths in underlying capacity to address any institutional capacity gaps in academic performance. The key components of institutional capacity which

underlie academic performance can be broadly categorized into strategic leadership, human resources, other core resources such physical facilities, technology and finance, program management, process management and inter-institutional linkages. A comprehensive mission of public secondary schools is to produce students who are intellectually competent and prepared for post-secondary education and the increasingly competitive workforce. However, differences in educational outcomes of students indicate that the impact of our current public school system is limited. Measuring of academic performance of students is challenging since student academic performance is a product of many factors. All of the research reviews support the hypothesis that student performance depends on different socio-economic, psychological, environmental factors. The findings of research studies focus that student performance is affected by different factors such as learning abilities because new paradigm about learning assumes that all students can and should learn at higher levels.

Other factors that can affect student's performance include race, gender, and sex. Some of the researchers even try to explain the link between student's academic achievements, economic circumstances and the risk of becoming a drop-out that proves to be positive. Chansarkar and Mishaeloudis (2001), explain the effects of age, qualification, and distance from learning place on student performance. They also argue that those who live near the school perform better than other students. Yvonne and Soyibo (1998) further elaborate that student academic performance is very much dependent on socio economic background (SEB). According to them, secondary school students' level of performance is with statistically significant differences, linked to their gender, grade level, school location, school type, student type and SEB. Some researchers

focus on student's impatience (time-discount behavior) that influences his/her own academic performance. Goethals (2001) suggests that weak students do better when grouped with other weak students.

There are often different results by gender (Hoxby, 2000). On the contrary, Sacerdote (2001) proposes that grades are higher when students have unusually academically strong roommates. The results of Zimmerman (1999, 2001) were somewhat contradictory to Goethal's results but again it proves that student's academic performance depends on a number of different factors. It says that weak peers might reduce the grades of middling or strong students.

In Nigeria, there are three categories of secondary schools, federal government schools, state owned schools, and private secondary schools. Students spend six years in Secondary School. In the federal government schools, teachers and staff are Federal Government employees. Teachers at the Federal Government schools possess a Bachelors degree in Education or in a particular subject area, such as, Mathematics, Physics etc. These schools are supposed to be model schools carrying and maintaining the ideals of secondary education for Nigerian students. On the contrary, in the state owned schools, students are required to purchase books and uniforms costing them an average of two hundred dollars (\$200.00). Teachers in State owned institutions usually have a National Certificate of Education or a Bachelors Degree. Often times these schools are understaffed due to low state budgets, lack of incentives and irregularities in payment of staff salaries. This however deviates from the case in private secondary schools which tend to be quite expensive with annual fees averaging from one to Two thousand dollars (\$1000.00 - \$2000.00). These schools have smaller classes

(approximately ten to fifteen students per class), modern equipment and a better environment. Teachers in these institutions all possess at least a Bachelors degree in a specific course area and are sent for workshops or short term programs on a regular basis. These discrete variations define the institutional capacity of each category of school, where those with better human and physical resources perform better academically (Coleman *et al* 1966).

In the case of Kenyan academic institutions such as public secondary schools, the fruit of institutional capacity is the academic achievement of the students as reflected in the Kenya Certificate of Secondary Education (KCSE) results at the end of the four year course. Keeping in view all of the variables discussed by different other researchers, the researcher chose only those variables that are recognizable in the Kenyan educational system. This study was particularly keen on the three most vital aspects of institutional capacity of public secondary schools namely; school leadership, human resources and physical facilities and their influence on the institution's academic performance.

1.2 Statement of the Problem

Disparities in performance continued to be noticed as one of the many challenges facing education. These variations had raised a lot of concern as the government expenditure on education was not only aimed at increasing enrolment but also ensuring that academic performance was improved in these institutions at minimum cost. The KCSE results had been poor in the recent years and as a result students who went through public secondary schools in Usigu division could not compete favorably for national

opportunities in institutions of higher learning or training. The poor KCSE results were as shown in the table 1.1.

Table 1.1:

KCSE Mean score attained by all the public secondary schools in Usigu division between 2007 – 2009.

Year/School	2007	2008	2009	Average
Usenge	8.117	7.8257	7.2348	7.7258
Majengo	4.829	4.45	5.5605	4.9465
Got Agulu	6.117	5.558	5.366	5.6803
Joachim Owangø	-	-	5.1	5.1
Nyamonye	5.368	5.711	5.023	5.3673
Barkanyango	5.37301	4.567	4.7778	4.9059
Jusa	3.800	4.4839	4.1667	4.1502
Wambasa	4.5625	4.565	3.7878	4.3051
Average Division	5.4524	5.3087	5.1271	5.2726
mean				

Source: Bondo district education office.

From the above table, it was clearly evident that public secondary schools in Usigu division were not only underperforming but also on a downward trend in their academic performance. Out of the possible average mean score 12, the general divisional mean score had remained below average, that is, below 6 for all the three years considered for the study. Unless this trend was reversed, it would be uneconomical to continue investing large volumes of resources in these institutions which did not give

value for the resources in return. This revelation therefore, motivated the researcher to carry out an investigation to assess influence of institutional capacity on academic performance of students in public secondary schools in Usigu division, Bondo district- Kenya.

1.3 Purpose of the Study

The purpose of this study was to assess influence of institutional capacity on academic performance of students in public secondary schools in Usigu division, Bondo district- Kenya.

1.4 Objectives of the Study

The study would be guided by the following objectives:

1. To establish the extent to which physical facilities as a component of institutional capacity influence academic performance of students in public secondary schools in Usigu division.
2. To assess the level at which human resources as a component of institutional capacity influence academic performance of students in public secondary schools in Usigu division.
3. To investigate the extent to which school leadership as a component of institutional capacity influences academic performance of students in public secondary schools in Usigu division.
4. To explore strategies that can be used to improve academic performance of students in public secondary schools in Usigu division.

1.5 Research Questions

This study would seek to answer the following research questions:

1. To what extent do physical facilities as a component of institutional capacity influence academic performance of students in public secondary schools in Usigu division?
2. What is level at which human resources as a component of institutional capacity influence academic performance of students in public secondary schools in Usigu division?
3. What is the extent to which school leadership as a component of institutional capacity influence academic performance of students in public secondary schools in Usigu division?
4. What are the strategies that can be used to improve academic performance of students in public secondary schools in Usigu division?

1.6. Hypotheses of the study

In order to further understand the research questions, the following null hypotheses were developed and tested at 0.05 level of significance, hence H_0 was rejected when the results had less than 0.05 probability of occurrence.

1. H_{01} - There is no significant relationship between professional qualification of teachers and the academic performance of students in public secondary schools.
2. H_{02} - There is no significant relationship between adequacy of teachers and academic performance of students in public secondary schools.

3. H₀₃. There is no significant relationship between the years of experience of the teachers and the academic performance of students in public secondary schools.
4. H₀₄. There is no significant relationship between delegation of work and authority by the principal and the academic performance of students in public secondary schools.

1.7 Significance of the Study

It was hoped that the findings of this study would be useful to various institutions of education and personnel involved in policy formulation and implementation, more specifically MOEST, K.I.E, Ministry of Gender, Culture and Sports, teacher training colleges and all other stakeholders of public secondary schools. The researcher hoped that these findings would be pointing towards providing leads for intervention in areas that needed improvement in public secondary schools that addressed the issues relating to the constantly elusive academic excellence. It was expected that the findings of this study would be disseminated through seminars, education journals and other reference texts.

It was expected that the study would add to the growth of knowledge on influence of intuitional capacity on student academic performance in public secondary schools. The researcher hoped that these findings would provide tip offs for intervention, which would help improve academic prowess of students. It was expected that the MOEST would find the results useful in formulating better policies that would facilitate good academic performance of students in public secondary schools. It was hoped that these findings

would avail baseline information upon which future plans of MOEST would be founded, since the researcher would challenge other researchers to carry out further investigations.

1.8 Limitations of the Study

The study might be limited by a number of factors beyond the control of the researcher. The schools in this area were considered to be in rural area of Kenya and therefore, the findings might not be a true representation of the situation of schools in urban areas of Kenya. The unpredictable weather conditions and logistics constraints such as accessibility might pose challenges to the researcher. One of the schools under study was on an island (Mageta Island). The study would also be conducted during the rainy season. The researcher would however opt for the most cost effective and flexible means of travel such as use of motor bikes and motor boat (in the case of the school in the island). The researcher as well as the research assistant would also be armed with protective clothing just in case it began to rain while conducting the study in the field.

1.9 Delimitations of the study

The study was restricted to public secondary schools in Usigu division. This is because the two other divisions in the district, which were Maranda and Nyangøma, seemed to be performing better academically. It was delimited to teachers of secondary schools since they were believed to have a greater influence on the ultimate academic performance of students compared to other individuals making up the school human resources. This study would be focused on public secondary schools since there were no private secondary schools in the division. Although an average secondary school has a

myriad of physical facilities, only those directly relating to teaching and learning activities would be considered for this study. These were; libraries, laboratories and classrooms. The study would also be delimited to descriptive survey design and use of questionnaire and interview schedule so as to capture as much details as would be available on the institutional capacity of public secondary schools in Usigu division with respect to physical facilities in the schools, the schools' human resources, and school leadership.

1.10 Assumptions of the Study

The study made several basic assumptions. It was assumed that all the teachers would give correct non-biased information pertaining to aspects of institutional capacity in their schools, and that sample used for the study (teachers of Usigu division secondary schools) represented a normal target population. The study also assumed that academic performance of students in public secondary schools was the central issue in the policy framework of basic education in Kenya, and that all the public secondary schools under study have similar curriculum as required by the Kenya Institute of Education (KIE) and Kenya National Examinations Council (KNEC).

1.11 Definition of Key Terms used in the Study.

Influence of Institutional capacity: Positive or negative effect of the ability necessary for an institution to decide on what goal (s) to pursue and to act on whose behalf, to perform tasks towards the end (s) and to constantly improve performance. These components were school

leadership, human resources, physical facilities, and the strategies for improving academic performance.

Academic performance: Measure of degree of passing or failing any evaluation test or examination. This was as depicted in the results of KCSE, particularly the school mean score, quality grades or number of students joining universities, as well as wastage grades obtained by candidates.

Public secondary school: Refers to any secondary school registered in the country and is owned by the government within Usigu division.

School leadership: The act of influencing members of a staff towards achieving common school goals the symbol of which was the head teacher. The aspects of school leadership included leadership styles, delegation, staff motivation, and supervision.

Human resources: This refers to composition of teachers who conduct instructional activities with students, be they B.O.G employed or TSC employed. This is with regard to their academic qualification, adequacy, experience, and staff development.

Physical facilities: These are structures or materials which are directly used for the purposes of teaching and learning activities. These were classrooms, laboratories, and libraries and the associated materials or equipment.

1.12 Organization of the Study

This study was organized into three chapters; Chapter one, which gives the introduction consists of the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, hypotheses of the study, significance of the study, basic assumptions of the study, limitations of the study, delimitations of the study, definition of significant terms as used in the study as well as the organization of the study itself.

Chapter two provides a review of related literature under the following themes; introduction, physical facilities and student academic performance of students in public secondary schools, human resources and academic performance of students in public secondary schools, school leadership and academic performance of students in public secondary schools, theoretical framework and the conceptual framework.

Chapter three is a description of the research methodology and includes the following sub heading; introduction, research design, target population, sample size and sample selection, research instruments, validity of research instruments, reliability of research instruments, data collection procedures, data analysis techniques and ethical considerations.

Chapter four presents data analysis, presentation, interpretation, and discussion. This entails introduction, instrument return rate, demographic characteristics of the respondents, influence of school leadership on academic performance of students, influence of physical facilities on academic performance of students, influence of human resources on academic performance of students, and strategies for improving academic performance of students.

Chapter five gives an account of summary of findings, conclusions, recommendations and suggestions for further studies, as well as contribution to body of knowledge.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the survey of available literature related to the study from contribution of various scholars based on the following themes: Global view of aspects of institutional capacity of secondary schools and academic performance, physical facilities and academic performance in public secondary schools, human resources and academic performance of students in public secondary schools, leadership and academic performance of students in public secondary schools, summary of literature review, theoretical framework and conceptual framework guiding the study. The literature exploration was done on a global and local perspective with strict focus on trying to identify gaps that existed and how the study would seal them. The literature review also tries to reveal tools and methodologies that other researchers had used in similar studies elsewhere, their relevance, applicability and utilization in this study.

2.2 Global View of Aspects of Institutional Capacity of Secondary Schools and Academic Performance of Students.

The literature on poor academic performance by school pupils reveals as causes factors related to personal characteristics of pupils (Thompson & Standford, 1975; Reinhart, 1976 and Belkin, 1981) and factors related to the pupils' environment - the school and the home (Little & Thompson, 1983). In support of the pupil environment as a factor in academic achievement, Little and Thompson, (1983) note that the difficulties resulting in failure by the pupils may not necessarily lie with the child but with the

educational system and in particular the school. According to them, if we control for the student background, school characteristics have significant effects on academic achievement and that in many cases the effects of the school characteristics are greater than the effects of family background.

