

**FACTORS INFLUENCING ACADEMIC PERFORMANCE OF STUDENTS
WITH SPECIAL NEEDS IN INSTITUTIONS OF HIGHER LEARNING.
THE CASE OF MIDDLE LEVEL COLLEGES
IN MACHAKOS COUNTY.
KENYA**

MARY MAINGI-LORE

**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF
MASTERS DEGREE IN DISTANCE EDUCATION OF THE UNIVERSITY
OF NAIROBI**

2016

DECLARATION

This research project report is my original work and has not been presented in any other University or college for any award.


Sign 

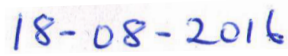
Date 

Mary Maingi-Lore

L45/84229/2012

This research project report has been submitted for examination with my approval as the University Supervisor.

Sign 

Date 

Dr. Naomi Mwangi

Senior Lecturer

School of Continuing and Distance Education

University of Nairobi

DEDICATION

This work is dedicated to my lovely daughters Neema and Eva Lore and to my husband Simeyo Okemba Lore who encouraged and supported me throughout the course. Special dedication to my dad Stephen Maingi and mum, Beatrice for their constant prayers, support and encouragement.

ACKNOWLEDGEMENT

My greatest gratitude goes to my supervisor, Dr. Naomi Mwangi who patiently and tirelessly offered guidance and constant encouragement and without whom very little of this project would have been achieved. I am also indebted to the lecturers who laid the ground work of the course. I wish to appreciate the University of Nairobi administration and the staff at the School of Continuing and Distance Education for their invaluable support.

I acknowledge support given to me by the staff and students from the sampled institutions, Machakos Teachers College and Machakos Technical Institute for the Blind for their cooperation during data collection for this research.

My gratitude to my family members, friends and colleagues for their constant support and encouragement.

I give all the glory to God, the giver of life, knowledge, wisdom and understanding.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST ACRONYMS AND ABBREVIATIONS	x
ABSTRACT	xi

CHAPTER ONE: INTRODUCTION

1.1	Background of the study	1
1.2	Problem statement	4
1.3	Purpose of the study	4
1.4	Objectives of the study	4
1.5	Research questions	5
1.6	Hypotheses of the study	5
1.7	Significance of the study	5
1.8	Delimitations of the study	6
1.9	Limitations of the study	6
1.10	Assumptions of the study	6
1.11	Definition of significant terms	7
1.12	Organization of the study	8

CHAPTER TWO: LITERATURE REVIEW

2.1	Introduction	9
2.2	Concept of Special Needs and Special Education Needs	9
2.2.1	Students with physical and sensory disabilities	10
2.3	Influence of family background on academic performance.....	11
2.3.1	Parents level of education	12
2.3.2	Parental encouragement	12

2.4	Influence of attitudes on academic performance	13
2.4.1	Influence of students' attitudes on academic performance	14
2.5	Influence of physical facilities on academic performance	15
2.6	Influence of instructional strategies on academic performance.....	17
2.6.1	Educational accommodations for the hearing impaired	18
2.6.2	Educational accommodations for the visually impaired	19
2.6.3	Educational accommodations for the physically impaired	21
2.7	Theoretical framework of the study	21
2.7.1	Social cognitive theory	21
2.7.2	Equivalency theory	22
2.8	Conceptual framework of the study	24
2.9	Summary and research gap	25

CHAPTER THREE: RESEARCH METHODOLOGY

3.1	Introduction	27
3.2	Research design	27
3.3	Target population	27
3.4	Sample size and sampling technique	28
3.5	Research instruments	28
3.6	Pre- testing of the instruments	29
3.7	Validity of the research instruments	29
3.8	Reliability of the instruments	29
3.9	Data collection techniques	29
3.10	Data analysis.....	30
3.11	Ethical considerations	30
3.12	Operationalization of variables.....	31

CHAPTER FOUR: DATA ANALYSIS PRESENTATION AND INTERPRETATIOIS

4.1	Introduction	32
4.2	Questionnaire response rate	32
4.3	Demographic information of respondents	32
4.4	The influence of family background on the academic performance	35
4.5	Hypothesis testing for family background.....	37

4.6	Model evaluation.....	38
4.7	Influence of attitudes on the academic performance	39
4.8	Hypothesis testing for attitude factors.....	41
4.9	Influence of physical environment on academic performance	42
4.10	Hypothesis testing for physical environment factors.....	44
4.11	Influence of instructional strategies on the academic performance.....	46
4.12	Hypothesis testing for instructional factors.....	49
4.13	Challenges faced by lecturers	51

CHAPTER FIVE: SUMMARY OF FINDINGS, DISCUSSIONS

CONCLUSIONS AND RECOMMENDATIONS

5.1	Introduction	54
5.2	Summary of findings	54
5.3	Discussion.....	55
5.3.1	Family background and its influence of academic and performance	55
5.3.2	Attitudes of students and their influence on academic performance	55
5.3.3	Infrastructural facilities and their influence on academic performance.....	56
5.3.4	Instructional strategies and their influence on academic performance	57
5.4	Conclusions of the study	57
5.5	Recommendations	58
5.6	Suggestion for further study.....	58
	REFERENCES.....	59
	APPENDICES.....	65
	Appendix I: Letter of Transmittal	65
	Appendix II: Students Questionnaire	66
	Appendix III: Lecturers Questionnaire	70
	Appendix IV: Permission to collect data	73
	Appendix V: Research authorization	74
	Appendix VI: Research permit	75

LIST OF TABLES

Table 3.1	Public middle level colleges in Machakos County	28
Table 3.2	Sample sizes of lectures and students	28
Table 3.3	Operations table	31
Table 4.1	Response rates	32
Table 4.2	Distribution of students by gender	33
Table 4.3	Respondents type of disability	33
Table 4.4	Congenital disability	34
Table 4.5	Age of onset of disability	34
Table 4.6	Parents/guardians' level of education	35
Table 4.7	Parents/guardians nature of employment	36
Table 4.8	Encouragement and support from parents	36
Table 4.9:	Regression analysis for family background factors	37
Table 4.10	Self-conscious due to disability.....	39
Table 4.11	Feeling of isolation due to disability	39
Table 4.12	Treated differently due to disability.....	40
Table 4.13	Support inclusive education	40
Table 4.14:	Regression analysis for attitude factors	41
Table 4.15	Access to all areas in the college	43
Table 4.16	Suitability of the environment.....	43
Table 4.17	Modified hostels.....	44
Table 4.18	Regression analysis for physical facilities... ..	45
Table 4.19	Training on special needs in education	46
Table 4.20	Adapted teaching methods	47
Table 4.21	Availability of handouts and extra notes	47
Table 4.22	Modification of classrooms	48
Table 4.23	Access to library materials	49
Table 4.24	Regression analysis for instructional factors	50
Table 4.25	Challenges faced.....	51
Table 4.26	Specific challenges	52
Table 4.27	Lecturers opinion on students' performance.....	53

LIST OF FIGURES

Figure 1: Conceptual Framework	24
--------------------------------------	----

LIST OF ACRONYMS AND ABBREVIATIONS

AFB	American Foundation for the Blind
CDLP	California Distance Education Programme
DRPI	Disability Rights Promotion International
EFA	Education For All
HI	Hearing Impairment
IEP	Individualised Education Programme
KISE	Kenya Institute of Special Education
NFPD	National Fund for Persons with Disability
PH	Physical Impairment
SADPD	Secretariat of the African Decade of Persons with Disabilities
SNE	Special Needs Education
SRDRP	Secretariat for the Rehabilitation of Disabled Persons
UNESCO	United Nations Educational Science and Cultural Organisation
VI	Visual Impairment

ABSTRACT

Students with disabilities face diverse challenges in institutions of higher learning which greatly affect their access and full participation in academic programmes. The purpose of this study therefore is to find out factors influencing the academic performance of students with special needs in middle level colleges in Machakos County. The study was guided by the following four objectives: To establish how family background influences the academic performance of students with special needs, to establish how attitudes of students with special needs influence their academic performance, to investigate how infrastructural facilities influence the academic performance of students with special needs and to determine how instructional strategies influence the academic performance of student with special needs in middle level colleges in Machakos County. The study adopted Albert Bandura's Social Cognitive Theory which emphasizes on the importance of self efficacy as critical elements in human behavior and motivation and Equivalency theory by Simonson which states that distance education programmes can be designed to provide appropriate learning experiences for each student based on their unique needs. Survey research design was used to gather data from the two inclusive middle level colleges. The sampled population of the study included 79 students with special needs and 72 tutors from the two institutions, a total of 151 respondents. Purposive sampling was used to select the two public middle level colleges that admit students with various special educational needs. Purposive sampling was also used to select all the students with special needs from the two institutions as well as their tutors. The research instruments used for collecting data were mainly questionnaires. For the purpose of this study, three sets of questionnaires were prepared, questionnaires for the sighted students, brailled questionnaires for the visually impaired students and questionnaires for the tutors. The questionnaires were piloted by the use of split-half method. Collected data was analyzed using the Statistical Package for Social Sciences (SPSS) version 2.0 and reported in form of frequency tables and percentages. Regression analysis was carried out to test the hypotheses. The findings indicated that family background, adapted classrooms and extra notes and hand-outs influence the academic performance of students with special needs in middle level colleges in Machakos County. The study recommends that the various legislations enacted such as the Persons with Disabilities Amendment Bill (2007) be enforced in all learning institutions. It was also recommended that distance education as a flexible mode of study be utilized as one way of addressing the specific and unique educational needs of students with disabilities so as to improve accessibility. Lecturers and support staff be given mandatory basic training on disability training and that library contents be availed in electronic formats as well as braille. The findings will be useful in institutes of higher learning to assist in creating a disability friendly learning and physical environment as well as helping to create confidence as well as a can-do attitude in the students with special needs. This will lead to more students with disabilities enrolling and excelling in higher education.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The right to education is now accepted as a fundamental human right for everyone and important developments have taken place which aim at addressing the educational needs of persons with disabilities. Students' academic performance plays a crucial role in producing the best quality leaders and manpower for the country (Ali et al, 2009). Higher education opens opportunities for career development, meaningful occupation and a chance for a dignified life for persons with disability. Access to higher levels of education for students with special needs means better chances for them to integrate into society in general and to employment in particular so that they might sustain themselves financially and with dignity. (Laron report, 2005)

The World Report on Disability (2011) by the World Health Organization (WHO) and the World Bank estimates that approximately 15% of the world's population lives with some form of disability. The report estimates further that approximately 13 million or about 0.7% of the world's children are severely disabled. The report pinpointed the disproportional effects which disability has on people and children in particular from lower income countries. The report continued to say that nowhere else is this reflected than in the sphere of education where these children are less likely to start or finish school than their non-disabled peers. Of profound importance is the impact which these issues around access and participation in education have on contributing to high levels of unemployment among people with disabilities, leading to very poor levels of economic participation in their societies and high levels of poverty and deprivation, both for the person with a disability and their family (SADPD, 2012).