According to Wehlace and Rutter (1984), a number of study findings reveal that academic failures are caused by factors related to the social, family and personal characteristics of the pupils. However, these results have been negligible in the obvious implications they carry for shaping school policy and practice. They were therefore of the opinion that research efforts should be better focused on understanding the characteristics of the school and how these affect the student performance rather than trying to identify factors which are least responsive to change. They further argue that search efforts continue to focus on the relatively fixed characteristics or attributes of the students- the effect of such research efforts may tend to absolve schools from blames for their lack of success with the pupil academic performance. What is performance then and how is it measured in the context of schools? Brumbach (1988), as quoted in Armstrong (2004), contends that performance refers to both behaviors and results, and adjusting organizational behaviors and actions of work to achieve results or outcomes.

The issue therefore is: What are these school-related characteristics or factors which adversely affect student academic performance? These are the factors which constitute institutional capacity of public secondary schools. There is enormous variation in the institutional capacity of these secondary schools to carry out their function, that is, ensuring good student academic performance. In this paper the researcher develops an

index to capture these institutional differences across several cases and how they influence the institutions' academic performance.

2.3 Physical Facilities and Academic Performance of students in Public Secondary Schools.

There is a large and controversial literature analyzing the relationship between school resource levels and pupils' achievement, dating back to the pioneering work by Coleman *et al* (1966). Early work on this issue using US data suggested a weak and somewhat inconsistent relationship between school resources and pupils' achievement (Burtless, 1996 and Hanushek 1979, 1986 & 1997). International research confirms this view (Wosmann, 2003). However, this view was disputed by some, including Laine *et al.* (1996), Card and Krueger (1992) and Krueger (2003). A recent and comprehensive summary of a range of evidence on the effect of sizes of class is Averett and McLennan (2004). They found the evidence base to be mixed, in terms of methodologies and results, and could not reach a definite conclusion about the effect of smaller classes on pupils' achievement.

In the UK, schools with higher concentrations of lower attaining pupils receive more funding per pupil. If this feature of the allocation of resources is ignored, a true positive effect of increasing resources will be understated. It is fair to say, however, that the vast majority of school resource effect studies have not been able to address the endogeneity problem. This is certainly so in the UK (Levačić and Vignoles, 2002). UK studies that have made some attempt to address endogeneity have generally found small but statistically significant positive effects from school resource variables on educational outcomes (Dearden *et al.*, 2001; Dolton and Vignoles, 2000; Dustmann *et al.*, 2003;

Iacovou, 2002). Endogeneity issues are not the only methodological difficulty in this literature. For example, much of the work on resourcing has had to rely on quite aggregated data, rather than data at the level of the individual pupil. Aggregation bias is therefore a problem for some of the studies in this field (Hanushek *et al.*, 1996).

In Nigeria, a lot of studies have been conducted by various researchers on the relationship between educational resources and students academic performance. Idiagbe, (2004) concluded that teachers qualification and adequate facilities were determinants of assessing academic performance of students in secondary schools. Hence the availability or non-availability of facilities in schools affects the academic performance of students in Delta State. This is in agreement with Nwangwu (1997) who believed that teaching materials facilitate teaching and learning activities, which result in effective teaching and improved academic performance. For efficient educational management, facilities help the school to determine the number of pupils to be accommodated, number of teachers and non-teaching personnel to be employed and the cost determination for the efficient management of the system (Osagie, 2001). The school climate is determined by the resources, especially class rooms under which the teachers and pupils operates which influences attitude in teaching and learning. Un-conducive class room creates stress on teachers and pupils resulting negative attitude toward school and learning by pupils. Facilities below approved standard could also lead to reduction in quality of teaching and learning in schools resulting to poor pupils' academic performance (Uwheraka, 2005). The school environment affects academic achievement of pupils. Facilities such as, desks, seats, chalkboard, teaching aids, and cupboard are ingredients for effective teaching and learning. In the same vein the Nigeria Education Research Council of 1998

also emphasized that, for a good education policy or programmed to guarantee quality outputs, it must be adequately supplied with necessary facilities and equipment.

In Kenya a number of studies have been conducted to assess the level of availability and adequacy of teaching and learning facilities in the schools. The school infrastructure which includes: buildings, science laboratories, play grounds, and school compound were found to play an important role in facilitating academic achievement in schools. An evaluation which was conducted by KIE in the year 2007 to investigate how much prepared schools were for the new curriculum showed most of the sampled schools had inadequate infrastructure for teaching and learning. Other important resources in teaching and learning were found to be textbooks, charts, posters, library and computers. The most commonly used resource was found to be the textbooks some of which, according to a monitoring report, have shallow content, contradictory information, too much unnecessary content and factual errors.

2.4 Human Resources and Academic Performance of Students in Public Secondary Schools.

The Human Resources (HR) of an organization consist of all staff (teaching, managerial, and technical/support staff) engaged in any of the organization's activities. It is well-recognized that the human resources of any school are its most valuable asset. This is particularly true in learning institutions, where the people required to do the core work of the organization are highly trained individuals. In this study the focus will be on the teaching staff, with no less regard to the role played by the sub-ordinate staff in ensuring good academic performance of students such as preparing their meals in time,

transporting them during academic performance enhancing tours, typing and producing their assessment tests, arranging their laboratories and libraries, and the list is endless.

In the United States, a study conducted by Motoko, Akiba, Gerald K. LeTendre, and Jay P. Scribner in the year 2004, revealed that the countries with better teacher quality produced higher academic achievement. These analyses provide empirical, cross-national evidence of the importance of investing in teacher quality for improving national achievement. According to National Academies in the year 2007, "Teacher quality is widely recognized by policymakers, practitioners, and researchers alike to be the most powerful school-related influence on a child's academic performance." Whether certification and standard setting will improve teacher quality is a more complicated issue. U.S. studies such as those by Borman and Kimball (2005) and Rivkin, Hanushek, and Kain (2005), suggest that teacher quality is a significant factor in predicting student achievement; however, constructing measures of teacher quality is a challenging task because of the lack of consensus on what constitutes a qualified teacher. According to Akiba (2004), a highly qualified teacher is defined as fully certified, possessing a bachelor's degree, and demonstrating competence in subject knowledge and teaching. Many states still face difficulties in fully meeting these requirements (U.S. Department of Education, 2006), and data from the Council of Chief State School Officers (Blank, 2003) shows large state differences in the numbers of certified teachers providing instruction in subjects such as mathematics.

Many empirical studies have been conducted in the United States to identify the characteristics of teacher quality that are associated with higher student achievement. Several syntheses of these studies have identified teacher certification, subject matter

knowledge, pedagogical knowledge, and teaching experience as significantly associated with higher student achievement or greater achievement gains (Darling-Hammond & Youngs, 2002; Rice, 2003; Wayne & Youngs, 2003; Wilson, Floden, & Ferrini-Mundy, 2001, 2002). Studies have found that students taught by teachers holding subject-specific certification achieve better. Empirical studies have revealed that students taught by teachers certified in mathematics score higher in both general mathematics and algebra than do students taught by teachers certified in other subjects. Contrary to these studies, Rowan, Correnti, and Miller (2002) found that subject-specific certification had no significant impact on elementary school students' achievement growth in mathematics or reading. These empirical studies seem to suggest that teacher certification matters in secondary schools but not in elementary schools (Rice, 2003).

In Africa, as in many other regions, the educational systems are confronted with challenges and many of these challenges directly or indirectly affect the teaching profession (Oplatka, 2007). In Nigeria, for example, Ogbodo (1995) argues that the quality of education depends to a large extent, on the quality of teachers. The quality of education and learning achievements of students depend heavily on the quality, competence, personality and dedication of teachers. Also a good number of studies have shown that students' achievement has a positive relationship with the quality of teachers. The training which a teacher receives has been proved to be important to students' academic success. (Idiagbe, 2004).

In Kenya, stepping in most classrooms one is confronted with an authoritarian teaching style focusing on memorization and discipline, a legacy of the days of British rule in Kenya. Since the most important condition for quality is the professional development of

teachers, teacher enrichment through quality development will be the answer to these outdated teaching styles. According to Odhiambo (2003) in the current climate, teacher redistribution, redeployment and retraining are essential. His research clearly showed that a greater percentage of secondary school teachers in Kenya felt that they did not have opportunities for teacher professional development programmes and despite the concerns raised by the educational administrators that teachers needed to upgrade their teaching skills constantly and that quality of teaching was crucial to the education system in general and school development in particular, there is still no firm policy on teacher continuous development.

2.5 Leadership and Academic Performance of Students in Public Secondary

Schools.

Globally, educating a nation remains the most vital strategy for the development of the society throughout the developing world (Aikman & Unterhalter, 2005). Since education is an investment, there is a significant positive correlation between education and economic-social productivity approaches. Leadership at work in education institutions is thus a dynamic process where an individual is not only responsible for the group's tasks, but also actively seeks the collaboration and commitment of all the group members in achieving group goals in a particular context (Cole, 2002). Leadership in that context pursues effective performance in schools, because it does not only examine tasks to be accomplished and who executes them, but also seeks to include greater reinforcement characteristics like recognition, conditions of service and morale building, coercion and remuneration (Balunywa, 2000).

Thus, leadership incorporates the accomplishment of the task, which is the organizational requirement and the satisfaction of employees, which is the human resource requirement (Okumbe, 1999). Maicibi (2003) contends that, without a proper leadership style, effective performance cannot be realized in schools. Even if the school has all the required instructional materials and financial resources, it will not be able to use them effectively, if the students are not directed in their use, or if the teachers who guide in their usage are not properly trained to implement them effectively. Armstrong (2004) defines leadership as influence, power and the legitimate authority acquired by a leader to be able to effectively transform the organization through the direction of the human resources that are the most important organizational asset, leading to the achievement of desired purpose. They further support this by arguing that good leadership commits to doing less and being more. However, Cole (2002) defines leadership as inspiring people to perform. Even if an institution has all the financial resources to excel, it may fail dismally if the leadership does not motivate others to accomplish their tasks effectively.

There is unprecedented international interest in the question of how educational leadership influences academic performance of student in schools. In consequence, a number of reviews of empirical research on the direct and indirect effects of leadership on academic performance of students have appeared recently (Leithwood, Day, Sammons, Harris, & Hopkins, 2006; Leithwood, Seashore Louis, Anderson, & Wahlstrom, 2004; Marzano, Waters, & McNulty, 2005; Witziers, Bosker, & Krüger, 2003). A major reason for the interest in the links between leadership and student academic performance is the belief that leaders play a vital role in reducing the perpetual

disparities in educational achievement between various social and ethnic groups, (Organization for Economic Co-operation & Development, 2001).

The literature on sustainability also sees the quality of school leadership as a key to continued organizational learning and improvement. However, the picture one gains from the qualitative evidence for the impact of leadership is very different from that gained from quantitative analyses of the direct and indirect effects of leadership on students' academic performance. In a meta-analysis of 37 multinational studies of the direct effects of leadership on student outcomes, Witziers reports an average effect (reported as a *z* score) of 0.02, an estimate that is typically interpreted as indicating no or a very weak impact (Witziers et al., 2003). Most subsequent quantitative research has conceptualized the relationship between leadership and student outcomes as indirect, with leaders establishing the conditions through which teachers make a more direct impact on students.

In another meta-analysis of such research, Marzano reports an average effect of approximately 0.4 between leadership and student academic outcomes (Marzano et al., 2005). There are several possible reasons why the estimate from the Marzano meta-analysis is considerably greater than that of Witziers. First, the latter analysis included both direct and indirect effects of leadership and because leadership effects are typically modeled as indirect, the Marzano studies were more likely to capture how leaders make a difference. Second, the Marzano work included only United States studies and the Witziers studies were multinational. Because the impacts of leadership are typically found to be stronger in the United States than in international studies, these contrasting research sampling strategies could explain some of the difference. The typical conclusion

drawn by quantitative leadership researchers is that school leaders have small and indirect effects on student outcomes that are essentially mediated by teachers (Hallinger & Heck, 1998).

Mpierrewe (2007) conducted a study to examine the effect of management of instruction materials on teacher performance in primary schools in the Kampala district, Uganda. This study was intended to investigate the head teachers' leadership style and the performance of secondary schools in Uganda. It was also thought that an investigation in this area would shed light on the factors affecting performance and in particular the effect of leadership styles on school performance. From the study it was apparent to Mpierrewe that leadership plays a very critical role in galvanizing all the other factors in the school together. However, in spite of the importance of leadership, its contribution to improved school performance will not be maximized, unless leadership is distributed and shared with the significant others. Mpierrewe agrees with the school of thought that the concept of leadership must change, as Grant (2006) argues that a different understanding of leadership is needed; a shift from leadership as headship to distributed form of leadership. Thus, there seems to be a contradiction between the evidence that leaders have a weak indirect effect on student outcomes and the expectations of the public and policy makers that leaders make a substantial difference.

This study is a close follow-up of the observation that in Kenya, there are no set criteria enumerating the skills a person should possess to qualify for appointment as a head teacher (Eshiwani, 1993; Okumbe 1999; Mutai, 2003). This creates a leadership gap in public secondary schools since without basic managerial training, the head teachers are less likely to be knowledgeable in elementary management practices and cannot readily

grasp the provisions of the Education Act. In the Kenyan context, a number of researches have conducted research on head teachers' training needs and made various recommendations. For example, Okumbe (1999) recommended that for purposes of effectiveness of school teachers, school managers, and curriculum implementers, an effective in-service training should be provided to them. In his study, Ogembo (2005) observes that for one to be a head teacher, he/she must be a qualified teacher, and must have been in an administrative post already such as a deputy head teacher. If empirical research indicated that some leadership practices have stronger impacts on student outcomes than others, then both researchers and practitioners could move beyond a general focus on the impact of leadership, to examining and increasing the frequency and distribution of those practices that make larger positive differences to student outcomes.

2.6 Strategies that can be used to Improve Academic Performance of Students in Public Secondary Schools

From the analysis of previous studies, it was evident that strategies that could be used to improve academic performance of students were embedded in each of the aspects of an academic institution that defined its institutional capacity, hence the need to isolate and address each one of them independently. To date, economists who have attempted to define a production function for education have largely been unsuccessful. Much of the variation in student performance from school to school was related to student characteristics and home-related factors over which schools had no control. Brumbach (1988), as quoted in Armstrong (2004), contended that performance refers to both

behaviors and results, and adjusting organizational behaviors and actions of work to achieve results or outcomes, which in this study was academic performance

2.7 Theoretical Framework

This study is anchored on the Theory of Education Production Function. This theory was propounded by an American education economist called Erick A. Hanushek in 1998. In his paper, *“The role of education quality in economic growth”*, Hanushek reviewed the role of education in promoting economic well-being. He concluded that there is strong evidence that the cognitive skills of the population ó rather than mere school attainment ó are powerfully related to economic growth (Hanushek, 1998).

An education production function is the relationship between school and student inputs and a measure of school output. Some researchers are mainly interested in the effect on student performance of the characteristics of educational institutions which include class size, teacher-student ratios, and expenditure per student. In those studies students are usually treated as the *“raw material”* that educational institutions transform into the final product.

Much of the variation in student performance from school to school is related to student characteristics and home-related factors over which schools have no control. The theory gives these two very important academic performance determinants a completely passive role. In one of the earliest investigations of the link between school inputs and achievements outcomes, Coleman (1966) found surprisingly small effects of school resources on student achievement. Recent exchanges between Hanushek and Krueger provide examples of the debate that has characterized this literature, a debate that is

continued in their contributions to this issue. For example, Hanushek (1998) and Krueger (1998, 2000) analyze US aggregate time series data on expenditure and NAEP (National Assessment of Educational Progress) test scores, with Krueger concluding that increases in expenditure have led to modest gains in test scores and Hanushek finding no strong or consistent relationship between school resources and student performance. Krueger (2003) takes issue with the conclusions drawn by Hanushek, arguing that Hanushek's samples of estimates are biased towards his conclusion. In order to resolve this outright contradiction, this study sets out to determine the level of expenditure on public secondary schools (input) that will be commensurate with the academic outcome (output).

In setting school policy and in long-range educational planning, knowledge of the educational production function is essential for efficient resource allocation. Without an estimate of the technology of education (the production function) the relationship between the opportunity cost and expected benefits of particular policies must be little more than guesswork. Anchored on the Theory of Education Production Function, this study aims to shed light on the level of expenditure that needs to be committed in secondary schools to build their institutional capacity, and then hold them accountable by expecting good academic performance in return. The theory helps to focus the study on education as an investment from which returns are expected. It is therefore the most relevant theory that enabled the researcher to investigate every aspect of institutional capacity as a vital raw material to be used in the manufacture of the desirable products—the good students' academic performance.

Independent variables were variables which were presumed to determine the dependent variable. In this study, they included school leadership which involved essential aspects such as delegation, leadership styles leadership structure, staff motivation, and supervision; human resources , who in this study were the teaching staff considered in terms of their academic qualification, staff development ,adequacy, and experience in teaching. The third independent variable was physical facilities which for the purposes of this study were grouped into three categories namely classrooms, laboratory, library and the teaching and learning materials and equipment in them.

Intervening variables were factors which facilitated a better understanding of the influence of the independent variables on the dependent variable. They explained the relationship between the independent and the dependent variables. In this study, they included home factors as well as student factors.

Dependent variable was the resultant effect of the interplay among the independent and the intervening variables. In this study, academic performance of students in public secondary schools formed the independent variable. Influence of the interplay between the independent and the intervening variables on the dependent variable could be established through checking the number of students obtaining quality grades, number of wastage grades, and mean score of the school in the KCSE examinations.

2.9 Summary of Literature Review

The literature on poor academic performance by school pupils revealed as causes factors related to personal characteristics of pupils (Thompson & Standford, 1975) and factors related to the pupils' environment - the school and the home (Little & Thompson, 1983). The school environment had been found to constitute the school institutional capacity. According to Hanushek (1998), there was a large and controversial literature analyzing the relationship between school physical resource level and students' academic achievement. Availability or non-availability was found to affect the academic performance of students. The literature reviewed seemed to converge at physical facilities such as laboratory, library, classrooms, and dormitories, play ground and teaching and learning materials such as text books and computers. However, this mass of literature did not clearly articulate to what extent was academic performance influenced.

The human resources in schools were found to be consisting of all staff engaged in any of the school activities. It was well recognized that the human resources of any school are its most valuable assets. The training which a teacher received had been proved to be important for students' academic performance (Rice, 2003). However, many previous studies had concentrated on teacher training, at the expense of other important teacher characteristics.

The literature reviewed revealed an unprecedented international interest in the question of how educational leaders influenced academic performance of students in schools. A major reason for the interest in the link between school leadership and students' academic performance was the belief that leaders play a vital role in organizing both human and physical resources, give direction through facilitating proper policy

formulation and providing role model for students as they seek to accomplish specific goals (Lewy, 1991).

From the analysis of previous studies, it was evident that strategies that could be used to improve academic performance of students were embedded in each of the aspects of an academic institution that defined its institutional capacity, hence the need to isolate and address each one of them independently. To date, economists who have attempted to define a production function for education have largely been unsuccessful. Much of the variation in student performance from school to school was related to student characteristics and home-related factors over which schools had no control. Brumbach (1988), as quoted in Armstrong (2004), contended that performance refers to both behaviors and results, and adjusting organizational behaviors and actions of work to achieve results or outcomes, which in this study was academic performance. There was still need to investigate these aspects of school environment and their influence on academic achievement of students.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes in details how data was obtained, processed, analyzed and interpreted so as to answer the researcher's questions. The sub-sections discuss research design, target population, sample size and sample selection, research instruments, data collection procedure, data analysis techniques and ethical considerations in research.

3.2 Research Design

The researcher adopted descriptive survey method for the study. Kothari, (2003) describes descriptive survey design as a method used to collect detailed description of existing phenomena with the view of employing data to justify current conditions and practices or to make more intelligent plans for improving them. It is concerned with finding out the who, what, where and how of a phenomenon which is the concern of the study (Orodho, 2003). This design was deemed appropriate because it allowed the researcher to assess the various aspects of institutional capacity of public secondary schools that had great influence on the performance of students in KCSE with both quantitative and qualitative approaches.

3.3 Target Population

The target population was all the teachers in all the public secondary schools in Usigu division, Bondo district. The number of teachers who were considered for the study was 130, drawn from 8 public secondary schools in the division.

3.4 Sample Size and Sample Selection

This section discusses sample size and sample selection.

3.4.1 Sample Size

According to Mugenda and Mugenda (1999), sampling refers to the process of selecting a number of individuals for a study in such a way that the individuals selected represent a large group from which they are selected. The total number of teachers in the public secondary schools in Usigu division was 130. From a total population of 130 teachers, the researcher considered 97 teachers as the sample size, a figure which was in accordance with the recommendation by Krejcie and Morgan (1970) table attached in the appendix section.(Appendix VI).

3.4.2 Sample Selection

The schools in Usigu division were categorized as follows; 2 Boys boarding, 2 Girls boarding, 2 mixed day, 1 Boys boarding and day, and 1 Mixed boarding and day. This is illustrated in table 3.1.

Table 3.1:

Categories of schools and their population.

	<i>Tally</i>	<i>Boarding</i>	<i>Sample</i>	<i>Day</i>	<i>Sample</i>	<i>Boarding & day</i>	<i>Sample</i>
Boys	3	2	2	0	0	1	1
Girls	2	2	2	0	0	0	0
Mixed	3	0	0	2	2	1	1
Total	8	4	4	2	2	2	2

Source: Bondo district education office.

All the 8 principals were sampled purposively since each school had only one principal. The principals selected were also considered to have accurate information on the human resources, strategies for academic excellence, as well as the leadership of the school. The researcher employed simple random sampling technique to select the rest of the teachers forming the study sample, that is, 89 other teachers in proportion to their strength to ensure true representation of each school based on the number of teachers. The rest of the teachers were considered by the researcher to have conclusive and tangible evidence on the status of physical facilities that relate directly to the process of teaching and learning which finally translates into academic performance of students in the KCSE examinations. They were also seen to be in a better position to accurately assess the nature of school leadership. According to the district education office of Bondo annual report in the year 2010, the number of teachers in the various schools in the division is provided in table 3.2.

Table 3.2:

Total number of teachers per school.

<i>School</i>	<i>Male teachers</i>	<i>Female teachers</i>	<i>Total no. of teachers</i>	<i>No. of teachers to be included in the sample</i>
Barkanyango	12	1	13	10
Got Agulu	12	4	16	12
Jusa	9	00	9	07
Majengo	09	03	12	9
Nyamonye	14	14	28	19
Usenge	21	03	24	17
Wambasa	06	06	12	9
Joachim owangø	07	01	08	06
Totals	90	32	122	89

Source: Bondo district education office.

To get the correct number of teacher per school to be included in the sample, the researcher worked out the proportion of the sample that was represented by the number of teachers per school as regards the target population. This was obtained by dividing the total number of teachers in the division by the target population of the study as a fraction of the number of teachers to be included in the study sample. Simple random sampling was used to sample the required number of teachers per school. This sampling technique thus translated to a total of 97 respondents of whom 8 were principals and 89 were teachers. This formed; $\frac{97}{130} \times 100 = 75\%$ of the total population. This, by far, exceeded the minimum 20% suggested by Gay (1976) and Hinton (1995).

3.5 Research Instruments

The overall aim of this study was to assess influence of institutional capacity on academic performance of students in public secondary schools. The selection of appropriate research instruments was guided by nature of data to be collected, the time available for the study and the objectives of the study. The researcher used questionnaires as the main instruments for collecting data. On the one hand the researcher was mainly concerned with views, opinions, perceptions, feelings and attitudes in relation to school leadership. Such information could best be collected through the use of questionnaires (Mugenda and Mugenda, 1999). On the other hand, the researcher sought to gather data concerning the school physical facilities and staffing and how the two variables influence academic performance. This information could best be accessed through the use of questionnaires as well.

The questionnaire was administered to randomly selected teachers. This targeted data on influence of school leadership on academic performance. This was because those who are led are better able to accurately describe the leadership and not the leader. Another questionnaire was used for the head teacher concerning influence of staffing on academic performance. Through the questionnaires, teachers were required to give details of how physical facilities influence academic performance of students. Both the principals and teachers were required to outline the various strategies which had actually worked for them in improving the academic performance in their schools.

Given the time constraints and that the target population was also largely literate, the researcher opted for questionnaires which gave timely results and did not present difficulties to the respondents during the administration. The questionnaire for the teachers was organized into 4 sections, A, B, C and D. Section A sought to establish background information, section B physical facilities, section C motivation and supervision of teachers, and section D leadership styles and strategies for improving academic performance. The questionnaire for the principals was organized into 4 sections, A, B, C and D. Section A sought to establish background information about the school and personal information about the principals, section B leadership styles, C staff motivation, and D the various strategies for improving academic performance.

3.5.1 Pilot Testing

Pilot testing is the process of subjecting the research instruments to a trial to determine its suitability in a given study area. This is done by administering the research instruments to a sample of population with a characteristic similar to the study population

so as to elicit desired responses. This helps the researcher to adjust the instruments in order to yield the desired response in the actual research.

Pilot testing of the research instruments was carried out to check on their validity and reliability. The questionnaires were administered to 10 respondents derived from Maranda division, one of the three divisions in Bondo district. This ensured that teachers in Usigu Secondary Schools were not subjected to the same study instruments after pre tests. The instruments were administered to the teachers twice, in a time interval of two weeks.

The researcher carried out pilot testing so as to identify areas and questions in the instruments that needed modification. This also helped correct terminologies that might be difficult for the respondents to understand. In addition, the pilot test helped assess the appropriateness of the methods intended for data analysis, and reveal the adjustments that were necessary. According to Mugenda and Mugenda (1999), pilot testing ensures that research instruments are stated clearly and have the same meaning to all respondents. It helps refine the instruments so that respondents would have no problem in answering the questions.