The World Conference on Special Needs Education was held on June 1994 in Salamanca, Spain. A total of 92 governments and 25 international organizations met and affirmed on the need for education of every individual as enshrined in the 1948 Universal Declaration on Human Rights. The member states also pledged to fulfill the resolutions passed in the 1990 World Conference on Education for All (EFA). The Salamanca World Conference Framework for Action stated that ordinary schools should accommodate all students, regardless of their physical, intellectual, social,

emotional, linguistic or other conditions. The framework emphasized on the education for all disabled children in an inclusive environment within the regular education system.

In America, the history of special education dates back to the early part of the 20th century when parents formed advocacy groups to help bring the educational needs of children with special needs in the public eye. Prior to that, parents of children with special needs had no other choice than to educate them at home or pay for expensive private education. The enactment of two laws in 1975 changed all this. The Education for All Handicapped Children Act (EHA) established the a right to public education for all children regardless of disability while the Individuals with disabilities Act (IDEA), requires all schools to provide individualized or special education for children with qualifying disabilities. IDEA gives guidelines for schools to provide education that is tailored to meet the needs of the individual child with a disability. This education must be of benefit to the child and should prepare them for further education or to work and live independently (Special Education News, 2014).

On the African continent, it is estimated that only between one and two percent of the disabled people have access to basic services including care, rehabilitation and education. (Secretariat for the Rehabilitation of Disabled Persons, 2001).

The Secretariat of the African Decade of Persons with Disabilities SADPD(2012), reports that early efforts aimed at providing education for children with disabilities in Africa have mainly been through special schools. These institutions can only cater for a fraction of disabled children and have the disadvantage of isolating them from their families and society. It also does not equip them with the knowledge and skills required to pursue higher education or access productive employment (SADPD, 2012).

In South Africa, studies carried out by the Department of Education showed high levels of exclusion of disabled children especially among the blacks, from the education system. (ODP 1997). The report went on to say that this was particularly true during the apartheid era. Education was provided separately not only on the basis of race but also on the identification and categorization of learners into those considered ‘normal’ and those who were considered to have ‘special needs’. These inequalities in the education system had a profound effect on the number of disabled

people who were able to access higher education. (INDS). Since 1994, there have been changes in the education systems which have helped to break down the many barriers faced by the disabled children. The census of 2001 indicated a great increase in the number of disabled children accessing the school system. (StatsSA, 2003).

In the Kenyan context, a survey carried out in 2008 by the Kenya National Survey for Persons with Disabilities showed that about 1.6 million people in the country are living with disabilities. The Journal of Emerging Trends in Educational Research and Policy Studies reports that about 10% of disabled children are accessing basic and secondary education, yet their representation in institutions of higher learning remains less than 1%. (JETEPRAS). On the 19th of May 2008, Kenya became the 27th country to ratify the UN convention on the Rights of Persons with Disabilities. This led to efforts to include disabled learners in mainstream schools through inclusive education. The Kenyan constitution (2010) provides a firm foundation for policy and legislation on disability in accordance with the universal standards for the promotion of fundamental human rights and freedom for persons with disabilities. Some of the landmark gains in legislation include the Persons with Disabilities Act (2003) which came into effect on 16th June 2014. This act established the National Council for Persons with Disabilities, an autonomous body dealing with disability issues. The act also established the National Development Fund for Persons with Disabilities (2009), which is used to channel out financial support for persons with disabilities. Others include the Children's Act no. 8 of 2001 and the Employment Act of 2007 both of which outlaw discrimination against persons with disabilities. (Disability Rights Promotion International, the Constitution of Kenya, 2010).

With the enactment of legislation that aims at ensuring and protecting the rights of persons with disability, increasing number of special needs students are pursuing higher education but there is need for action to expand accessibility of special needs students in institutions of higher learning and enactment of support programmes for them. The persons with disability act of 2003 and the persons with disability amendment bill (2007) state that "Learning institutions shall take into account the special needs of persons with disability with respect to the entry requirements, pass marks, curriculum, examinations, auxiliary services, use of school facilities, class schedules, physical education requirements and other similar considerations". Higher

education institutions are mandated by law to ensure that they take specific steps to make physical adjustments in buildings and their surroundings, avail assistive technology and other adapted learning equipment in order to make the environment accessible to students with special needs.

1.2 Statement of the Problem

Higher education greatly improves the chances of students with special needs in job market thereby empowering them by imparting the necessary skills and knowledge to effectively participate in development, decision-making and the democratic process. Effective education takes place when students are able to participate fully and benefit from that education. The transition from secondary to higher education for students with disability is extremely low in Kenya and Africa at large. Less than 1% of people with disability have access to higher education thereby greatly limiting their chance of success in life. Students with disability are unable to access higher education due to various barriers they encounter within and outside the institutions of higher learning. Some of the barriers include family background, inaccessible environment, and discriminative practices and policies. The study therefore aims at investigating the factors that influence the performance of students with special needs in middle level colleges as they strive to attain higher education.

1.3 Purpose of the Study

The purpose of the study was to determine the factors that influence the academic performance of students with special needs in middle level colleges in Machakos County.

1.4 Objectives of the Study

- a) To establish how the family background influences the academic performance of students with special needs in middle level colleges.
- b) To establish how attitudes of students with special needs in middle level colleges influence their academic performance.
- c) To investigate how physical facilities influence the academic performance of Special Needs students in middle level colleges.

- d) To determine how instructional strategies influence the academic performance of students with Special Needs students in middle level colleges.

1.5 Research Questions

- a) Does the family background influence the academic performance of students with special needs in middle level colleges?
- b) How do attitudes of students with special needs in middle colleges influence their academic performance?
- c) How do physical facilities influence the academic performance of students with Special Needs students in middle level colleges?
- d) How do instructional strategies influence the academic performance of students with Special Needs students in middle level colleges?

1.6 Hypotheses of the Study

- H₁. There is no significant relationship between family background and the academic performance of students with special needs in middle level colleges in Machakos County
- H₂. There is no significant relationship between attitudes and the academic performance of students with special needs in middle level colleges in Machakos County
- H₃. There is no significant relationship between physical facilities and the academic performance of students with special needs in middle level colleges in Machakos County
- H₄. There is no significant relationship between instructional strategies and the academic performance of students with special needs in middle level colleges in Machakos County

1.7 Significance of the Study

The study may help the Ministry of Education, Science and Technology to ensure that the good policies that have been enacted are being implemented fully in middle level colleges and other institutions of higher learning. The findings of this study may help middle level colleges formulate and implement policies and practices that are geared towards improving the academic performance of students with special needs. The

institutions may use the information to prepare programmes that aim at sensitizing and equipping the staff with knowledge and skills needed to effectively cater for students with special needs.

The findings may be important to higher education student population by establishing and pointing out how social justice, social inclusion and attitudes play a part in the learning potential of disabled students in their midst.

1.8 Delimitation of the Study

Delimitations of the study are those characteristics that limit the scope and define boundaries of the study (Simon, 2011). This study was confined to inclusive middle level colleges in Machakos County. It was also restricted to students with visual and hearing impairments and to the specific lectures who teach the inclusive classes. The study will be carried out in Machakos County. The study findings cannot be generalized to reflect the situation in the whole country.

1.9 Limitations of the Study

The scope and magnitude of disabilities that students with special needs in education face is wide and varied therefore this study will focus only on students with physical and sensory impairments in Machakos County. The study will be carried out in the two inclusive middle level colleges in the county being the only ones that cater for students with special needs.

1.10 Assumptions of the Study

The following assumptions guided the study:

- That students with special needs encounter challenges in middle level colleges that affect their overall academic performance.
- That middle level colleges need to make adaptations in their environment and programmes in order to address the challenges faced by students with special needs and enable them to successfully pursue higher education.

1.11 DEFINITION OF SIGNIFICANT TERMS AS USED IN THE STUDY

Attitude	A way of thinking or feeling about someone or something, usually reflected in a person's behaviour
Continuing Education	Further education, usually in an institution of higher learning such as a college or university
Distance Education	Mode of study in which the student and the instructor, while physically separated, are intellectually connected via technology
Impairment	Deterioration or weakening due to injury or defect
Middle Level Colleges	Institutions of higher learning offering certificate or diploma courses in technical or professional training
Physical facilities	Basic infrastructure such as buildings, roads and pathways
Special Needs	Particular educational requirements resulting from physical disability or learning difficulty
Special Needs Education	Especially designed instruction to meet the unique needs of a student with a disability

1.12 ORGANIZATION OF THE STUDY

This study comprises of five chapters. Chapter One gives the background of the study, introduces the problem statement, elaborates on the study objectives, research questions, significance of the study, assumptions of the study, limitations and delimitations of the study, definition of significant terms and organisation of the study.

Chapter Two presents the literature review of relevant studies on the concept of students with special needs, the effect of family background on the academic performance, attitudes of students with special needs, physical infrastructure, instructional strategies, theoretical and conceptual framework of the study.

Chapter three deals with the research methodology and procedures used for data collection and analysis. This include the research design, target population, sample and sampling procedure, research instruments, validity and reliability of research instrument, data collection procedures, data analysis, ethical issues and operational definition of variables.

Chapter Four contains an analysis of the data, presentation and interpretation of the results.

Chapter Five gives a summary and discussion of the findings of the research, conclusions and recommendations for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the definition of students with special needs and various forms of neurological and sensory impairments that pose a challenge in the family, physical as well as the learning environment. It also looks into the instructional approaches for the various special needs emanating from the impairments as well as theoretical and conceptual framework.

2.2 Concept of Special Needs and Special Education Needs

According to the United Nations Convention on the Equal Rights of Persons with Disabilities (2006), Special Needs students can be defined as those students who have physical, sensory or chronic health impairment which hinder them from their full, active participation in the society on equal basis with the others. Students with special needs cannot benefit fully from learning instructions in the regular settings and require appropriate adaptations and modifications on the curriculum content, mode of delivery as well as the physical amenities. These adaptations can be referred to as educational accommodations. The Collins English Dictionary defines Special Needs Education (SNE) as the educational requirements of a student suffering from any of wide a wide range of physical disabilities, medical conditions, intellectual difficulties and emotional problems, while the Merriam-Webster Encyclopedia Britannica defines it as the individual educational requirements of a person with a disadvantaged background or a mental emotional or physical disability.

A student with special needs is one who has a disability of an intellectual, sensory, physical, emotional or behavioral nature or has exceptional gifts or talents. Ministerial order 150/89- Special needs student order (2007). Special Needs Education (SNE) is the special educational requirements of those with learning difficulties, physical disabilities, emotional or behavioral problems. A person is termed to have a special educational need if their capacity to participate in and benefit from education is restricted due to enduring physical, sensory and mental health or learning disability. Citizens Information Board (2012).