3.5.2 Validity of Research Instruments

Validity refers to the degree to which an instrument measures what it purports to measure (Mugenda and Mugenda, 2003). This illustrates the degree to which results obtained from the analysis of data actually represent the phenomena under study. To ensure validity of the research instruments, the instruments were presented to my supervisors who are research experts in the study area. They scrutinized the instruments

to check for the use of simple language to formulate questions and the use of side note to guide the respondents while filling the questionnaires, and gave suggestions which helped refine the questionnaires before preparing the final copy.

3.5.3 Reliability of Research Instruments

Reliability refers to the consistency of data arising from the use of a particular research instrument. Mugenda (2003) states that reliability is the measure of the degree to which a research instrument yields consistent results after repeated trials over a period of time. This view is shared by Gay and Airasian (2000), who describe reliability as the degree to which a test consistently measures what it is measuring.

The reliability of the instruments was determined by computing a test-retest reliability coefficient. This was done by administering the test twice, but allowing an interval of two weeks between the tests. The responses in the two tests were compared to establish consistency across the respondents. After administering the questionnaires, the instruments were collected and a correlation co-efficient was calculated to indicate the relationship between the two sets of scores.

To obtain the correlation (r_{xx^1}), the following formula was used;

$$r_{xx^1} = \frac{S_{x_1}^2}{S_x^2}$$

Where; x - result on the first score

x^1 - result on the second score

r_{xx^1} - Correlation coefficient between x and x^1

S_1^2 - estimate of the true scores

S_x^2 - calculated variance of observed scores.

A correlation coefficient (r_{xx}^1) of 0.76 was obtained which indicated that the two sets of scores had a strong positive correlation. This provided an estimate of reliability as a ratio of the true variance to the observed variance. According to Gay (2003), a coefficient of 0.70 is considered adequate but a coefficient of 0.80 is good. This implied that the instruments were reliable and could be used in the study.

3.6 Data Collection Procedure

In this study, the researcher used descriptive survey technique to collect data. This involved the use of questionnaires. The researcher started the process with a request for clearance to conduct a research from the University of Nairobi through a proposal which was approved by the university examination panel. This was followed by application for a research permit from the MOEST. Using the permit, the researcher introduced himself to the D.E.O Bondo for the purpose of acquiring an introductory letter to the school heads involved in the study, so as to brief them about the study. The introductory letter and questionnaires were taken to the 8 secondary schools in the division by the researcher and his assistant. The head teachers were used to facilitate the dissemination of the questionnaires to their teachers and the research assistant and the researcher collect the completed questionnaires, after two weeks. The researcher booked appointments with the heads of schools on the dates of filling their questionnaires, which fell within the same period during which the questionnaires were being filled by the teachers. The instruments were written in English because all the respondents were teachers who understood the language and were able to communicate in the same

language with ease. Prior to data entry, the questionnaires were checked for completeness and data cleaning to enhance data quality.

3.7 Data Analysis Techniques

Data analysis refers to separation of data into constituent elements. Upon completion of the data collection exercise, all completed research instruments were edited to eliminate errors that were made by the respondents. All the data from the study were coded to classify the responses given into categories for ease of analysis. The coded data was analyzed using descriptive statistics such as frequency counts, percentages, and mean, as well as determination of correlation coefficients that helped to accept or reject null hypotheses, with the help of Statistical Package for Social Sciences. Qualitative data from the field was transcribed, organized into various relevant themes and reported as they emerge. The analysis of qualitative data was undertaken as an activity simultaneous with data collection. The challenge posed by qualitative data is to make sense of massive amounts of data, reduce the volume of information, identify significant patterns and design a framework for communicating the existence of what the data reveals. In view of this, data obtained through qualitative methods was processed and analyzed following three steps. In the first step, the data was summarized into daily briefs after administration of the instruments. The second step involved description of the responses to produce interim reports. Areas that required additional information were identified and requisite data was sourced. The third step involved systematic analysis and interpretation of the interim report. These were then reported in a narrative form. In the analysis of institutional capacity of public secondary schools, aspects such as staffing, physical

facilities and school leadership were regarded as inputs, while the results of students in KCSE examinations was treated as the academic output of such learning institutions as were in the study.

3.8 Ethical Considerations

This document took into account several ethical issues. The researcher obtained an introductory letter from the University of Nairobi and used it to get permit and letter of research authorization to conduct research from the National Council for Science and Technology. These documents were used to seek permission from the District Commissioner and the DEO of Bondo District to conduct the study in their area of jurisdiction. A letter of transmittal was used to reach the targeted teachers within Usigu division. Although the questionnaires that were used entailed personal information, privacy and confidentiality of the respondents and information obtained from them were the priority of the researcher. No information was allowed into the public domain without the consent of respondents other than the generalized report on the analysis of data.

The researcher and research assistant respected and took consideration of the cultural backgrounds, religious affiliations as well as political inclinations of their respondents. After the research process, a letter of appreciation was written to each institution from which the study population was drawn, to thank all the respondents for their participation in the study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

This chapter presents the findings of the study, discussed under the following thematic sub-sections in view of the study objectives: Questionnaire return rate, Demographic characteristics of respondents, Physical facilities and academic performance of students, Human resources and academic performance of students, School leadership and academic performance of students, and Strategies that can be used to improve academic performance of students. The strength of the percentages and the frequencies constitute the strength of discussion and interpretation.

4.2 Questionnaire Return Rate

There was a total of 97 questionnaires that were administered to a sample of ninety seven respondents. All the questionnaires were collected back by the researcher in person with the aid of the research assistant. This return rate was tabulated as shown in table 4.1.

Table 4.1:

Questionnaire Return Rate

<i>Category of respondents</i>	<i>Administered questionnaires</i>	<i>Returned questionnaires</i>	<i>Percent return rate</i>
<i>Principals</i>	8	8	100
<i>Teachers</i>	89	89	100
Total	97	97	100

This gave a return rate of 100%. A response rate of 50% is considered adequate for analysis and reporting, 60% is good and that of 70% and above is very good (Mugenda and Mugenda, 2003). The questionnaire return rate was very good and enabled the researcher to continue with the study. Principals themselves were involved in facilitating the filling and collection of the questionnaires hence it was possible to achieve 100% questionnaire return rate.

4.3 Demographic Characteristics of Respondents

During the survey, the respondents were grouped into two, principals and teachers. The demographic characteristics considered for this study were gender, highest level of education, and years of teaching experience.

4.3.1: Distribution of Respondents by Gender.

The study sought to find out the gender of the respondents in order to investigate any linkage between academic performance and gender. For this purpose, respondents were asked to state their gender. Table 4.2 shows the distribution of respondents by gender.

Table 4.2:

Distribution of Respondents by Gender.

<i>Gender</i>	<i>Principals</i>		<i>Teachers</i>		<i>Total</i>	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
<i>Male</i>	5	62.5	67	75.3	72	74.2
<i>Female</i>	3	37.5	22	24.7	25	25.8
Total	8	100	89	100	97	100

Out of the 97 respondents, 67(75.3%) were male teachers, while female teachers comprised only 22(24.7%). The female principals were found to be 3(37.5%) while male principals were 5(62.5%). According to these findings, it was evident that there were more male respondents 72(74.2%) than female ones 25(25.8%) in Usigu division. This is a glaring manifestation of the deeply rooted gender disparity. This is in agreement with Odhiambo (2003) who argued that there are no clear policies that guide teacher distribution in secondary schools in Kenya, thus the gender disparity. It calls for goal-driven initiatives to encourage more females to pursue education courses, so as to ensure availability of role models for the girl child in the academic sphere. This might encourage girls and motivate them to improve in their academic performance.

4.3.2: Distribution of Respondents by Highest Completed Level of Education.

The study sought to establish the distribution of respondents by highest completed level of education. The researcher wanted to determine whether respondent's highest completed level of education had any bearing on academic performance of students. In view of this, the researcher asked respondents to state their highest completed level of education. Their responses were summarized in table 4.3.

Table 4.3:

Distribution of Respondents by Highest Completed Level of Education.

Highest level of education	Principals		Teachers		Total	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Masters	2	25.0	1	1.1	3	3.1
B.Ed/BSc(Educ)	6	75.0	63	70.8	69	71.1
Diploma	0	0.0	6	6.7	6	6.2
Other Degrees	0	0.0	2	2.2	2	2.1
Form4 leavers	0	0.0	11	12.4	11	11.3
P1 teachers	0	0.0	2	2.2	2	2.1
University students	0	0.0	4	4.5	4	4.1
Total	8	100.0	89	100.0	97	100.0

The findings of the study revealed that 2(25%) of the principals had masters degree while 6(75%) of them had bachelors degree. As concerns the teachers, 63(70.8%) of them had bachelors degree, 6 (6.7%) diploma, 2 (2.2%) had graduated with other degrees which were not education oriented, 1 (1.1%) with masters degree, 11(12.4%) of the sampled teachers were found to be form four leaver, 2 (2.2%) of the teachers were P1 holders whereas 4 (4.5%) were university students on holiday. Majority of principals and teachers 69(71.1%) had B.Ed/BSc.(Educ.) and therefore were well trained and qualified to teach in public secondary schools. During the study, though, the researcher found out that some principals were pursuing masters degrees. This is an indication that the principals appreciated the need to improve their leadership skills through further studies. Although the majority of teachers in public secondary schools in Usigu division are

trained teachers, it is evident that some lacked the requisite training for teaching in secondary schools. This could explain the poor academic performance as argued by Idiagbe (2004) who maintained that the training which a teacher receives is important to students' academic success.

4.3.3: Distribution of respondents by years of teaching experience

The study sought to establish the distribution of respondents by years of teaching experience. The researcher was interested in finding out whether there exists any impact of respondents' years of teaching experience on academic performance of students. On the account of this, the respondents were asked to state their years of teaching experience. The results of the findings were tabulated in table 4.4.

Table 4.4:

Distribution of respondents by years of teaching experience.

<i>Teaching experience(yrs)</i>	<i>Principals</i>		<i>Teachers</i>		<i>Total</i>	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
<i>Below 3years</i>	0	0	26	29.2	26	26.8
<i>3-5 years</i>	0	0	28	31.5	28	28.9
<i>6-10 years</i>	0	0	17	19.1	17	17.5
<i>10 years and above</i>	8	100	18	20.2	26	26.8
Total	8	100	89	100	97	100

From the study findings, all the principals had 10 and above years of teaching experience. 26(29.2%) of the teachers had less than 3 years of teaching. 17(19.1%) and 18(20.2%) of the teachers had teaching experience of 6-10 years and over 10 years respectively experience. The findings of the distribution of teachers by number of years of teaching experience reveal a crucial trend. Majority of teachers, 54(55.7%) were found to have teaching experience 5 years and below, indicating that they were newly employed. From the findings in table 4.4, the principals had relatively long years of teaching experience. The expectation is that these many years would give the principals the opportunity to acquire the leadership skills necessary for academic excellence. However, most teachers had few years of teaching experience. This could be a critical pointer to the cause of poor academic performance. According to Ogembo (2005), the more the years of teaching experience, the better the quality of a teacher and hence the higher the academic performance of students. The converse of this is also true.

4.4 : Physical Facilities and Academic Performance of Students.

In this study, the physical facilities considered included classrooms, laboratory and library as well as the resources in them, and their influence on academic performance was determined. The results of the study were presented as follows:

4.4.1: Adequacy of class rooms

This section sought to establish the extent to which adequacy of classrooms influences academic performance of students. When teachers were asked to comment on the adequacy of classrooms, they had varying responses which were captured through the

use of a 5-point Likert scale of strongly agree-1, agree-2, neutral-3, disagree-4, and strongly disagree-5, as indicated in table 4.5.

Table 4.5:

Adequacy of classrooms

<i>Responses</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Strongly agree</i>	15	16.9
<i>Agree</i>	38	42.7
<i>Neutral</i>	6	6.7
<i>Disagree</i>	28	31.5
<i>Strongly disagree</i>	2	2.2
Total	89	100

From the findings, 38(42.7%) of the respondents were of the opinion that the classrooms available were adequate. However, 28(31.5%) of the respondents disagreed. 6(6.7%) of the respondents were neutral and undecided on whether to agree or disagree, while 15(16.9%) strongly agreed that the classrooms were adequate. Only 2(2.2%) strongly disagreed. Averagely, the respondents chose to remain neutral. This is a key pointer to the fact that there is still need to ensure undoubted adequacy of classrooms. The poor results could be blamed on the uncertainty in the adequacy of classrooms. This finding is consistent with those of Uwheraka (2005) who believed that facilities below approved standards could lead to poor academic performance of students. It also supports the argument advanced by Idiagbe, (2004) who concluded that adequate facilities was a determinant of assessing academic performance of students in secondary schools.

4.4.2: Adequacy of laboratories.