Special Needs Education is a broad term that incorporates the need for some type of educational accommodation so that the student with disabilities can benefit fully from the school curriculum. Students with special needs may have one or a combination of disabilities. The persons with Disabilities Act defines disability as a physical, sensory, mental or other impairment, including any visual, hearing, learning or physical incapability, which impacts adversely on social, economic or environmental participation. Persons with Disabilities Act (2003).

2.2.1 Students with Physical and Sensory Disabilities

Students with Special Needs in education can be grouped in various categories. This is done with an aim of understanding their specific special needs in order to plan for appropriate intervention programmes for them.

The Visually Impaired (VI) range from students with low vision or partial sight to the totally blind. Low vision students are those who have lost some degree of sight to read or write. This is possible through the use of optical aids such as spectacles or non-optical aids such as large print and environmental modification like improving the lighting in the room or seating near the board. Visual abilities may vary during different times of the day because of the changing intensity of light or strong glare. Low vision students face challenges of locality large print materials, moving around in unfamiliar grounds or streets, finding transportation, identifying readers for library work or researching for assignments and written exercises. The Alliance for students with Disabilities (2014).

The Alliance for Students with Disabilities (2014) defines blind students as those who have totally lost their sight and rely solely on braille for reading and writing. Blind students are unable to see visual aids or demonstrations. They rely on their sense of touch and hearing for learning. They therefore need classroom accommodations such as audio taped class sessions, Braille machines for note taking as well as clear verbal descriptions of visual aids or graphics. Alliance for students with Disabilities (2014).

Deaf or hard of hearing students encompass functional hearing loss which ranges from mild to profound. Often, those with very little or no functioning hearing refer to themselves as 'Deaf'. Those with milder hearing loss may label themselves as 'hard

of hearing. When these two groups are combined, they are labeled as individuals with hearing impairments (HI). Some students who are hard of hearing may hear only specific frequencies or sounds within a certain volume range. They may rely heavily on hearing aids and lip reading. Some never use sign language and may have speech impairments as a result of their inability to hear their own voices clearly. Students who are deaf have little or no speech. They will often communicate through a sign language interpreter. The Alliance for students with Disabilities (2014).

Students with physical disabilities are referred to as physically handicapped (PH). They may have difficulties in performing basic functions such as gripping, objects with their hands, moving arms or legs and have limited range of motion. Students with multiple disabilities have a combination of various disabilities such as loss of mobility, speech as well as visual or hearing loss. These students need support within and beyond the confines of the classroom. Calstate Edu (2009).

Students with chronic health conditions can be as those that have a health problem or condition that is long term, affects their normal activities and requires extensive medical care or hospitalization. Examples of chronic conditions include asthma, diabetes, sickle cell anemia, cancer, AIDS, Epilepsy and congenital heart problems. Boyse et al (2012).

2.3 Influence of Family Background on Students' Academic Performance

Parents' socio-economic condition, which includes parents' academic and professional qualification, revenue and occupational affiliation, is also associated with academic gain of students Ali et al (2013). Living with a disabled child can have profound effects on the entire family. The time, and financial costs, physical and emotional demands and logistical complexities of raising a disabled child can have far reaching impacts. It is a unique shared experience for families and can affect all aspects of family functioning. Reichman et al (2008). The survey further pointed out that these persons with disabilities were disproportionately represented among the poor and tended to be poorer than their counterparts without disabilities. (Disability Rights Promotion International).

2.3.1 Influence of Parents' Level of Education on Students' Academic Performance

Chimutu & Makoko (2007) are of the opinion that parents are important partners in the provision of Special Needs Education since they provide loving support, stimulation and necessary life experiences that are essential for the child's development. They go on to state that parents are responsible for providing safe homes and nurturing environment for their children. This helps to prepare them for school and supports learning. According to Grolnick & Slowiacek(1994) in their research on they carried out pointed to the fact that parental level of education is related to their involvement in their child's education. Davis-Keans (2005) in his research on the same area found out that the amount of schooling of the parents has a direct impact on how they structure their home environment and how they interact with their children to promote their academic achievement. Georgiou (2007) quoting Hoover-Dempsey (1992) says that parents who believe they are able to make a difference are more likely to plan activities and participate in events that require their active involvement. He clarifies by saying that parent's involvement in their educational process is dependent on their beliefs and thoughts about themselves as parents and their beliefs concerning their children's learning.

2.3.2 Influence of Parental Encouragement on Students' Academic Performance

The students who are properly guided by their parents perform well in exams. The guidance of teachers and parents affect the performance of the students, Hussain (2006). A research by Feinstein and Symons (1999) reported that parental interest in their child's education was the single most powerful indicator of achievement. Flouri and Buchanan (2004) emphasize the seriousness of this fact by stating that parental involvement in their child's literacy practices is a more powerful force than other family background variables such as social class, family size or parental education. According to Fan & Chen (2001), parental involvement in their children's learning positively affects their academic performance, leading to higher academic achievement, greater cognitive competence, greater problem solving skills, better school attendance and fewer behavioral problems. Allen & Daly (2002) say that the benefits of parental involvement extend beyond the realms of literacy and educational achievement. They clarify this by pointing out that children whose parents are

involved show greater social and emotional development, more resilience to stress, greater life satisfaction, greater self direction and self-control. They continue to say that these children exhibit greater social adjustment, greater mental health more supportive relationships, greater social competence, more positive peer relations and more tolerance. Desforges & Abouchaar (2003).

2.4 Influence of Attitudes on Students' Academic Performance

According to Voh (1993), people with disabilities identify societal attitudes as one of the most potent and negative stressor in their lives. Nowicki (2006) elaborates by saying that as long as negative attitudes persist, the rightful acceptance of people with disabilities is unlikely. Massie (2006) goes on to add that attitudes to disability are the major barrier to disabled peoples full participation. From pity to awkwardness and fear, to low expectations about what disabled people can contribute, stereotypical and negative attitudes hold people back. Shapiro (2000) asserts how negative myths and stereotypes continue to create ingrained prejudice towards people with disabilities. These prejudices are reflected in negative behavior and attitudes, which impede the participation of people with disabilities in social, educational and vocational context (White, 2006). Antonak goes on to add that negative attitudes are linked to behavior such as social rejection and maintenance of higher levels of social distance towards people with disabilities. Antonak et al (2000).

Historically, there has been a persistent negative attitude and social rejection of people with disabilities across all cultures. Ancient Roman and Greek cultures viewed disabled people as burdens on society and less than human. In African and Asian context, disability was viewed as a curse or punishment for sin and caused great shame and feelings of guilt on the family. The result was to hide the disabled person from the public eye. Balal & Rehan (2012).

Noe (2002) described attitudes as “a combination of beliefs and feelings that predispose a person to behave in a certain way”. According to Chubon (1992), behavior is influenced by attitude while attitude motivates behavior. He goes on to suggest that such things as attitudes, behaviors, expectations, interactions, treatments and attributions that are made in regard to people with disabilities will be affected by the stereotypes that are held by an individual. Clark & Crewe (2000) point out that

negative social attitudes lead to situations that develop, reinforce and solidify socio-economic barriers to mainstream activities for people with disabilities. According to Unger (2002) these negative attitudes can be based on myths, misconceptions, Smart (2001), stereotypes, Blanck (1996) and fear. Diksa & Rogers (1996).

2.4.1 Influence of Students' Attitudes on their Academic Performance

According to Knight (1995), the self-esteem of a student with disabilities has a critical effect on learning, Knight (1995), while Pajeras is of the opinion that many difficulties that people experience throughout their lives are about what they can and cannot do. Pajeras (2010). Bandura in his Social Cognitive Theory emphasizes on self belief or efficacy as crucial in the formation of a can-do attitude which translates into personal accomplishments. Bandura (1986). Weidner says that individuals with disabilities are often stigmatized and often have a tougher time learning to feel good about themselves. He cites the few studies done as indicating that adolescents who are disabled feel they are often treated as socially inferior and vocationally undesirable. Many end up with a can't-do attitude, low confidence and self-esteem. When they constantly realize that their body does not work like everyone else's, it can be difficult to build a positive sense of self-worth. Weidner (2013). According to Hallum (1995), research done shows that young people with disabilities are at a risk of social isolation while Pollock & Stewart (1990) say that their leisure pursuits tend to be passive and solitary. In a number of studies, females with physical disabilities rate themselves as particularly low in social acceptance which leads to social isolation and feelings of loneliness Resnik & Hutton (1997), King et al (1993). Pajeras(2006) elaborating on Self Efficacy theory says that confident individuals anticipate successful outcomes and that students confident in their social skills anticipate successful social encounters. Those confident in their academic skills expect high marks on exams and expect the quality of their work to reap academic benefits. The opposite is true for those who lack confidence. They often envision rejection or ridicule even before they establish social contact (Pajeras, 2006).

Hallum (1995) cites that few studies have been done on what the adolescent disabled students want in life. On a study on the issue, Arnold Chapman et al (1992) found out that they were concerned about having few friends and that they wanted the same things that others generally look forward to such as jobs, marriage and families. Most

young students with disabilities want what everyone else wants. Happiness, meaningful occupation, fulfilling relationships, independence, being believed in and being accepted by others. However, they will have difficulties attaining these goals due to prejudice, lack of skills and a weak economic climate. King & Cathers (1996).

Weidner (2014) goes on to suggest that parents may inadvertently compound the problem by becoming overprotective, being negative or pushing their child too hard. Parents fear that other people do not know how to interact with their children and will therefore not treat them properly. This parental fear contributes greatly to the exclusion and segregation of disabled people. As a result of a desire to protect them, many disabled people are kept inside the household at all times.

Parents often want their children to attend special institutions, as they believe that they will receive specialized education and care and be protected from the ill treatment or abuse they fear in the community. Shut away in the household and in special institutions, disabled people are often invisible outside their immediate family. This can contribute further to segregation as most people don't see any disabled people within their community, so they continue to believe that disabled people cannot function outside, (VSO United Kingdom). By focusing on building confidence, can-do attitudes and a healthy self-esteem, parents can help their children become better achievers in every aspect of life, Weidner (2013). Knight (1993) suggests that in order to enhance self-image, maximum socialization must be promoted to ensure a positive mainstreaming experience.

2.5 The Influence of Physical Facilities on Students' Academic Performance

According to Hart and Williams (1995) students with disabilities on average express concerns related to the physical barriers within the college environment. Johnson (2014) goes on to elaborate that students with disabilities often encounter physical barriers in the postsecondary environment which remain a concern that has not been addressed by these institutions. Johnson (2014) explains that providing accessible environments across campuses is sometimes restricted by architectural and budgetary constraints and post-secondary institutions often do not consider the immediate individual needs of students with disabilities. Johnson (2014).