This section of the study sought to determine influence of adequacy of laboratories on academic performance of students. Respondents were asked to comment on the status of laboratories. They had varying responses which were captured through the use of a 5-point Likert scale of strongly agree-1, agree-2, neutral-3, disagree-4, and strongly disagree-5. The results were tabulated in table 4.6.

Table 4.6:
Adequacy of laboratories

<i>Responses</i>	<i>Frequency</i>	<i>Percentage</i>
Strongly agree	3	3.4
Agree	16	18.0
Neutral	11	12.4
Disagree	47	52.8
Strongly disagree	12	13.5
Total	89	100

From the responses in table 4.6, 16(18%) agreed that the laboratories were adequate. However, 47(52%) which forms the majority disagreed. 11(12.4%) of the respondents were neutral while only 3(3.4%) strongly agreed. 12 (13.5%) felt that the laboratories were seriously inadequate, by giving -strongly disagree as their response. As depicted average response, the general consensus was that the respondents disagreed with the statement that laboratories were adequate. This indicates that public secondary schools in

Usigu division do not have adequate laboratories. This may explain the low academic performance experienced in the division.

This finding agreed with that of the Dearden *et al* (2001), who generally found small but statistically significant positive effects from school resource variables on educational outcomes. However, it is a departure from the findings of Hanushek (1979, 1986 &1997) who argued that there was a weak and somewhat inconsistent relationship between school resources and pupils' achievement. The inadequacy of laboratories in most public secondary schools in Usigu division therefore explained the poor academic performance of students in the division.

4.4.3: Adequacy of libraries

The study sought to determine the level at which adequacy of library services in the public secondary schools in Usigu division influence academic performance of student. In view of this, respondents were asked to comment on adequacy of library services. They had varying responses which were captured through the use of a 5-point Likert scale of strongly agree-1, agree-2, neutral-3, disagree-4, and strongly disagree-5. Their responses were summarized in table 4.7.

*Table 4.7:
Adequacy of library services.*

<i>Responses</i>	<i>Frequency</i>	<i>Percentage</i>
Strongly agree	7	7.9
Agree	23	25.8
Neutral	11	12.4
Disagree	35	39.3
Strongly disagree	13	14.6
Total	89	100

In this table, those who agreed to adequacy of library services were 23(25.8%) of the respondents. The individuals who felt that the libraries were not adequate formed the majority at 35(39%). 11(12.4%) of the respondents however were neither agreeing nor disagreeing. While 13 (14.6%) of the respondents strongly disagreed, only 7(7.9%) strongly agreed that the libraries were adequate. Averagely, teachers in Usigu Division disagree with the statement that library services are adequate. From table 4.9, most public secondary schools in Usigu division did not have adequate library services and this could provide an explanation for the poor academic performance.

This was found to be in the same line of argument as Dolton and Vignoles (2000) who maintained that there was a small but statistically significant positive effect of school resource variables on educational outcomes. However, this was inconsistent with the findings of Burtless (1996) who argued that there was often a weak and somewhat inconsistent relationship between physical facilities and academic performance. Since most secondary schools in Usigu did not have adequate libraries, and given the pivotal

role of the libraries in providing conducive environment for studying, this explained the poor academic performance of students in the division.

4.5: Influence of Human Resources on Academic Performance of Students.

Human resource is no doubt the cement in a pool of school resources. This section of the study sought to establish influence of human resources on academic performance of students. Three aspects of human resources were investigated. These were; academic qualification which closely related to staff development, adequacy and years of teaching experience.

4.5.1: Academic qualification of the respondents.

The researcher was interested in determining the relationship between academic qualification of the respondents and academic performance of students. The respondents were asked to state their highest completed level of education and the results were tabulated in table 4.3. According to the findings posted in table 4.3, all the principals had a minimum academic qualification of a bachelors degree. However, 2(25%) of the principals had masters degree while 6(75%) of the principals had bachelors degree. This indicated that all the head teachers were professionally qualified to head their schools yet the academic performance of students was still very low. This therefore indicated that the academic qualification of the principals did not determine the academic performance of the students. This was a divergent opinion from that of Bormann and Kimball (2005) who suggested that teacher quality is a significant factor in predicting student achievement..

The researcher also obtained the academic qualifications of the teachers as reported in table 4.3. From the findings of the study, 63(70.8%) of the teachers had

bachelors degree, 6 (6.7%) diploma, 2 (2.2%) had graduated with other degrees which were not education oriented, 1 (1.1%) with masters degree, 11(12.4%) of the sampled teachers were found to be form four graduates. 2 (2.2%) of the teachers were P1 holders whereas 4 (4.5%) were university students on holiday. These findings reveal a serious problem of shortage of qualified teachers. The researcher sought to determine if there was any significant relationship between professional qualification of teachers and the academic performance of students. In order to establish this, the following null hypothesis was tested using Pearson's correlation: H_{01} . There is no significant relationship between professional qualification of teachers and the academic performance of students in public secondary schools. The findings were presented in table 4.8.

Table 4.8:

Pearson's correlation of professional qualification of teachers and academic performance of students.

		<i>Average school mean covering the years 2007, 2008, and 2009</i>	<i>Professional qualification</i>
<i>Average school mean covering the years 2007, 2008, and 2009</i>	Pearson Correlation	1	-.213
	Sig. (2-tailed)	.	.045
	n	89	89
<i>Professional qualification</i>	Pearson Correlation	-.213	1
	Sig. (2-tailed)	.045	.
	n	89	89

Correlation is significant at the 0.05 level (2-tailed).

The findings revealed a correlation of -0.213 between professional qualification of teachers and academic performance of students. Since the probability of occurrence is at 0.045 (less than 0.05 level of significance), there is statistically significant relationship between professional qualification of teachers and academic performance of students. This study provides evidence enough to reject the null hypothesis. From the results of the correlation, a weak negative relationship exists between professional qualification of teachers and academic performance of students. It is evident that the higher the professional qualification of the teachers, the lower the academic performance of the students. This is a serious departure from the argument advanced by Ogbodo (1995) who argued that the quality of education depends to a large extent, on the quality of teachers. This therefore implies that teachers' effectiveness is not only a factor of professional qualification, but other factors also come into play, such as commitment to duty, motivation, and even the working environment. Those teachers who were qualified could also be complacent, hence the negative relationship.

4.5.2: Adequacy of teachers

The study sought to investigate influence of teacher adequacy on academic performance of students. The principals were asked to indicate the status of adequacy of teachers on their staff. The results were summarized as shown in the table 4.9.

Table 4.9:

Distribution of the respondents by employer

<i>Employer</i>	<i>Frequency</i>	<i>Percent</i>
<i>BOG</i>	35	39.3
<i>TSC</i>	53	59.6
<i>Volunteer</i>	1	1.1
Total	89	100.0

From the results illustrated in table 4.9, 35(39.3%) of the teachers were employed by the BOG. While 1(1.1%) of the teachers was a volunteer, 53(59%) of the teachers were employed by the TSC. This meant that there were not enough teachers in these schools. This was evident from the attempt by the principals to take care of the deficit by employing teachers on BOG terms. This indicated a serious understaffing of public secondary schools in Usigu division, a situation that could explain the poor academic performance. This is in agreement with the argument of Wehlace and Rutter (1984) who maintained that academic failures are caused by factors related to the social, family and personal characteristics of the pupils and not necessarily the school factors, of which the teachers are a component.

The researcher sought to establish the relationship between the number of teachers on the staff and the academic performance of students. In order to establish this, the following null hypothesis was tested using Pearson's correlation: H_{02} - There is no significant relationship between adequacy of teachers and academic performance of students in public secondary schools. The results were tabulated in table 4.10.

Table 4.10:

Pearson's correlation of number of teachers and academic performance of students.

		<i>Average school performance means core for 2007, 2008 and 2009</i>	<i>Numbers of teachers in school</i>
<i>Average school performance mean score for 2007, 2008 and 2009</i>	Pearson Correlation	1	.661
	Sig. (2-tailed)	.	.074
	n	8	8
<i>Numbers of teachers in school</i>	Pearson Correlation	.661	1
	Sig. (2-tailed)	.074	.
	n	8	8

The table shows a correlation of 0.661 with probability of 0.074 (which is less than 0.05 level of significance). The study revealed that there is no statistically significant relationship between adequacy of teachers and academic performance of students. This finding provides evidence enough to reject the null hypothesis. A strong positive relationship therefore exists between adequacy of teachers and academic performance of students in public secondary schools. From the results of the correlation, it is evident that the higher the numbers of teachers on staff, the better the academic performance of the students in public secondary schools. This proved that the poor academic performance in Usigu division could be blamed on understaffing in the division. This revelation differed from the assertions of Odhiambo (2003) that teacher redistribution and redeployment were essential.

4.5.3: Years of teaching experience of the teachers and academic performance of students.

The researcher sought to determine the extent to which teaching experience of both the principals and the teachers' impact on academic performance of students. The years of experience of the principals were as shown in table 4.4. One (12.5%) of the principals had the longest teaching experience of 22 years, followed by two others (25%) who had 21 years of teaching experience, and another two head teachers (25%) with 19 years of teaching experience. The three other principals (37.5%) had teaching experience of 15, 16, and 17 respectively. From the findings, the head teachers had relatively long years of teaching experience yet their academic performance was still low and varied.

This meant that it is not necessarily true that a more experienced principal would produce better academic performance of student than one with fewer years of teaching experience. This finding deviates from the view held by Darling-Hammond & Youngs (2002) that teaching experience is significantly associated with higher student achievement or greater achievement gains.

The researcher also obtained data concerning the teaching experience of the teachers. These were also presented in table 4.4. The findings of the distribution of teachers by number of years of teaching experience revealed a crucial trend. 26 (29.2%) of the teachers had only 0-2 years of experience, indicating that they were newly employed. 17 (19.1%) and 18 (20.2%) of the teachers had teaching experience of 6-10 years and over 10 years respectively. Majority of teachers were found to have teaching experience of 3-5 years. Those who had over ten years of teaching experience seemed to move out of TSC for better jobs or diminish due natural attrition and retirement. The

possible relationship between the years of experience of the teachers and the academic performance of students was investigated by the researcher. In order to establish this, the following null hypothesis was tested using Pearson's correlation: H_{03} . There is no significant relationship between the years of teaching experience of the teachers and the academic performance of students in public secondary schools. The results were tabulated in table 4.11.

Table 4.11:

Pearson's correlation of number of years of teaching experience of teachers and academic performance of students.

		<i>Average school mean covering the years 2007, 2008, and 2009</i>	<i>Teaching experience of the respondent</i>
<i>Average school mean covering the years 2007, 2008, and 2009</i>	Pearson Correlation	1	.174
	Sig. (2-tailed)	.	.104
	n	89	89
<i>Teaching experience of the respondent</i>	Pearson Correlation	.174	1
	Sig. (2-tailed)	.104	.
	n	89	89

The table shows a correlation of 0.174 with probability of 0.104 which is higher than 0.05 level of significance. The study revealed that there is no statistically significant relationship between number of years of teaching experience of teachers and academic performance of students in public secondary schools. This finding provides

evidence enough to reject the null hypothesis. A weak positive relationship therefore exists between number of years of teaching experience of teachers and academic performance of students in public secondary schools. From the results of the correlation, it is clear that the higher the numbers of years of teaching experience of teachers, the better the academic performance of the students in public secondary schools. This denotes that the poor academic performance in Usigu division could be blamed on inexperience of the teachers in the division. This is in agreement with the position held by Darling-Hammond & Youngs (2002) that teaching experience is significantly associated with higher student achievement.

4.6: Influence of School Leadership on the Academic Performance of Students.

The researcher sought to investigate influence of various aspects of school leadership on academic performance of students. These were: leadership styles, delegation, staff motivation, and mode of supervision.

4.6.1: Leadership styles

The researcher wanted to determine the extent to which leadership styles influence academic performance of students. In view of this, the principals were asked to state their preferred styles of leadership. The results were tabulated in table 4.12.

Table 4.12:

Leadership styles adopted by the principals

<i>Leadership style</i>	<i>Frequency</i>	<i>Percent</i>
<i>Democratic</i>	8	100.0
Total	8	100.0

All the 8 principals were found to be employing democratic style of leadership. They argued that it was the style that embraced fruitful consultation. They however observed that certain circumstances could call for an autocratic approach especially at the school policy implementation stage, and when correcting teachers who did not observe professional ethics. The results were a clear indication that the academic performance was not in any way a factor of the style of leadership since all the principals adopted a similar leadership style yet the academic performance of their students was as varied as the number of principals themselves. This finding was contrary to that of Mpierwe (2007) who asserted that leadership plays a very critical role in the realization of high academic achievement.

4.6.2 Delegation of work and authority by the principals

The study endeavored to determine influence of delegation of work and authority by the principals on academic performance of students. When the teachers were asked whether their principals delegated work and authority, they had varying opinions. They had varying responses which were captured through the use of a 5-point Likert scale of

strongly agree-1, agree-2, neutral-3, disagree-4, and strongly disagree-5 as shown in table 4.13.

*Table 4.13:
Delegation of work and authority by Principals*

<i>Responses</i>	<i>Frequency</i>	<i>Percentage</i>
Strongly agree	7	41.6
Agree	41	6.14
Neutral	4	4.5
Disagree	6	6.7
Strongly disagree	1	1.1
Total	89	100

From the findings in table 4.13, 41(46.1%) of the teachers agreed that the principals delegate work and authority, whereas only 6(6.7%) of the teachers disagreed. 37(41.6%) of the teachers strongly agreed while only 1(1.1%) strongly disagreed. 4(4.5%) were undecided. These results led the researcher into a conclusion that most principals delegated work and authority to their teachers. And this could provide an explanation about the academic performance in the division. In order to establish this relationship, the following null hypothesis was tested using Pearson's correlation: H_{04} . There is no significant relationship between delegation of work and authority by the principal and the academic performance of students in public secondary schools. The results were posted in table 4.14.

Table 4.14:

Influence of delegation on academic performance.

		<i>Average school mean covering the years 2007, 2008, and 2009</i>	<i>Head teacher delegates work and authority</i>
<i>Average school mean covering the years 2007, 2008, and 2009</i>	Pearson Correlation	1	-.256
	Sig. (2-tailed)	.	.015
	n	89	89
<i>Head teacher delegates work and authority</i>	Pearson Correlation	-.256	1
	Sig. (2-tailed)	.015	.
	n	89	89

Correlation is significant at the 0.05 level (2-tailed).

The results in table 4.14 reveal a correlation coefficient of -0.256 with 0.015 probability of occurrence that is lower than the 0.05 significance level. There is therefore statistically significant relationship between delegation of work and authority by the principals and academic performance of students. This study provides evidence enough to reject the null hypothesis. From the results of the correlation, a weak negative relationship exists between delegation of work and authority by the principals and academic performance of students.

This meant that the more the principals delegated work and authority to their teachers, the poorer the academic performance was more likely to be. This presents an argument against that of Mpierwe (2007) who maintained that in spite of the importance of leadership, its contribution to improved school performance will not be maximized, unless leadership is distributed and shared with the significant others.

4.6.3 Motivation of teaching staff

This section of the study sought to find out how motivation of the teaching staff influences academic performance of students. When the teachers were asked whether they were motivated in their places of work, they gave varying responses. Their level of motivation was measured by determining whether they were happy in their places of work. These responses were summarized in table 4.15.

Table 4.15:

Happiness of teachers in their current work stations

<i>Happiness</i>	<i>Frequency</i>	<i>Percent</i>
<i>NO</i>	30	33.7
<i>YES</i>	59	66.3
Total	89	100.0

From the frequency distribution table 4.15, 30(33.7%) of the teachers were not happy in their work stations, while 59(66.3%) were happy in their work stations. This implied that most teachers in Usigu division were happy with their work and therefore motivated. Those who were motivated cited good working environment, good payment for work done, especially those on BOG employment, and other incentives offered by the school leadership. Those who expressed their dissatisfaction cited reasons such as having served for too long in the formal employment, high handedness of the principals in certain issues, lack of motivation and even overstaying in the same work station.

Since the result were poor even when the teachers were motivated, motivation alone in this case does not yield high academic performance. This is a different view from what is held by Balunywa (2000) that reinforcement characteristics like

recognition, conditions of service and morale building, coercion and remuneration are of relevance to academic performance of students.

4.6.4: Mode of supervision

The study sought to establish influence of the principals' mode of supervision on academic performance of students. In view of this, the principals were asked to give their views on which mode of supervision was effective. Their responses were as tabulated in table 4.16.

Table 4.16:

Method of supervision

<i>Method of Supervision</i>	<i>Frequency</i>	<i>Percent</i>
<i>Closely</i>	6	75.0
<i>Trust</i>	2	25.0
Total	8	100.0

From table 4.16, the study found out that 6(75%) of the principals supervised their teachers close and carefully while only 2(25%) of the principals trusted their teachers and allow them to work on their own. They had varying ways of conducting supervision of teachers' discharge of duty. It was evident that most of the principals supervised their teachers closely and carefully.

Since most of the principals supervise their teachers closely and carefully, and yet the academic performance is still poor, this method of supervision may not be the most appropriate. This would be probably so because teachers prefer conducive working atmosphere rather than one that would infringe on their freedom as they performed their

duties. The poor academic performance could be attributed to oppressive style of supervision by the principals. Although this finding agrees with the views advanced by Cole (2002), leadership at work in education institutions is a dynamic process where an individual is not only responsible for the group's tasks, (a supervisor). The principals should actively seek the collaboration and commitment of all the group members in achieving group goals in a particular context without coercion of the members..

4.7 Strategies that can be used to improve academic performance of students in Usigu division

During the study, the researcher came across several strategies which had either worked or were yet to be tried for the improvement of academic performance of students in public secondary schools in the division. One main strategy was early syllabus coverage. This would enable the various subject teachers to have ample time for thorough revision ahead of the KCSE examinations. To facilitate early syllabus coverage, holiday tuition was popularly adopted by all the schools in Usigu division. This helped recover the time lost during the term due to interruptions. Most schools embraced the idea of remedial teaching for weak students. In some schools, this was referred to as intra-term tuition. This allowed the teachers some time with the weak students for closer attention and to enable the weak students to catch up with the others who may be faster in grasping the syllabus content concepts.

Frequent testing policy featured prominently in virtually all the schools visited. The head teachers argued that this practice kept the candidates on toes with no time to waste in idleness. It also exposed the candidates to various exam answering techniques.

The continuous interaction of the candidates with the exams was also viewed as a means of instilling confidence in the candidates. In addition, it helped to clear any exam fright.

In the principals' responses, it was common that they embraced the ideology of benchmarking and networking. According to them, benchmarking would involve identifying a school which is performing better than them, visiting them with or without students or invite them over so as to discover what makes the better school perform the way it is performing. Some schools conducted the benchmarking activities through symposia and exchange visits. Networking on the other hand would involve sharing the ideas or resources without necessarily visiting one another.

In most of the schools, there was the position of the director of the studies. This office formed the internal quality assurance office and served as a whistle blower when the school is not on the course of meeting its objectives. The head teachers themselves would also monitor the work covered by the teacher in person. This they described as management by walking around (MBWA). Some principals had in place motivational programmes for teachers, students and support staff alike, whenever they made commendable achievements.

Various schools had various way of keeping the students in school most of the time. In some schools, the administration had put in place modalities of fee payment that ensured retention of students in school such as, payment in installments, and paying fees in kind, including foodstuffs. In schools which were principally day, students were requested to board when they joined the candidate class. For the rest of the school, lunch programme was put in place. All these were aimed at increasing the contact hours between the teachers and the students and enabled the teachers to assist the weak

students. Some schools employed the use of supervised consultation. This involved giving the students consultation cards with slots for subject, date and the subject teachers. This would enable the teachers concerned to track how each student performed in consultation. The schools also indicated that student discipline was of paramount importance. The head teacher were therefore striving to ensure that high standard of discipline among the students was maintained through the offices of the principal, deputy principal, and the DOS.

Given the serious understaffing in all the secondary schools in the division, all the principals strived to acquire more teachers, either through the BOG, or through the TSC. Getting more teachers through the BOG meant requesting parents to pay additional fees to cater for the wages of the BOG employees. Some principals also identified field trips and academic tours as one of the workable strategies. For instance, the agriculture students would pay visits to established farms, farmers training centers, agricultural colleges and even universities involved in agricultural training. The geography students would visit archeological site, and common geographical features. The other subjects would visit the relevant places. This enhanced conceptualization of abstract syllabus content.

Other strategies which were being implemented in the division included; guidance and counseling for the students, inviting motivational speakers to talk to the students and the teachers, group discussions, allocating a given number of students to a teacher for enhanced supervision(also known as tutor-tutee), and frequent meetings with the support staff to enhance their efficiency.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter gives an account of summary of findings, conclusions, recommendations, and suggestions for further studies, and contribution to the body of knowledge.

5.2 Summary of the findings

The first objective of the study was to establish the extent to which physical facilities as a component of institutional capacity influence academic performance of students in public secondary schools in Usigu division. From the findings about adequacy of classrooms, 38(42.7%) of the respondents accepted adequacy but with uncertainty in the larger remaining group of respondents. Laboratories were found to be inadequate with 47(52%) supporting the inadequacy. . The individuals who felt that the libraries were not adequate formed the majority at 35(39%). Since most secondary schools in Usigu did not have adequate libraries, and given the vital role of the libraries in providing conducive environment for studying, this explained the poor academic performance of students in the division. The inadequacy of laboratories, classrooms and libraries in most public secondary schools in Usigu division therefore explains the poor academic performance of students in the division.

The second objective of the study sought to assess the level at which human resources as a component of institutional capacity influence academic performance of students in public secondary schools in Usigu division. Three aspects of human resources were investigated. These were; academic qualification, adequacy of teachers and teaching

experience. All the principals, 6(75%) had a minimum academic qualification of a bachelors degree. This indicated that all the principals were professionally qualified to head their schools. From the findings of the study, 63(70.8%) of the teachers had bachelors degree. Some teachers lacked the minimum required training qualification. These findings revealed understaffing and shortage of qualified teachers. Findings of a correlation test result of -0.213 with probability of 0.045 reveal that teacher qualification influenced academic achievement of the students. There were not enough teachers in the schools since some schools employed teachers on BOG terms 35(39.3%). A correlation of 0.661 with probability of 0.074(which is less than 0.05 level of significance) was obtained between teacher adequacy and performance. Teacher adequacy also influences academic performance.. All the principals had more than 10 years of teaching experience while majority of teachers were found to have teaching experience of 5 years and below with the latter's correlation results yielding 0.174 with a probability of occurrence of 0.104. with regard to influence on academic performance.

The third objective of the study aimed at investigating the extent to which school leadership as a component of institutional capacity influences academic performance of students in public secondary schools in Usigu division. The various aspects investigated were: leadership styles, delegation, staff motivation, and mode of supervision. All the principals employed the democratic style of leadership for fruitful consultation. The academic performance was not in any way a factor of the style of leadership since all the schools performed poorly. 41(46.1%) of the teachers, who formed the majority agreed that the principals delegate work and authority., However, there was a weak negative correlation -0.256 at 0.015 level of significance, between delegation of work and authority

by the head teachers and the academic performance of students in public secondary schools in Usigu division. Most teachers, 59(66.3%) were happy with their work and therefore motivated. Pearson's correlation revealed no significant relationship between motivation of teachers and the academic performance of students. It was evident that most of the principals, 6(75%) supervised their teachers closely and carefully,

The fourth objective of the study was to establish the various strategies which were either in use or to be used for the improvement of academic performance of students in public secondary schools in the division. These were; early coverage of syllabus, frequent testing policy, benchmarking and networking creation of the position of the director of the studies for internal quality assurance, some principals would also monitor the work covered by the teachers in person. Some principals had motivational programmes for teachers, students and support staff, keeping the students in school most of the time, supervised academic consultations. All the principals strived to acquire more teachers, organize field trips and academic tours. Other strategies which were being implemented in the division included; guidance and counseling for the students, inviting motivational speakers to talk to the students and the teachers, group discussions, allocating a given number of students to a teacher for enhanced supervision(also known as tutor-tutee), and frequent meetings with the support staff to enhance their efficiency.

5.3 Conclusions

Most of the public secondary schools in Usigu division were found to have somehow adequate physical facilities such as class rooms , there is however, significant relationship between adequacy of classrooms and the academic performance of students in public secondary schools. These schools however did not have adequate laboratories. From the findings on libraries, most public secondary schools in Usigu division did not have adequate libraries. Since most secondary schools in Usigu did not have adequate libraries, The inadequacy of most of the school resources could explain the low academic achievement of students in the public secondary schools in Usigu division.

All the principals were professionally qualified to head their schools. There was understaffing and shortage of qualified teachers. That is, the higher the academic qualification of the teachers, the lower the academic achievement of the students. This therefore implied that teachers' effectiveness was not only a factor of professional qualification, but other factors also came into play. The poor academic performance could be blamed on understaffing. Most principals had sufficient experience. Most teachers had teaching experience of three to five years. This meant that it is not necessarily true that the more the years of experience of a teacher, the better the performance of the students. All the head teachers were employing the democratic style of leadership for fruitful consultation. The academic performance was not in any way a factor of the style of leadership since all the principals adopted a similar leadership style yet the academic performance of their students was as varied. Most principals delegated work and authority to their teachers. However, there was a weak negative correlation between delegation of work and authority by the head teachers and the academic

performance of students in public secondary schools in Usigu division. Most teachers in Usigu division were motivated and principals supervised their teachers closely and carefully for successful implementation of academic policies.

Several strategies were identified for improving academic performance. These were: early coverage of syllabus, frequent testing policy, benchmarking and networking, internal quality assurance through the DOS, monitoring delegated work by the head teacher, motivational programmes for teachers, students and support staff, keeping the students in school most of the time, use of supervised academic consultations, acquisition of more teachers, utilization of field trips and academic tours, guidance and counseling for the students, inviting motivational speakers to talk to the students and the teachers, group discussions, allocating a given number of students to a teacher for enhanced supervision(also known as tutor-tutee), and frequent meetings with the support staff to enhance their efficiency.