The Persons with Disability Act, (PDA 2003) cites that “persons with disabilities are entitled to a barrier free and disability friendly environment to enable them have access to buildings, roads and other social amenities and assistive devices and other equipment to promote their mobility. Persons with Disability Act (2003), Section 22-Act 14. Handicapped students should therefore not be excluded from participation in a programme because facilities are inaccessible or unusable by persons with disabilities. Colleges and other institutions of higher learning are required to operate each programme or activity so that, when viewed in it’s entirety, it is readily accessible to disabled students. Each facility must be made accessible to and useful by persons with disabilities. New constructed facilities must be made readily accessible while alterations must be done to existing facilities as the students are often limited to where they reside on campus and what functions they may attend. Singh (2003).

Accommodating students with disabilities requires careful examination of the learning areas in order to make everything accessible and safe. Some barriers that can be found in the built environment include doors that are too narrow for wheelchairs to go through, steps leading to buildings, impassable pathways that are too slippery and narrow, vehicles that are too high or steep, showers and toilets without grab bars, non-slip, surfaces and seats. Others include light switches that are too high or low, inaccessible places of worship, shops or other public places. Such physical barriers lead to frustration to the students with special needs because they make them dependent on others for their survival. (KISE MODULE ID 004)

Kiat (2014) proposes that rooms should be arranged in such a way that the students can move around easily, with interconnecting areas between buildings to allow for seamless movement. Kiat (2014). He goes on to say that use of non-slip materials and floor finishes for enhanced safety and mobility as well as accessible car parks and special toilets for the disabled are recommended. Kiat (2014).

Agarwal (2014) contributes by saying that ramps at the entrances of buildings, classes located at ground level floors and availability of accessible toilets can make an institution accessible to the disabled student. She adds that small interventions in the conception and design of a campus can not only create access to persons with locomotor limitations but also those with sensory (vision or hearing impairment) and temporary ailments as well. Agarwal (2014).

Borland and James (1999) conclude by saying that access issues for students with a range of disabilities are extremely complex and need to be addressed more frequently. Existing facilities need to be adjusted in such a manner that they will be made accessible to the maximum extent feasible. Weir (2014).

2.6 Influence of Instructional Strategies on Students' Academic Performance

For many students with disabilities, the key to success in the classroom lies in having appropriate adaptations, accommodations and modifications made to the instruction and other classroom activities. Listen (2010). A student with disabilities studying in mainstream educational institutions of higher learning experiences many obstacles. The unavailability of accessible contents, lack of sensitive and trained staff and lack of awareness about developments in enabling technologies render higher education difficult to access for students with disabilities. The educational goals for students with disabilities are essentially the same as for all students. These are social competence, effective communication, employability and personal independence. A.F.B. (2014). In order to achieve functional levels of inclusion of special needs students in mainstream classes, it is imperative that certain modifications and adaptations be made in existing educational resources and learning environment to enable these learners maximize their participation in the learning activities. (KISE MODULE ID 004). Because of the fact that students with disabilities often struggle in the mainstream classrooms, by providing them with differentiated classroom instruction and a modified curriculum, teachers and support staff can provide a playing field that is both equitable and accessible. Barbra (2012). Alman (2014) says that accommodations, modification and assistive technologies exist for the purpose of providing a disabled student with access to academic materials that may otherwise be inaccessible. Alman (2014).

Pepper & David (2007) define an accommodation as “a reasonable adjustment to teaching practices so that the student learns the same material but in a format that is more accessible to the student. Accommodations may be classified by whether they change the presentation, response, setting or scheduling. For example a visually impaired student may be accommodated by being provided with a large-print book. This is an example of a presentation accommodation. Busuttil, Reynaud et al, define

modification as changes or adaptations that make the learning material simpler. Modifications change what is learned, how difficult the material is, what level of mastery the student is expected to achieve, whether and how the student is assessed or any other aspect of the curriculum.

Some adaptations are as simple as moving a distractible student to the front of the class or away from a window. Other modifications may involve changing the way that a material is presented or the way that a student responds to show their learning. Adaptations, accommodations and modifications need to be individualized for students, based on their needs and their personal learning styles and interests. Listen, (2010).

2.6.1 Educational accommodations for the Hearing Impaired

According to Access STEM (2014) accommodations for hearing impaired students can be classified as visual or aural. Visual accommodations rely on a person's sense of sight while aural accommodations depend on the person's hearing ability. Visual accommodations include sign language interpreters, lip reading and captioning. Aural accommodations include amplification devices such as FM systems.

Some students who are hard of hearing may hear only specific frequencies or sounds within a certain volume range. They may rely heavily upon hearing aids and lip reading. Being deaf or hard of hearing affects students in several ways. They may have difficulty following lectures in large halls particularly if the acoustics cause echoes or if the speaker talks quietly, rapidly or unclearly. Students with hearing impairments find it difficult to simultaneously watch demonstrations and also follow verbal descriptions, particularly if they are watching a sign language interpreter, a captioning screen or a speaker's lips. Mazoue (2011) elaborates further by saying that some hard of hearing or deaf students who have acquired the ability to lip read, may be able to manage without a sign language, interpreter, but need to watch the lecturer's lips at all times. This can be difficult towards them or if the lighting is bad. She goes on to say that "deaf students generally need some extra form of support system such as sign language interpreters, not takers, counselors and extra tutorials. Mazoue (2011).

It is important to remember that a student who is using an interpreter, who is lip reading or reading a real-time captioning cannot simultaneously look down on writer materials or take notes. Projected text is helpful to these students as well as handouts that can be read before or after the class. Access STEM (2014).

Commenting on sign language interpreters, Russell (2010) is of the opinion that sign language interpreters play a major role in mediating the process of classroom instruction. In a case study he carried out, he observes that there is a need for qualified interpreters to manage the process with accuracy. He confirmed that lack of qualified interpreters affected the quality of the instruction delivered to the deaf. Russell (2010).

For students who are hard of hearing, hearing aids are useful. Students who use hearing aids will benefit from amplification in other forms such as assistive listening devices (ALDs) like hearing and compatible telephones, personal neck loops and audio induction loop assistive listening systems. Some students use FM amplifications systems which require the instructor to wear a small microphone to transmit amplified sound to the student. Access STEM (2014).

2.6.2 Educational Accommodations for the Visually Impaired

“Vision is the primary sense upon which most traditional education strategies are based. These strategies must be modified to reflect visually impaired students’ visual, auditory and tactile capabilities. A student with severe visual loss can directly experience only what is within, arms reach and can be safely touched or heard” AFB (2014) . Most blind students use a combination of methods including readers, tape recorded books and lectures as well as Braille materials. They may also use raised line drawings of diagrams, charts, illustrations, relief maps and three dimensional models of physical organs, shapes and microscopic organisms. Technology has made available other aids for the blind such as talking calculators, speech time compressors, and computer terminals with speech output, Braille printers, paperless Braille computer terminal and paperless Braille machines. Mengine (2014)

He goes on to point out that for those with low vision or partial sight, standard written materials are too small to read and small objects difficult to see. Other students may

see objects only within a specific field of vision or see an image with sections missing. Text and object may appear blurry. Vision abilities may also vary in different situations. For example reduced light or strong glares may affect visual abilities during different times of day or in different classrooms. They may face challenges in locating large-print materials, finding transportation hiring readers for library work, researching for written assignments as well as getting some blind students who read Braille prefer to take their own notes in class using a slate and stylus or a Perkins brailier or a laptop computer. Some blind students will get copies of notes from classmates and have someone type them onto a disk for them. Others tape record the lecture and later transcribe the notes into Braille. Therefore, the process of reading and studying requires more time for a blind student than for a sighted student. He goes on to say that when a visually impaired student is present in the classroom, it is helpful for the faculty member to verbalize as much as possible and to provide tactile experiences when possible. The faculty member should be sensitized not to use strictly visual examples. Mengine, (2014).

Courses that are extremely visual by nature, unless considered essential can be substituted with other courses. Mengine (2014) clarifies by saying that it should not be assumed immediately that such substitution will be necessary. The student and the faculty member can discuss and see if a different instructional technique may work. He emphasizes that certain disabilities do not automatically preclude participation in certain activities or classes. Students, faculty and advisors must be careful not to lower expectations solely on the basis of a disability. Mengine, (2014)

According to Access STEM (2014), general classroom accommodations include large-print reading materials which is basically 16 to 18 point bold types, depending on the typeface used. For the low vision students, front row preferential classroom seating in well-lit areas in full view of the instructor and visual aids is advised.

Computers with screen enlargers, optical characters readers which connect print to electronic format or speech output. Other accommodations include the use of readers or scribes for exams or class assignments as well as the use of raised line drawings or tactile models for illustrations. Access STEM (2014)

For examinations and tests, accommodations include providing a copy of the test in Braille or giving an oral version which must be transcribed in advance. If the exam is in standard print format, then a scribe would be an appropriate accommodation. Access STEM (2014). Allman (2014) clarifies that a person selected as a reader or scribe must exhibit good voice inflection, pronunciation and speed.

2.6.3 Educational Accommodations for the Physically Impaired

A physical disability can affect how a student performs in the classroom. They may have difficulty performing basic functions such as gripping objects with their hands, moving arms or legs in a full or even limited range of motion. These issues can lead to difficulties in turning pages, writing, using keyboards or a computer mouse. Calstate Edu (2009). Fatigue may also be an issue during lengthy writing assignments or exams. Gathering resources and publications for assignments may be time consuming. With the advances in technology software, a student with physical handicap can succeed in the classroom. Assistive technology can be a very effective equalizer for persons with disability, allowing them to get around a limitation. Believability.com (2009). Dell et al describe assistive devices as “any item, piece of equipment or product system. Modified or customized that is used to increase, maintain or improve the functional capabilities of a person with a disability. Dell et al, (2007). Access STEM (2014) points out that it is impossible to generalize about the functional abilities of students with mobility impairments due to the wide variety of types of disabilities and specific diagnoses Access STEM (2014). However, examples of accommodations for students with mobility impairments include: Preferential and accessible seating, computer modifications to access word processing programmes, audio taped class sessions, extended examination as well as assignments deadlines.

2.7 Theoretical Framework of the Study

This study was be guided by Social Cognitive Theory and Equivalency Theory of distance education.

2.7.1 Social Cognitive Theory

Social Cognitive Theory by Albert Bandura emphasizes on self-belief as critical elements in human behavior and motivation. This theory is particularly relevant to

special needs students who by the very nature of the physical differences, often view themselves as lesser than others generally suffer from a low self-esteem which greatly impacts their academic performance. More often than not societal reactions and attitudes towards them tend to reinforce this negative view.

According to Social Cognitive Theory, self-efficacy beliefs provide the foundation for human motivation, well-being and personal accomplishments. Unless people believe that their actions can produce the outcomes they desire, they have little incentive to act or to persevere in the face of difficulties.