5.4 Recommendations

In view of the findings of the study, the following recommendations were made: The government through the ministry of education to channel funds to secondary schools to aid in the purchase of sufficient laboratory and the science equipment. At the bare minimum there each science subject should have its own unshared laboratory. Since there is a positive relationship between the laboratories and academic performance, this move is one of the surest ways of improving the academic performance in public secondary schools. The libraries should also be made adequate. This can be achieved through efficient utilization of the existing ones. The book lending services should be increased to

allow the students to utilize the books away from the book store. In case of an idle structures or rooms may be converted into libraries.

Given that there is significant relationship between number of teachers on a staff and the academic performance of students, the public secondary schools in Usigu are seriously understaffed and therefore need more teachers. This makes the schools spend tones of money in paying the employees of BOG. This money could be saved and channeled to construction of laboratories, libraries and even purchasing the much needed teaching and learning resources. More secondary school students should be guided to select education course at the colleges and universities so as to ensure continuous supply of properly qualified teachers. This will eliminate the option of employing form four graduates to teach in secondary schools. The TSC should come up with and sustain a promotion policy that targets teachers who have served for long. The TSC should also have a mechanism of ensuring that a teacher does not take more than ten years in the same work station. This eliminates complacency and promotes productivity of teachers who have served for long, and also salvages the plight of the innocent students.

The principals should take a mandatory course in human resource management or only those who will have taken the course should qualify to be principals. This would enable them to acquire interpersonal skill and foster a good working climate, and avoid high handedness when handling the teachers. The principals should minimize the extent of delegation since more of the delegation impacted negatively on academic performance. Head teachers should trust the teachers and let them work on their own with minimal supervision rather than closely and carefully, a method that impacted negatively on academic performance of student.

The various strategies used to improve academic performance should be cost effective and less burdensome to the parents and the other fee payers. This involves construction of structures in the school which are multipurpose in functions. These could help solve the problems of inadequacy of the physical facilities.

5.5 Suggestions for Further Studies

The following areas required further investigation:

1. Influence of gender of the teachers on academic performance of students in secondary schools needs to be investigated.
2. This study did not investigate the sources but the utilization of the funds to acquire the resources. Influence of school finances on academic achievement in secondary schools should therefore be researched on.
3. Student Characteristics which influence academic achievements of students in public secondary schools.
4. Factors of home environment and their influence on academic performance of students in secondary schools need to be investigated. This study only considered the school environment factors
5. Since the study was conducted in schools within the rural settings, this same study can be replicated in urban school to see if similar results.

5.6 Contribution to body of Knowledge

Objectives of the study

Contribution to the body of knowledge

1. To establish the extent to which physical facilities as a component of institutional capacity influence academic performance of students in public secondary schools in Usigu division. Physical facilities were found to influence academic performance is influenced by adequacy of classrooms, laboratories and libraries. Schools with adequate laboratories and libraries tended to perform better than those with such facilities being inadequate. These facilities should therefore be made adequate for good academic performance to be achieved.
2. To assess the level at which human resources as a component of institutional capacity influence academic performance of students in public secondary schools in Usigu division. Even though teachers' quality is of necessity, those who are qualified and TSC employed show complacency. This negatively influences academic performance. Academic performance is dependent on the number of teachers on a staff and teachers' years of teaching experience.

3. To investigate the extent to which school leadership as a component of institutional capacity influences academic performance of students in public secondary schools in Usigu division. The style of leadership does not influence academic performance. Delegation of work and authority tends to have a negative influence on academic performance and therefore should be checked. Close and careful supervision of teachers by the head teachers negatively influences academic performance. However, teachers perform their work better when they are trusted and allowed to work on their own.

4. To explore strategies that can be used to improve academic performance of students in public secondary schools in Usigu division. Several strategies were identified for improving academic performance. These were: early coverage of syllabus, frequent testing policy, benchmarking and networking, internal quality assurance through the DOS, monitoring delegated work by the head teacher, motivational programmes for teachers, students and support staff, keeping the students in school most of the time, use of supervised academic consultations, acquisition of more teachers, utilization of field trips and academic tours, guidance and counseling for the students, inviting motivational speakers, group discussions, use of tutor-tutee, and frequent meetings with the support staff to enhance their efficiency.

REFERENCES

- Aikman, S. & Unterhalter, E. (2005). *Beyond access: Transforming policy and practice for gender equality in education*. London: Oxford.
- Akiba, M. (2004). *A cross-national analysis of student victimization: Educational inequality and school violence*. In S. Paik (Ed.), *Productivity analyses of national databases* (pp. 2056224). Greenwich, CT: Information Age.
- Armstrong, M.(2004).*Human resource management theory and practice*. London: Bath Press Ltd.
- Averett, S. and McLennan, M.(2004). *Exploring the effect of class size on pupil achievement: what have we learned over the past two decades*. In *international handbook on the Economics of Education* (eds G. Johnes and J. Johnes). Cheltenham:Elgar.
- Balunywa, W. S. (2000). *A handbook of business management*. Kampala: Ugandan Press.
- Belkin, G. S. (1981). *Practical Counseling in Schools 2nd ed.* (Dubuque, Iowa: William C. Brown).
- Blank, R. (2003). *Meeting NCLB goals for highly qualified teachers: Estimates by state from survey data*. Washington, DC: Council of Chief State School Officers.
- Borman, G. & Kimball, S. (2005). *Teacher quality and educational equality: Do teachers with higher standards-based evaluation ratings close student achievement gaps?* *Elementary School Journal*, 106(1), 3620.

- Brumbach, G.B. (1988). *Some issues, ideas and predictions about performance management, Public personnel management*, Winter Press.
- Burtless, G. (1996). *Does money matter?: the effect of school resources on pupil achievement and adult success*. Washington DC: Brookings Institution.
- Chansarkar, B. A. and Michaeloudis, A. (2001). *Student profiles and factors affecting performance* Int. j. math. educ. sci. technol., 2001, vol. 32, no. 1, 97-104, Pp 103-104
- Cole, G.A. (2002). *The administrative theory and workers' motivation*, Zante institute of administration Press Ltd, ABU Zaria, Nigeria.
- Coleman, J. S., et al (1966). *Equality of Educational Opportunity*. Washington DC: Government Printing Office.
- Darling-Hammond, L., & Youngs, P. (2002). *Defining "highly qualified teachers": What does "scientifically-based research" actually tell us?* Educational Researcher, 31(9), 13625.
- Dearden, L., Ferri, J. and Meghir, C. (2001). *The effects of school quality on educational attainment and wages*. Rev. Econ. Statist., **84**, 1620.
- Dolton, P. and Vignoles, A. (2000). *The effects of school quality on pupil outcomes: an overview*. In *Education, Training and Employment in the Knowledge-based Economy* (ed. H. Heijke), pp. 366-52. Basingstoke: Macmillan.
- Dustmann, C., Rajah, N. and van Soest, A. (2003). *Class size, education and wages*. *Econ. J.*, **113**, F996-F120.
- Eshiwani, G.S. (1993). *Education in Kenya since Independence*. Nairobi: East African Educational Publishers.

- Gay, L.R (1976). *Educational Research Competencies for Analysis and application*:
Ohio: Charles E. Merrill
- Grant .C. (2006) .*Emerging voices on teacher leadership: Some South African views*.
Education Management Administration.
- Goethals G. R. (October, 2001). "*Peer effects, gender, and intellectual performance
among students at a highly selective college: a social comparison of abilities
analysis* Discussion Paper-61
- HallingerøP. and Heck, R.H. (1998). *Exploring the principals' contribution to school
effectiveness: 1989-1995*. School effectiveness and school improvement, 9(2),
pp 157-191.
- Hanushek, E. A. (1979). *Conceptual and empirical issues in the estimation of education
production functions*. J. Hum. Res., **14**, 3516388.
- Hanushek, E. A. (1986). *The economics of schooling: production and efficiency in public
schools*. J. Econ. Lit., **24**, 114161177.
- Hanushek, E. A. (1997). *Assessing the effects of school resources on pupil performance:
an update*. Educ. Evaln Poly Anal., **19**, 1416164.
- Hanushek, E. A., Rivkin, S.G. and Taylor, L. L. (1996). *Aggregation and the estimated
effects of school resources*. Rev. Econ. Statist., **78**, 6116627.
- Hinton, P.R. (1995): *Statistics Explained; A guide for social science students*:
London:Routledge.
- Honadle, B. W. (1981). "*A Capacity-Building Framework: A Search for Concept and*

- Purpose.* " Public Administration Review **41**(5): 575-580.
- Howitt, A. (1977). *Improving Public Management in Small Communities*. Policy Note 77-3. Cambridge, Department of City and Regional Planning, Harvard University
- Hoxby, C. M. (2000). *The effects of class size on pupil achievement: new evidence from population variation*. Q. J. Econ., **115**, 123961285.
- Iacovou, M. (2002). *Class size in the early years: is smaller really better?* Educ. Econ., **10**, 2616290.
- Idiagbe, J.E. (2004). *Relationship between Education Facilities, Teachers Qualifications, School Location and Academic Performance of Students in Secondary Schools in Delta State*. Unpublished PhD Thesis. Delta State University, Abraka. inspectors and advisors in Englandö, School Organisation, Vol. 12 No. 2, pp. 201-35.
- Kothari, R.C. (2003). *Research Methodology methods and Techniques*. New Delhi International Ltd. Publishers.
- Krejcie, R.V. and Morgan, D.W. (1970). *Determining Sample Size for Research Activities*, Educational and Psychological Measurement.
- Krueger, A. (1998). 'Reassessing the view that American schools are broken', Economic Policy Review, Federal Research Bank of New York, March, vol. 4 (1), pp. 29646.
- Krueger, A. (2000). 'An economist's view of class size research', Miliken Institute Award for Distinguished Economic Research paper.
- Krueger, A. (2003). *Economic considerations and class size*. Econ. J., **113**, 34663.

Laine, R. D., Greenwald, R. and Hedges, L. V. (1996). *Money does matter: a research synthesis of a new universe of education production function studies*. In *Where Does the Money Go?: Resource Allocation in Elementary and Secondary Schools* (eds L. O. Picus and J. L. Wattenbarger), pp. 44-70. Thousand Oaks: Corwin.

Leithwood, K., Seashore Louis, K.A., Anderson, S. and Wahlstrom, K. (2004). *How Leadership Influences Student Learning*, The Wallace Foundation, New York, NY.

Leithwood, K., Day, C., Sammons, P., Harris, A. and Hopkins, D. (2006). *Seven Strong Claims about Successful School Leadership*, National College of School Leadership, Nottingham.

Lewy, A. (1991). *Encyclopedia of Curriculum*. Oxford: Pergamon Press Plc

Levačič, R. and Vignoles, A. (2002). *Researching the links between school resources and pupil outcomes in the UK: a review of issues and evidence*. *Educ. Econ.*, **10**, 312-331.

Lindley, C. (1975). "Changing Policy Management Responsibilities of Local Legislative Bodies." *Public Administration Review* **35**(Special Issue): 797.

Little, L. F. and Thompson, R. (1983). *Truancy: How parents and teachers contribute*.

Maicibi, N. A. (2003). *Pertinent Issues in Employees Management*. M.P.K. Graphics (U) Ltd, Kampala.

Marzano, R. J.; McNulty, B. A. & Waters, T. (2005). *School Leadership that Works: From Research to Results*. Alexandria, VA: Association for Supervision and Curriculum Development. Pp. 194

- Mpeirwe, J (2007). *Management of instructional materials and performance of teachers in primary schools in Kampala*. A dissertation submitted in Partial fulfillment for the Masters Degree in Education, Makerere: Kampala.
- Mugenda A. & Mugenda O. (2003). *Research Methods: Quantitative and qualitative approaches*, Nairobi, Acts Press.
- Mugenda, O.M. and Mugenda, A.G (1999). *Research Methods. Quantitative and Qualitative approaches*. Nairobi: Acts Press.
- Mutai, K. (2003). *Training of Teachers before being promoted to be Educational Administrators*. Daily Nation of 7th March. Nairobi: Nation Media Group.
- National Academies. (2007). *Study of teacher preparation programs in the United States*. Retrieved December 1, 2010, from <http://www.nationalacademies.org/teacherprep/>.
- Nwangwu, N. A. (1997): *The Environment of Crisis in Nigerian Educational System*. Co-operative Education 33(1) 87-95.
- Odhiambo, G.O. (2003). *Teacher Appraisal And Its Significance For The Development Of A Quality Assurance Culture In Kenyan Secondary Schools*: Doctoral thesis, University of New England, Armidale.
- Odhiambo, G.O. (2005). *Teacher Appraisal: The Experiences Of Kenyan Secondary School Teachers*, Journal of Educational Administration, Vol. 43 No. 4, pp. 402-16.
- Ogbodo, C.A. (1995). *Managing Educational Facilities in Schools in V. F. Peretomode* (Ed.) Introduction to Educational Planning and Supervision. Lagos: Joja Educational Research and Publishers Ltd.