Bandura (1986) says that individuals form self-efficacy beliefs by interpreting information primarily from four sources; Mastery experience, vicarious experience, social persuasion and physiological reactions. Mastery experience is the interpreted result of one's action or performance. Success raises self-efficacy while failure lowers it. Vicarious experience is the observation of others' performance while the verbal messages and social perceptions received from others, whether intentional or accidental also influence us. Physiological and emotional states such as stress or anxiety also affect our self-efficacy.

Self-efficacy has been especially prominent in educational research. While scholars have reported that regardless of previous achievement or ability, self-efficacious students work harder, persist longer, persevere and have greater optimism. They achieve more and have lesser anxiety, Pajeres (1997). Researchers have suggested that teachers pay as much attention to students' perception of competence as to actual competence for it is perceptions that may more accurately influence student's motivation and future academic choice. Self-efficacy is a critical determinant of the life choices that students make and the course of action they pursue. Typically, they engage in activities in which they feel competent and avoid those in which they do not. Doing so is particularly critical in high school and college level where young people have more academic options. Pajares & Urdan (2006)

2.7.2 Equivalency Theory

Equivalency Theory as proposed by Simonson (1995), proposes that appropriate application of distance education should provide equivalent learning experiences for

all students so as to provide equivalent outcomes of the educational experience. Simonson (1995) goes on to point out that the design of distance education instruction should be geared towards providing appropriate learning experiences for each student based on their unique needs. Equivalency theory emphasizes that students should have learning experiences designed and made available to them specifically tailored for the environment and situation in which they find themselves.

According to CDLP (2013), Distance education increases access to learning opportunities. A well organized and designed distance education program should accommodate all learning styles and should be able to serve learners who for one reason or the other are unable to attend or benefit from traditional classroom setting. Burgstahler (2016) points out that the design of most distance education programmes do not allow the full participation of students with disabilities. She goes on to say that distance learning courses must be made available to people with disabilities that are eligible to take the class.

According to Keegan (1986), electronically linking instructors with students creates a virtual classroom which can offer an alternative but equivalent learning experience for the learners. Simonson et al (1999) supports this by pointing out that the key to a successful distance education programme lies in the availability of communication channels between the instructor and the students. The availability of dependable electronic telecommunication, both synchronous and asynchronous offers the learner an opportunity to choose the most appropriate mode. For students with special needs, this can help overcome access barriers. For the visually impaired, special software to enlarge screen images, text-to-speech software as well as electronic text-based descriptions can make visual programmes accessible. For programmes with audio outputs, text captioning and transcription can make information accessible to the hearing impaired.

2.8 Conceptual Framework of the Study

The conceptual framework in Figure 1 shows the interrelationship between factors influencing the academic performance of students with special needs.

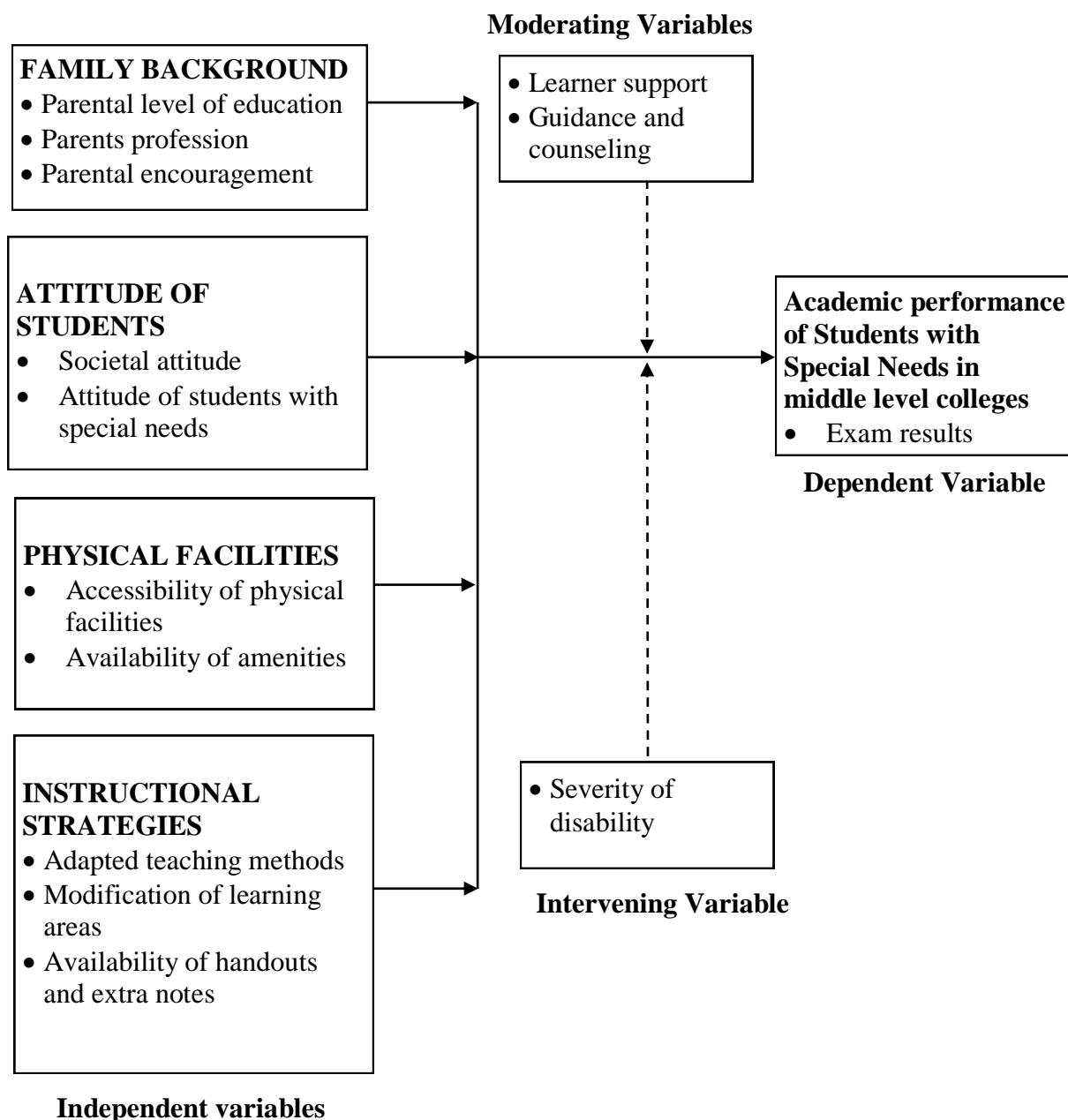


Figure 1. The interrelationship among variables

Figure 1 shows the variables which influence the academic performance of students with special needs. These are family background, student attitudes, availability and accessibility of physical facilities and instructional strategies. The intervening variable is the severity of the disability while the moderating

variables are learner support and guidance and counseling services available. The intervening variables will affect the relationship between the independent and the dependent variables in that the more severe the disability, the bigger the influence on academic performance and mobility. Learner support as well as guidance and counseling services minimize the negative effects of attitudes towards the disabled and create an enabling environment. The academic performance of students with special needs is the dependent variable in that factors in the independent variables will contribute to the students' perception of their appearance and ability to excel in their academic performance.

2.9 Summary and Research Gap

The literature review dealt with definition of different sensory and physical impairments that are faced by students with special needs. It has highlighted how success in academic performance education and especially higher education opens opportunities for gainful education, opens opportunities for career development and leads to a higher quality of life for the students with special needs.

The literature has highlighted how parental support and involvement, as well as the attitudes of students with disabilities have a great impact on their academic performance in higher education. It has shown how physical accessibility is one of the most important adaptations that can create an enabling environment for the full participation and inclusion of special needs students in institutions of higher learning. The review has also highlighted the special educational accommodations for the visually impaired, the hearing impaired and the physically challenged.

Significant research has been carried out in recent years addressing the educational needs of students with special needs. Most of the research had been focused on primary and secondary level of education. Most of the findings appear broadly similar such as lack of qualified personnel, inaccessible environment, unfavourable and ridged curriculum Mpofu & Shumba (2012), Adoyo & Odeny (2015), Muuya (2002). Polat (2011) indicates that more needs to be done to address attitudinal barriers and that resources and improved infrastructure are not the only adjustments to inclusion. There is a marked lack of sufficient and conclusive data globally on the transition rate

of pupils from primary to secondary and on to institutions of higher learning. Mugo et al (2010). Most researchers however, agree that the available data paints a deplorable picture in the transition rate of the disabled from secondary to institutions of higher learning. According to research by Mugo et al (2010) only one student out of 149 achieved the mean average grade needed to automatically be admitted to university. This represents a transition rate of 0.7 % out of the average national average of 12%. In view of this, a study is needed to address the challenges faced by the few students who transit to intuitions of higher learning.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives a description of the research methodology to be applied during the intended study. It discusses the research design, target population, sample and sampling procedures, research instruments, instrument validity, instrument reliability, data collection procedures and data analysis techniques.

3.2 Research Design

This study employed a descriptive survey design to collect data on the factors influencing the academic performance of students with special needs in middle level colleges in Machakos County. Orodho (2004) describes survey as a method of inquiries which deals with the incidence, distribution and inter-relations of variables. This method emphasizes on the frequency of answers to the same question by different people. This design aims at obtaining information from a representative selection of the population known as a sample.

3.3 Target population

Kombo & Tromp (2002) define target population as a group of individuals, objects or items from which samples are taken for measurement. Orodho (2008) says that it is the set of elements that the researcher focuses upon and to which the results obtained by testing the sample will be generalized. The target population for this study was the students with special needs and the lecturers in the two inclusive middle level colleges in Machakos County. Machakos Teachers College has 44 students with special needs. 23 are Visually Impaired (VI) while 21 are Hearing Impaired (HI). The college has 40 lecturers who handle the inclusive classes. Machakos Institute for the Blind has 35 Visually Impaired students. The institute has a total of 32 lecturers. The total population therefore was 151.

Table 3.1 Public Middle Level Colleges in Machakos County

<i>CATEGORY</i>	<i>MTTC</i>	<i>MTIB</i>
Students with Special Needs	39	40
Tutors	40	32
TOTAL	79	72

3.4 Sample Size and Sampling Technique

Sampling technique is a method of determining the representative population for a study. This study will use purposive sampling. According to Patton (2001), purposive sampling focuses on ‘information- rich cases’ in which one can learn a great deal about issues of central importance to the research. Shiundu (2008) defines it as a non-random sample selected because prior knowledge suggests it is representative, or because those have the needed information to constitute a sample. A purposive sampling procedure was used to select the two public middle level colleges that admit students with special needs. Purposive sampling was also be used to select all the students with special needs from the two institutions, a total of 79 students. Purposive sampling was used to select 72 tutors from the two institutions who teach the specific classes with students with special needs. The sample size was a total of 151 respondents.