- Ogembo, P.O. (2005). *Training needs of heads of department of secondary schools for effective curriculum implementation in Kenya: A Case of Eldoret Municipality*. Unpublished M.Phil Thesis.
- Okumbe, J.A. (1999). *Educational Management Theory and Practice*. Nairobi: Nairobi.
- Okumbe, J. A. (1998). *Educational Management: Theory and Practice*. Nairobi: Nairobi University Press.
- Organization for Economic Co-operation and Development. (2001). *Knowledge and skills for life: First results from the OECD Programme for International Student Assessment (PISA) 2000*. Paris.
- Orodho, A.J. (2003). *Essential of Education and Social Sciences Research method*; Nairobi; Masola Publishers.
- Osagie, R.O. (2001). *Facilities and University Development in Current Issues in Educational Management in Nigeria*. Ambik Press Ltd. People. Washington, DC: The World Bank.
- Rice, J. K. (2003). *Teacher quality: Understanding the effectiveness of teacher attributes*. Washington, DC: Economic Policy Institute.
- Rivkin, S., Hanushek, E., & Kain, J. (2005). *Teachers, Schools and Academic Achievement*. *Econometrica*, 73(2), 417-458.
- Rowan, B., Correnti, R., & Miller, R. J. (2002). *What large-scale, surveys research tells us about teacher effects on student achievement: Insights from the Prospects study of elementary schools*. *Teachers College Record*, 104, 1525-1567.
- The School Counsellor, 3'0(4), 285-291.

- Sacerdote, B. (2001). *Peer effects with random assignment: results for Dartmouth roommates* The Quarterly Journal of Economics, Volume 116, Number 2, 1 May 2001, pp. 681-704(24)
- Sashkin, M. & Sashkin, M. (2003). *Leadership That Matters*. San Francisco: Berrett-Koehler Publishers Inc.
- Sokolow, A. D. (1979). *Local Governments in Nonmetropolitan America: Capacity and Will*. Washington, D.C., U.S. Department of Agriculture.
- Thompson, S. and Standfort, D.(1975). *Student attendance and absenteeism*. The Practitioner.
- Universal Basic and Secondary Education. *Working paper of the Project on Universal Basic and Secondary Education*. Cambridge, MA: American Academy of Arts and Sciences. University Press.
- U.S. Department of Education. (2006a). *Letter to the Chief State School Officers regarding states' good-faith efforts in meeting the highly qualified teachers goal*. Washington, DC: Author. Retrieved December 1, 2006, from <http://www.ed.gov/programs/teacherqual/hqtltr/index.html>
- Uwheraka, T. (2005). *Analysis of Space Dimensions and Physical Facilities in Senior Public Secondary Schools*. Unpublished M.Ed. Dissertation, Delta State University, Abraka.
- Wayne, A. J., & Youngs, P. (2003). *Teacher characteristics and student achievement gains: A review*. Review of Educational Research, 73(1), 89-122.

- Wehlace, G.G. and Rutter, R.A. (1985). *Dropping out: How much do school contribute to the problem. Teachers College Record. 87(3), 374-392. 93 -113. Africa: The case of Nigeria and Swaziland. Teaching and Teacher Education 5(2).*
- Wilson, S. M., Floden, R. E., & Ferrini-Mundy, J. (2001). *Teacher preparation research: Current Knowledge, Gaps, and Recommendations.* Seattle, WA: Center for the Study of Teaching and Policy.
- Wilson, S. M., Floden, R. E., & Ferrini-Mundy, J. (2002). *Teacher preparation research: An insider's view from the outside. Journal of Teacher Education, 53(3), 190-204.*
- Witziers, B., Bosker, R. and Kruger, M (2003). *Educational leadership and academic achievement: the elusive search for an association. Educational Administration Quarterly, 39(3), 398-425.*
- World Bank. (2003). *World Development Report 2004: Making Services Work for Poor.*
- Wosmann, L. (2003). *Schooling resources, educational institutions and pupil performance: the international evidence. Oxf. Bull. Econ. Statist., 65, 117-170.*
- Yvonne B, Soyibo, K. (1998). "An Analysis of High School Students' Performance on Five Integrated Science Process Skills" *Research in Science & Technical Education, Volume 19, Number 2 / November 1, 2001 Pp 133 - 145*
- Zimmerman, B. J. (2000). *Attaining self-regulation: A social cognitive perspective.* In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13-39). San Diego: Academic Press.

APPENDICES

APPENDIX I: LETTER OF TRANSMITTAL

UNIVERSITY OF NAIROBI
P.O. BOX 30197-00100 GPO
NAIROBI, KENYA

28/03/2011

TO

Dear Sir/Madam,

**RE: INFLUENCE OF INSTITUTIONAL CAPACITY ON ACADEMIC
PERFORMANCE OF STUDENTS IN PUBLIC SECONDARY SCHOOLS**

I am currently a student of the University of Nairobi in the Department of Extra Mural Studies at the Kisumu campus pursuing a Master of Arts degree in Project Planning and Management. I am carrying out the above study in your division as part of the fulfillment of the requirements for the award of the degree. The purpose of this letter is to humbly request you to participate in the study by completing the attached questionnaires. All the information collected will be used for the purposes of the study only and will be treated as strictly confidential.

Your cooperation and support in this study will be highly appreciated.

Yours faithfully,

BENSON ONYANGO ACHIENGØ

APPENDIX II:
QUESTIONNAIRE FOR TEACHERS

INTRODUCTION

This study is for academic purposes only. The questionnaire is about aspects of institutional capacity that influence academic performance of students in Public Secondary schools. Kindly respond to ALL questions. Please (√) within boxes where provided to indicate your choice. Where boxes are not provided use the blank paces provided.

Section A: Background Information

1. Gender: Male Female

2. Teaching experience:

0-2 years 6-10 years

3-5 years over 10 years

3. Qualification:

Masters

B.Ed/BSc (Educ)

Diploma

If other specify _____

5 Employer:

T.S.C.

B.O.G.

Volunteer.

Section B: Physical Facilities

Below is a list of facilities used in the teaching/learning process. Please indicate the level of agreement with the following statements on the state of physical facilities. Please indicate the appropriate space where it applies to you, using a (✓)

Facilities Statements	Availability				
	Strongly Agree	Agree	Neutral	disagree	Strongly Disagree
a) The school has enough classrooms					
b) The laboratory (s) is adequate					
c) The school science equipment are adequate					
d) Text books are adequate					
e) The desks/lockers are adequate for students					
f) Instructional resources e.g. audiovisuals , chalkboards are adequate					
g) The library services are adequate					

Section C: Motivation of teachers and students

1. How often do you assess your students' academic performance? Tick appropriate box.

Weekly Monthly Only at the end of the term

2. Do you reward your students when they perform well in exams?

Yes sometimes

No Don't know

3. Do you offer remedial teaching to weak students? Tick appropriate box.

Yes No

If the answer is no to question 3, give reasons.

4. Do your students show keen interest in your lessons? Tick appropriate box.

Yes sometimes No

5. By what time do you cover the prescribed syllabus work?

Form 1 : Month _____ Form 3 : Month _____

Form 2 : Month _____ Form 4: Month _____

If other, specify _____

6. Do your students attend all your lessons? Tick appropriate box.

Yes No

If the answer is no to question 6, give reasons.

7. How often are your professional records checked by your H.O.S/ H.O.D/Deputy principal/D.Os/Principal? Tick appropriate box.

Weekly Termly Monthly Not at all

8. Does the school have any recreational facilities for the staff? Tick appropriate box.

Yes No

If yes, specify _____

9. Are you happy in your current work station? Tick appropriate box.

Yes No

Give reasons _____

10. How do you rate your staff morale? Tick appropriate box.

High Average Low

If high, give reasons _____

If low, give reasons _____

Section D: Leadership Styles.

- a) Below are statements about administrative styles that are used in your school. The statements have four possible responses, **Strongly agree (1); Agree (2); Disagree (3), Strongly Disagree (4, undecided (5)**. Using the rating scale, given indicate by ticking in the appropriate space in your opinion, what best describes your school.

Leadership style	1	2	3	4	5
1.The H/M uses co-operate approach to decision making					
2.The H/M uses teachers to solve personal problems e.g. social, financial					
3.The H/M encourages and promotes group activities e.g. staff welfare					
4.The H/M delegates work and authority					
5.The H/M is always fair in his judgment when dealing with both teachers and students					
6.The H/M does not exhibit a rigid domineering pattern of close supervision					
7.The H/M recognizes the contribution of staff and students and performance & rewards them.					
8. The H/M doesn't portray a general trait of fugitiveness					
9. The H/M doesn't rarely feels other people are responsible for his/her failure					

4. a) For how long have you been

i) an assistant teacher _____years

ii) a principal _____years

b) Is this the first station you are heading? Yes

No

If no, how many other stations have you led?

1 Station

2 Stations

3 Stations

4 Stations

More than 5 stations

5. a) How many teachers do you have on your staff? (i) T.S.C

B.O.G

(ii) Male

Female

b) Is this number of teachers adequate? Yes

No

c) Outline how many of your teachers fall in each category below

ii) Masters Degree

iii) Bachelors Degree (B.Ed)

iv) Diploma

v) Other specify _____

6. a) What is the population of students in the school?

Form	Boys	Girls	Total	No. of Streams
One				
Two				
Three				
Four				

b) What is the maximum and minimum number of students allowed to enroll in a single stream?

Minimum

maximum

7. a) How did your school perform in the KCSE Examinations in the year 2007, 2008, and 2009?

Year	No. of Candidates	Mean score
2007		
2008		
2009		

- b) How many students were admitted to local universities and tertiary institutions from your school in the years indicated below?

Institution	2007	2008	2009	Total
Local universities (Quality grades)				
Tertiary colleges (medium grades)				
Neither of the above(wastage grades)				

- c) In your own opinion, what are the factors which could be responsible for the results in KCSE above? _____

SECTION B: Leadership styles

1. Indicate who performs the following duties (by title)

Task	Title
a) Admission of new students	
b) Guiding students on career choices	
c) Collecting school fees	
d) Handling indiscipline cases	
e) Sourcing for repair and maintenance of physical facilities	

2. Which of the following leadership styles do you employ most of the time? Tick appropriately.

- i) Autocratic
- ii) Democratic
- iii) Laissez ófair
- iv) Situational

3. a) What method do you use to supervise your teachers?

- Closely and carefully
 - I trust and allow them to work on their own
 - Other methods. Please specify_____
-

4. How often do your teachers assess students?

- Always
- Rarely
- Never

5 a) Do your teachers cover the prescribed syllabus content?

- Yes No
- Sometimes Don't know

b) If yes, by which month of the year is the form four syllabus completely covered?

Month: _____

6. What are some of the challenges you have encountered as a school head in your current station?

APPENDIX IV:

TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	373
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	225	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Key: 'N' is population size.

'S' is sample size.

Source: Krejcie, R.V. and Morgan, D.W. (1970): *Determining Sample Size for Research Activities*, Educational and Psychological Measurement.

**APPENDIX V:
RESEARCH AUTHORIZATION LETTER**

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telephone: 254-020-2213471, 2241349
254-020-310571, 2213123, 2219420
Fax: 254-020-318245, 318249
When replying please quote
secretary@ncst.go.ke

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref:

NCST/RCD/14/012/162

Date:

16th March 2012

Benson Achieng Onyango
University of Nairobi
Kisumu Campus
Kisumu.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Influence of institutional capacity on academic performance of students in public secondary schools in Usigo Division, Bondo District, Kenya,*" I am pleased to inform you that you have been authorized to undertake research in **Bondo District** for a period ending *1st September 2012.*

You are advised to report to **the District Commissioner and the District Education Officer, Bondo District** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


DR. M. K. RUGUTT, PhD, HSC.
DEPUTY COUNCIL SECRETARY

Copy to:

The District Commissioner
The District Education Officer
Bondo District.

"The National Council for Science and Technology is Committed to the Promotion of Science and Technology for National Development"

**APPENDIX VI
RESEARCH PERMIT**

PAGE 2

PAGE 3

Research Permit No. NCST/RCD/14/012/162

Date of issue 16th March 2012

Fee received KSH.1,000

THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss/Institution

Benson Achieng Onyango

of (Address) University of Nairobi

Kisumu Campus, Kisumu.

has been permitted to conduct research in

Location

Bondo

District

Nyanza

Province

on the topic: Influence of institutional capacity
on academic performance of students in public
secondary schools in Usigu Division Bondo
District, Kenya.



Achieng

Applicant's
Signature

Benson Achieng Onyango

Secretary
National Council for
Science & Technology

for a period ending: 1st September 2012.

CONDITIONS

1. You must report to the District Commissioner and the District Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2)/four(4) bound copies of your final report for Kenyans and non-Kenyans respectively.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice



REPUBLIC OF KENYA

RESEARCH CLEARANCE
PERMIT

GPK60553mt10/2011

(CONDITIONS, see back page)