Table 3.2 Sampled population

<i>Institution</i>	<i>Students With SNE</i>	<i>Lecturers</i>
MTTC	44	40
MTIB	35	32
Total	79	72

3.5 Research Instruments

The research used questionnaires which allowed the collection of reliable data from many respondents at a reasonable cost according to Shaugnessy (2003). Three sets of questionnaires were administered to the sampled tutors and students. Questionnaires for the sighted students, brailled questionnaires for the visually impaired students and questionnaires for the lecturers. In order to ensure confidentiality, respondents were instructed not to write their names on the questionnaires.

3.6 Pre- testing of the Instruments

The questionnaires were pre-tested in order to achieve precision and ensure that they measured what they are expected to. This enabled the researcher to detect any problems with ambiguity or wording of items and if necessary reframe the items before the actual administration.

3.7 Validity of the Research Instruments

Validity is the ability of the instrument to measure what it is supposed to measure. According to Golafshani (2003), validity determines whether the research instruments truly measures what it is intended to measure and how truthfully the research results are. For the purpose of this study, the supervisor examined the questionnaires and gave feedback to the researcher.

3.8 Reliability of the Instruments

Reliability is the consistency of an instrument in producing reliable results. It focuses on the degree to which empirical indicators are consistent in measuring a theoretical concept Orodho, (2004). To determine the reliability of the instruments, a split-half method was used whereby the pilot samples were given questionnaires to fill. The reliability of the instruments was based on the consistency of the responses given. . Two halves of the tests were scored separately for each person and then analyzed to full test using the Spearman Brown Prophecy formula to determine the reliability of the instrument. According to Orodho (2005), if the coefficient is found to be not less than 0.8, it is considered reliable for the study. The resulting coefficient was 0.82. The questionnaire was therefore reliable to use.

3.9 Data Collection Techniques

The researcher obtained a research permit from the Ministry of Education and copies of the letter availed to the County Director of Education, Machakos. The instruments were hand delivered to the various institutions by the researcher. For the visually

impaired students, the questionnaires were in braille format. The respondents were then be given time to respond to the questions.

3.10 Data Analysis

Data analysis is the process of interpreting the survey data. According to Mutai (2000), it involves computations to establish which variables should be examined and which relationships should be explored from the data. Coding was done to translate question responses into specific categories. According to Lockyer (2004), coding is a systematic way in which extensive data sets are condensed into smaller analyzable units through the creation of categories and concepts derived from the data. The coded quantitative items were entered into Statistical Package for Social Sciences (SSPS) for qualitative analysis. Frequencies, percentages and correlation analysis obtained were used to answer the research questions. Descriptive statistics such as tables were used to describe the data. The Ordinal Logistic Regression was used for analysis since the dependent variable was a categorical variable with three choices of pass, credit and distinction. Assuming the proportional odds model, with the level pass taken as the reference category, two ordinal regression models were fitted simultaneously onto the data.

$$\ln \left[\frac{P(Y = pass)}{P(Y = credit, dist)} \right] = \beta_{01} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_m X_m$$

$$\ln \left[\frac{P(Y = pass, credit)}{P(Y = dist)} \right] = \beta_{02} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_m X_m$$

The data gathered was then summarized in order to establish the fundamental results.

3.11 Ethical Considerations

The researcher obtained a research permit from the Ministry of Education. The researcher ensured that all subjects taking part in the study were aware of the objectives of the study so that they could participate voluntarily. Participants were assured of confidentiality of the information they gave to the researcher.

3.12 Operationalization Table

Operationalization table defines the variables, indicators, measurement and analysis.

This is shown in Table 3.3

Table3.3 Operationalization of variables

OBJECTIVE	VARIABLE	INDICATORS	MEASUREMENT	ANALYSIS
To establish how family background influences the academic performance of students with special needs	Family background	Parents/guardians level of education	Highest level of education	Descriptive Analysis
		Parents/guardians profession	Career/ profession	Regression analysis
		Parents/guardians support	Encouragement to go for further studies	
To find out how attitudes of SNE students affect their academic performance	Attitudes of students with SNE	Societal attitudes	Perception of societal reaction towards the disabled	Descriptive Analysis
		Attitudes of students with special needs	Level of self confidence	Regression analysis
To establish how the infrastructure influences the academic performance of SNE students	Infrastructural facilities	Paths, Bathroom facilities, classrooms, hostels and offices	Access to offices, classrooms, hostels adapted and accessible bathroom facilities, ability to access all roads and pathways	Descriptive analysis Regression analysis
To find out how instructional strategies influence the academic performance of SNE students	Instructional methods	Adapted teaching methods, extra notes, library facilities	Use of adapted teaching methods Availability of extra notes Accessibility of library books and reference materials Academic performance	Descriptive analysis Regression analysis

CHAPTER FOUR

DATA ANALYSIS PRESENTATION AND INTERPRETATIONS

4.1 Introduction

This chapter presents data analysis and discussion from the study about factors influencing the academic performance of students with special needs in middle level colleges in Machakos County. The study investigated the effect of family background, attitudes towards students with special needs, infrastructural facilities and instructional strategies. The study hypotheses have been tested and discussed.

4.2 Questionnaire Response Rate

The study sought to collect data from a sample of respondents who included seventy nine (79) students with special needs and seventy two (72) lecturers. All 72 questionnaires administered to the lectures were returned, a response rate was 100%. However of the 79 questionnaires administered to students, 78 were returned, giving a 99% return rate. According to Hartman and Helborne (1979) this is considered a very good response rate. This is shown in Table 4.1

Table 4.1 Response rates

Respondents	Expected Respondents	Number of respondents	%
Lecturers	72	72	100
Students	79	78	99
Total	151	150	99.3

4.3 Demographic Information of Respondents

The study sought to establish the demographic details of the students. This included the gender of the respondents, their type of disability and onset of the disability.

4.3.1 Gender of Respondents

The study sought to establish the distribution of the respondents by gender. This is shown in Table 4.2

Table 4.2 Distribution of students by gender

Gender	Frequency	Percentage
Male	51	65
Female	27	35
Total	78	100%

It is evident from the gender distribution Table 4.2 that 51(65%) of the respondents were male while 27(35) % were female. This seems to point out that there are more male students with special needs in tertiary institutions than females in middle level college in Machakos County. This agrees with USAID (2012) report that gender disparity also exists in education. The report points out that while the overall literacy rate for persons with disabilities is 3%, UNESCO estimates that for women and girls with disabilities, it is just 1%. This disparity is made clear from the World Report on Disabilities(2011) findings that there are more females with disabilities with a prevalence rate of 19.2% while the male rate is 12%.

4.3.2 Type of Disability

The study sought to establish the respondents' type of disability. This is shown in Table 4.3

Table 4.3 Respondents type of disability

Institution	Visual Impairment		Hearing Impairment	
	Frequency	Percentage	Frequency	Percentage
College A	23	29.5%	21	26.9%
College B	34	43.6%	0	0%
Total	57	73.1%	21	26.9%

The results in Table 4.3 indicate that 57 (73.1%) of the sampled students had visual impairment. 21 (26.9%) of the respondents were hearing impaired. The finding therefore indicate that a high percentage of the students with special needs were visually impaired. This could be due to the fact that college B caters exclusively for visually impaired students and therefore has a high population of visually impaired students.

4.3.3 Congenital Disability

Data was collected to find out whether the students were born with the disability. Information on whether the disability was congenital is shown in Table 4.4

Table 4.4 Congenital disability

Born with disability	Frequency	Percentage
Yes	20	25.6
No	58	74.4
Total	78	100

Data in Table 4.4 shows that majority of the respondents 58 (74.4%) were not born with the disability but acquired it later in life due to illness or trauma. 20 (25.6 %) of the respondents reported that their disability was congenital. Research was carried out to find out the age at which the students acquired their disability.

4.3.4 Age of Onset

The study sought to establish the age of onset of the disability. Information on the age at which the respondents acquired their disability is shown in Table 4.5

Table 4.5 Age of onset of disability

Age of onset	Frequency	Percentage
0-12 years	41	52.6
13-19 years	24	30.8
Adult	13	16.6
Total	78	100

The results from Table 4.5 show that 41 students (52.6%) acquired their disability in early childhood, from birth to 12 years, while 24 (30.8%) became disabled between the ages of 13 to 19 years. The rest 13 (16.6%) became disabled in adulthood.

4.4 The influence of Family Background on the Academic Performance of Student with Special Needs.

The first objective sought to establish how the family background influences the academic performance of students with special needs. Research was carried out to find out the parents or guardians' level of education as well as nature of employment.

4.4.1 Parents' Level of Education

The study sought to establish the parents'/ guardians' level of education. This is shown in Table 4.6

Table 4.6 Parents/guardians' level of education

Parents education	Frequency	Percentage
No formal education	10	12.8
Primary level	14	17.9
Secondary level	29	37.2
College level	13	16.7
Graduate level	12	15.4
TOTAL	78	100

Results in table 4.6 show that 29 (37.2%) of the parents or guardians of the respondents had secondary level of education. 14 (17.9%) had primary level education, 13 (16.7%) had college level education while 12(15.4%) had graduate level education. 10 (12.8%) of the parents or guardians did not have any formal education. The results show that majority of the parents or guardians had secondary level of education or higher. This seems to support Davis-Kean (2005), who states that the amount of schooling of the parents has a direct impact on how they interact with their children to promote their academic achievement.

4.4.3 Parents/ guardians Nature of Employment

The research also set out to establish the parent or guardians nature of employment. The results are shown in Table 4.7

Table 4.7 Parents/guardians nature of employment

Occupation	Frequency	Percentage
Formal employment	25	32
Business	28	36
Farming	25	32
Total	78	100

Table 4.7 shows that 28 (36%) of the respondents parents or guardians were business men and women while 25 (32%) were in formal employment. 25 (32%) were commercial farmers. The findings therefore indicate that majority of the parents or guardians had a steady source of income and were therefore able to meet the students' financial requirements.

4.4.4 Parental Support

The study further enquired from the respondents whether they had parental support and encouragement to further their education. Table 4.8 captures the response of the students.

Table 4.8 Encouragement and Support from Parents

Parental encouragement	Frequency	Percentage
Yes	58	74.4
No	8	10.2
Not discussed it	12	15.4
Total	78	100

Results from Table 4.8 indicate that 58 (74.4 %) of the respondents felt that their parents or guardians encouraged them to further their education. 12 (15.4%) had not discussed the issue with their parents while 8 (10.2%) felt that their parents or guardians were not supportive. This agrees with Buchanan (2004) who says that parental interest and encouragement is the single most powerful indicator of their Childs' academic achievement. Buchanan(2004).

4.4.5 Hypothesis Testing for Family Background

The first objective was guided by a hypothesis that stated that family background is not a significant factor in determining the academic performance of students with special needs in Machakos County. The study sought to test the hypothesis at the 5% level of significance using the ordinal logistic regression. The hypothesis presumed that the students' academic performance was independent of the family background. The results are shown in Table 4.9

Table 4.9: Regression analysis for family background factors

	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
						Lower	Upper
PERFORMANCE = 0	15.596	1.240	158.316	1	.000	13.167	18.026
PERFORMANCE = 1	18.330	1.187	238.576	1	.000	16.004	20.656
No Formal Ed	-2.413	1.377	3.072	1	.080	-5.112	.286
Primary level	-2.652	.980	7.318	1	.007	-4.574	-.731
Secondary Level	-1.657	.750	4.886	1	.027	-3.127	-.188
Graduate Level	0 ^a	.	.	0	.	.	.
Not Employed	-19.600	.000	.	1	.	-19.600	-
Non formal Employ	-1.301	.653	3.974	1	.046	-2.580	-.022
Formal Employment	0 ^a	.	.	0	.	.	.

The research found out that whereas a parent without any formal education was not a significant influence on a student's academic performance, a parent with primary level education, secondary school level or higher have a significant influence on their child's academic performance. The research found out that a student with special needs whose parent has no formal education is 91.05% less likely to perform better in academics compared to a student whose parent has a degree level of education. Primary school: interval is [-4.574, -0.731], and p-value is 0.007; Secondary school: interval is [-3.127, -0.188] and p-value is 0.027; these two intervals exclude 0. The research therefore found out that a parent having primary or secondary level of education are both significant factors in determining academic performance among

students with disability. The p-values are all less than 0.05 which also confirms a parent's level of education is a significant factor at primary or secondary school level. The research also found out that a parent having some form of employment whether formal or informal has a significant in determining academic performance among students with disability. ; No formal employ: interval is [-19.600, -19.600], and p-value is 0.000; Informal employment: interval is [-2.580, -0.022] and p-value is 0.046; the p-values are all less than 0.05 which also confirms that nature of employment is a significant factor. Therefore the null hypothesis H_0 was rejected at the 5% level in each case. We do therefore conclude that family background is a significant factor in determining the academic performance of students with special needs. This agrees with Grolnick and Slowiacek (1994) findings that pointed out that parental level of education is related to their involvement in their children's education. Davies-Keans (2005) is of the same opinion that the amount of schooling of the parents has a direct impact on how they interact with their children to promote their academic achievement. Earlier research by Ali et al (2013) that points out that parents' socio-economic condition, which includes parents academic and professional qualification, revenue and occupational affiliation, is associated with academic gain of students. This is also in agreement with findings by Fan and Chen (2001) that parental involvement in their children's learning positively affects their academic performance, leading to higher academic achievement.

4.6 Model Evaluation

The value of the co-efficient of determination R^2 – taking the Nagelkerke, is 0.407 = 40.7%. This means the variables in the model account for 40.7% of the academic performance of the student with disability. The other factors not included in the model account for 59.3% of the academic performance of the student.

The model is therefore a good fit for the data.

4.7 The Influence of Attitudes on the Academic Performance

The second objective sought to establish whether academic performance was affected by the attitudes of students with special needs towards their disability and their perception of the public's reaction towards people with disabilities.

4.7.1 Self-consciousness Due to Disability

Research was carried out to find out whether the students disability made them feel self-conscious. Table 4.9 shows the response of the students

Table 4.10 Self-conscious due to disability

I feel self-conscious	Frequency	Percentage
Yes	46	59
No	32	41
Total	78	100

Table 4.10 shows that 46 (59%) of the respondents felt self-conscious due to their disability while 32 (41%) of the respondents stated that they did not feel self-conscious.

4.7.2 Isolated Feeling

Data was collected to find out whether the students felt isolated due to their disability. Results on whether students with special needs felt isolated are shown in table 4.11

Table 4.11 Feeling of isolation due to disability

Feel isolated	Frequency	Percentage
Yes	35	44.9
No	15	19.2
Sometimes	28	35.9
Total	78	100

Results from Table 4.9 show that 35 (44.9%) of the respondents felt isolated due to their disability, 28 (35.9%) sometimes felt isolated while 15(19.2%) indicated that they never felt isolated.

4.7.3 Society Attitude towards Students with Disability

Data was also collected to establish whether the students felt that society treated them differently due to their disability. The results are shown in Table 4.12

Table 4.12 Treated differently due to disability.

	Frequency	Percentage
Yes	43	55.1
No	35	44.9
Total	78	100

When asked to state their opinion on whether they felt that society treated them differently due to their disability, 43 (55.1%) of the respondents gave an affirmative response that society treated them differently due to their disability while 35 (44.9%) were of the opinion that they were not treated differently due to their disability.

4.7.4 Support for Inclusiveness

The students and tutors were further asked to give their views on inclusive education in colleges. The result are shown in Table 4.11

Table 4.13 Support inclusive education.

Respondents	Frequency		Percentage
Students Support Inclusivity	Yes	72	92.3
	No	6	7.7
	Total	78	100
Tutors Support Inclusivity	Yes	66	91.7
	No	6	8.3
	Total	72	100

Findings in Table 4.13 reveal that a high majority, 92.3% and 91.7% of the students and tutors respectively, supported inclusive education in colleges. Only 7.7% of the students and 8.3% of the tutors were not in agreement. The results collaborates with the findings by LeBlanc & MacDougal(2010) which indicated that special needs

students in an inclusive classroom setting made academic and affective gains than their peers in a non-inclusive setting.

4.8 Hypothesis Testing for Attitudes

The second objective was guided by a hypothesis which stated that attitudes of students with special needs affect the academic performance in middle level colleges in Machakos County. The study sought to test the hypothesis at the 5% level of significance using the ordinal logistic regression. The hypothesis presumed that the students' academic performance was independent of their attitudes. The regression coefficient estimates for attitudes are shown in Table 4.14

Table 4.14: Regression analysis for attitude factors

	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
						Lower	Upper
PERFORMANCE_24 = 0	.551	.462	1.424	1	.233	-.354	1.456
PERFORMANCE_24 = 1	2.577	.591	19.020	1	.000	1.419	3.735
NOT SELFCONSIUS	-.518	.578	.802	1	.371	-1.651	.615
SELFCONSIUS	0 ^a	.	.	0	.	.	.
NOT ISOLATED	.367	.874	.176	1	.675	-1.346	2.080
SLIGHTLY ISOLATED	.461	.540	.730	1	.393	-.597	1.520
ISOLATED	0 ^a	.	.	0	.	.	.
NOT DIFFERENT	.471	.529	.792	1	.373	-.566	1.508
DIFFERENT	0 ^a	.	.	0	.	.	.
NO INCLUSION	.063	.950	.004	1	.947	-1.799	1.925
INCLUSION	0 ^a	.	.	0	.	.	.
NO PARENTS ENC	-.115	.824	.020	1	.889	-1.730	1.500
SOME PARENTS ENC	-1.526	1.158	1.737	1	.187	-3.795	.743
PARENTS ENC	0 ^a	.	.	0	.	.	.

The research found out that a student who feels self-conscious about being different from others is 40.43% less likely to perform well in academics than one who is not self-conscious. The 95% confidence interval for the co-efficient β_i is [-1.651, 0.615]. The research therefore found out that self-consciousness is not a significant factor in determining academic performance among students with disability. The p-value of 0.371 which is greater than 0.05 also confirms that self-consciousness is not significant. The research also found out that a student with disability who does not

feel isolated due to their disability is 44.34% more likely to perform better in academics compared to a student with disability who feels isolated by society.

The 95% confidence interval for the co-efficient β_i is [-0.566, 1.508]. The research therefore found out that feeling of different treatment by the society is not a significant factor in determining academic performance among students with disability. The p-value of 0.373 which is greater than 0.05 also confirms that feeling of different treatment by the society is not significant. The research also sought to find out if inclusion is a significant factor. The results showed that a student with disability who is in an inclusive class is 6.50% more likely to perform better in academics than a student in a non-inclusive class. The 95% confidence interval for the co-efficient β_i is [-1.799, 1.925]. The p-value of 0.947 which is greater than 0.05 also confirms that inclusiveness is not significant. The research went further to find out whether parental support and encouragement had any effect on the academic performance of special needs students. The research found out that a student who never discussed their academic work with parents was 10.86% less likely to perform better in academics than one who discussed with their parents. Interval is [-1.799, 1.925], and p-value is 0.947. The research also found out that a student who did not have parental encouragement was 78.26% less likely to perform better in academics compared to a student who had parental encouragement. Interval is [-1.730, 1.500], and p-value is 0.889. For a student who felt that they did not have parental encouragement, Interval is [-3.795, 0.743], and p-value is 0.187. All the intervals exclude 0. Therefore the null hypothesis H_0 was not rejected at the 5% level in each case. The research therefore found out that students' attitude was not a significant factor in determining the academic performance of students with special needs. The p-values are each greater than 0.05 which also confirms that attitudes are not a significant factor. This is contrary to findings by Shapiro (2000), who asserts how negative myths and stereotypes continue to create ingrained prejudice towards people with disabilities. These prejudices are reflected in negative behavior and attitudes, which impede the participation of people with disabilities in social, educational and vocational context. This outcome can be attributed to errors in sampling.

4.9 Influence of Physical Environment on Academic Performance

Teaching staff and students were asked to give their views on the suitability of the physical environment for students with special needs in the middle level colleges.

4.9.1 Accessibility of All Areas

The respondents were asked to state whether students with special needs were able to access all areas of the institutions. The students' response is captured in Table 4.13

Table 4.15 Access to all areas in the college

Respondents	Have Access	Frequency	Percentage
Students	Yes	38	48.7
	No	40	51.3
	Total	78	100
Lecturers	Yes	17	23.6
	No	58	76.4
	Total	72	100

According to Table 4.15, 51.3% of the respondents felt that they didn't have access to all areas of the institution while 48.7 responded that they had access. The lectures were asked to give their views on the same and their responses are in agreement with the results from the students. The lectures' response shows that 76.4% were of the opinion that the students with special needs did not have access to all areas of the institution. 23.6% felt that they had access.

4.9.2 Suitability of the Physical Environment

The researcher sought to find out from the students and the lecturers whether the physical environment in the two colleges was suitable for students with special needs. The response from the students is shown in Table 4.16

Table 4.16 Suitable physical environment

Respondents	Suitable	Frequency	Percentage
Students	Yes	36	46.1
	No	18	23.1
	Some areas	24	30.8
	Total	78	100
Lecturers	Yes	29	40.3
	No	43	59.7
	Total	72	100

From Table 4.16, 46.1% of the students said that the physical environment was not suitable for students with special needs while 30.8% indicated that some areas of the institutions were suitable. 23.1% said that the physical environment was not suitable. The researcher also posed the same question to the lecturers and the results show that 59.7% of the lecturers felt that the physical environment was not suitable for students with special needs while 40.3% were of the opinion that the physical environment was suitable.

4.9.3 Modified Hostels

Opinion was sought from the students to determine whether the hostels were disability friendly. The results are shown in Table 4.17

Table 4.17 Modified hostels

	Frequency		Percentage
Hostels are Disability Friendly	Yes	32	41
	No	46	59
	Total	78	100
Adapted bathrooms	Yes	16	20.5
	No	62	79.5
	Total	78	100

The findings in Table 4.17 indicate that 59% of the respondents felt that the hostels were not disability friendly while 41% felt that the hostels were suitable. Research was carried out to find out if the bathroom facilities were adapted to suit students with special needs. The research found out that 79.5% of the students felt that the bathroom facilities were inadequately adapted for use by students with special needs. 20.5% said that the facilities were suitably adapted.

4.10 Hypothesis Testing for Physical Facilities Factors

In order to establish if facilities had an effect on the academic performance of students with special needs in middle level colleges, regression analysis was done and the results are shown in Table 4.18

Table 4.18 Regression analysis for physical facilities

	Parameter Estimates						95% Confidence Interval	
	Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound	
	PERFORMANCE_24 = 0	.425	1.154	.136	1	.713	-1.837	2.688
PERFORMANCE_24 = 1	2.440	1.206	4.090	1	.043	.075	4.804	
NO LIB ACCESS	-.061	.726	.007	1	.933	-1.485	1.363	
SOME LIB ACCESS	.144	.649	.049	1	.824	-1.128	1.417	
LIBRARY ACCESS	0 ^a	.	.	0	.	.	.	
NO HOSTELS ACCESS	-.611	.502	1.483	1	.223	-1.595	.373	
HOSTELS ACCESS	0 ^a	.	.	0	.	.	.	
NO BATHROOM ACCESS	.405	.790	.263	1	.608	-1.143	1.952	
BATHROOM ACCESS	0 ^a	.	.	0	.	.	.	
NO LEARNING ACCESS	.097	.561	.030	1	.862	-1.003	1.197	
LEARNING ACCESS	0 ^a	.	.	0	.	.	.	
NO PATHS ACCESS	-.310	.568	.297	1	.586	-1.423	.804	
PATHS ACCESS	0 ^a	.	.	0	.	.	.	
NO OFFICE ACCESS	-.530	.537	.976	1	.323	-1.582	.522	
OFFICE ACCESS	0 ^a	.	.	0	.	.	.	
NO GAMESFIELDS	.436	.542	.646	1	.421	-.626	1.497	
GAMESFIELDS ACCESS	0 ^a	.	.	0	.	.	.	

From the results in Table 4.18, the 95% confidence interval for the co-efficient β_i for Access to library materials is [-1.485, 1.363]; and p-value is 0.933, hostel suitability interval is [-1.595,.373]; and p-value is 0.223, adapted bathrooms interval is [-1.143, 1.952]; and p-value is 0.608, Suitability of learning areas interval is [-1.003, 1.197]; and p-value is 0.862, accessible paths interval is [-1.582, .804]; and p-value is 0.586, accessible offices interval is [-1.582, .522]; and p-value is 0.323, accessibility of games fields interval is [-.626, 1.497]; and p-value is 0.421. All the intervals include 0. Therefore the null hypothesis H_0 was not rejected at the 5% level in each case. The research therefore found out that adapting the physical infrastructure is not a significant factor in determining academic performance among students with disability. The p-values were also all greater than 0.05 which confirms that physical infrastructure is not significant. The null hypothesis was therefore not rejected at the 5% level.

4.11 Influence of Instructional Strategies on the Academic Performance of Students with Special Needs

Lecturers and students were asked to give their views on the effectiveness of the instructional strategies. The respondents were asked to give their views on whether the teaching methods, classroom environment and library services were suitable for students with special needs. Lecturers were asked to state any challenges they faced when teaching students with special needs. Students were asked to give their opinion on whether lecturers had adapted their teaching methods to suit students with special needs.

4.11.1 Training in Special Needs

The lecturers were also asked to state whether they had any training on special needs in education. The results are shown in Table 4.19

Table 4.19 Training in special needs

Trained in special needs education	Frequency	Percentage
Yes	28	44.61
No	44	28.39
Total	72	100

The researcher found out that 44, 61% of the lecturers did not have any training on special needs while 28, 39% had training in special needs in education.

4.11.2 Adaptation of Teaching Methods

Research was carried out to find out whether the lecturers had adapted their teaching methods to cater for students with special needs. The results are captured in Table 4.20

Table 4.20 Adapted teaching methods

Respondents	Adapted teaching	Frequency	Percentage
Students	Yes	40	51.3
	No	16	20.5
	Some	22	28.2
	Total	78	100
Lecturers	Yes	38	52.8
	No	5	6.9
	Sometimes	29	40.3
	Total	72	100

Results from Table 4.20 show that 51.3% of the students were in agreement that tutors had adapted their teaching methods to suit learners with special needs. 28.2% however indicated not all tutors had adapted their teaching methods. 20.5% respondents felt that the lecturers had not adapted their teaching methods. The researcher posed the same question to the lectures and their response was in agreement with the students. 52.8% of the lecturers indicated that they adapted their teaching methods to cater for the students with special needs. 40.3% said that they sometimes adapted their teaching methods but not always. 6.95% of the lecturers did not adapt their teaching methods.

4.11.3 Availability of Extra Notes and Handouts

Students and lectures were asked whether extra notes and handouts were available. Their response is captured in Table 4.21

Table 4.21 Availability of handouts and extra notes

Respondents	Avail extra notes	Frequency	Percentage
Students	Yes	26	33.3
	No	21	27.0
	Some	31	39.7
	Total	78	100
Lecturers	Yes	35	48.6
	No	37	51.4
	Total	72	100

Table 4.21 shows that 39.7% of the students indicated that some of the lectures gave them extra notes and handouts. 33.3% responded to the affirmative that lectures gave them extra notes. 27% responded that they were not given extra notes or handout by their lecturers. The Lecturers were asked to state whether they gave extra notes and handouts to the students with special needs. The findings show that 51.4% of the lectures did not give extra notes or handouts to the students with special needs while 48.6% responded that they gave extra notes. These findings concur with the students' opinion that they were not always given extra notes or handouts by the lecturers.

4.11.4 Classroom Modification

The students were asked to give their views on whether the classroom environment was suitably modified for students with special needs. The results are shown in Table 4.23

Table 4.22 Modification of classrooms

Modified classroom	Frequency	Percentage
Yes	43	55.1
No	35	44.9
Total	78	100

Table 4.22 shows that 55.1% of the respondents felt that the classroom environments such as lighting, seating arrangement and noise reduction were adequately modified to suit lectures with special needs. 44.9% said that the classroom environment was not suitably modified.

4.11.5 Library Accessibility

Research was carried out to find out whether the students had access to library materials. The results are shown in Table 4.23

Table 4.23 Access to library materials

Respondents	Access to library materials	Frequency	Percentage
Hearing Impaired	Yes	14	66.6
	No	1	4.8
	Some	6	28.6
	Total	21	100
Visually Impaired	Yes	11	19.3
	No	33	57.9
	Some	13	22.8
	Total	57	100

The results in Table 4.23 show that the response from the hearing impaired students was different from the visually impaired. 66.6% of hearing impaired students indicated that they had access to library materials compared to 19.3% of the visually impaired students. 57.9% of visually impaired students indicated that they didn't have access to library materials compared to 4.8% of the hearing impaired. This could be attributed to the fact that most of the library contents are in print form which is easily accessible to the hearing impaired students but cannot be accessed by the visually impaired.

4.12 Hypothesis Testing for Instructional Factors

In order to establish the relationship between instructional approaches and the academic performance of students with special needs, Ordinal regression analysis was run at the 5% significance level. Results of the findings are shown in Table 4.24

Table 4.24 Regression analysis for instructional factors

	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
						Lower	Upper
						PERFOMANCE_24 = 0	-1.435
PERFOMANCE_24 = 1	1.000	.742	1.819	1	.177	-.453	2.454
NO ADAPTEDTCHNG	-.544	.821	.438	1	.508	-2.153	1.066
SOME ADAPTEDTCHNG	.109	.817	.018	1	.894	-1.492	1.711
ADAPTEDTCHNG	0 ^a	.	.	0	.	.	.
NO EXTRNOTES	-2.776	.874	10.097	1	.001	-4.489	-1.064
SOME EXTRNOTES	-1.130	.718	2.477	1	.116	-2.536	.277
EXTRA NOTES	0 ^a	.	.	0	.	.	.
NO MODIFIED CLASS	-2.188	.871	6.316	1	.012	-3.895	-.482
MODIFIED CLASS	0 ^a	.	.	0	.	.	.

The research found out that a student with special needs to whom adapted teaching has not been implemented is 41.46% less likely to perform better in academics compared to a student whom adapted teaching has been implemented. The 95% confidence interval for the co-efficient β_i for No adaptation is [-2.153, 1.066]; and p-value is 0.508, some adaptation [-1.492, 1.711]; and p-value is 0.894. The values exclude 0. The research therefore found out that adapted teaching is not a significant factor in determining academic performance among students with disability. The p-values are each greater than 0.05 which also confirms that adapted teaching is not a significant factor.

The research went further to establish if issuance of extra notes and handouts is significant. The results show that a student with special needs to whom extra notes are not given is 93% less likely to perform better in academics than a student who is issued with extra notes. The 95% confidence interval for the co-efficient β_i for No extra notes is [-4.489, -1.064]; and p-value is 0.001. The interval includes 0. Therefore the null hypothesis H_0 was rejected at the 5% level. The research therefore found out that issuance of extra notes is a significant factor in determining academic performance among students with disability. The p-value of 0.001 is less than 0.05 which also confirms that issuance of notes is a significant factor.

The research went further to find out the effect of adapted class on the academic performance. The research found out that a student with special needs whose classroom is not adapted is 88.79% less likely to perform better in academics compared to a student who is in an adapted class. The 95% confidence interval for the co-efficient β_i is [-3.895, -0.482]. This interval excludes 0. Therefore the null hypothesis H_0 was rejected at the 5% level. The research therefore found out that modifying class is a significant factor in determining academic performance among students with disability. The p-value of 0.012 which is less than 0.05 also confirms that modifying class is significant factor. This is in agreement with a report by KISE MODULE ID 004 which points out that in order to achieve functional levels of inclusion of special needs students in mainstream classes, it is imperative that certain modifications and adaptations be made in existing educational resources and learning environment to enable these learners maximize their participation in the earning activities. Barbara (2012) agrees by elaborating that because of the fact that students with disabilities often struggle in the mainstream classrooms, by providing them with differentiated classroom instruction and a modified curriculum, teachers and support staff can provide a playing field that is both equitable and accessible.

4.13 Lecturers Challenges

The research went further to find out from the lecturers whether they faced any challenges when teaching an inclusive class. The results are shown in Table 4.24

Table 4.25 Lecturers challenges

Face challenges	Frequency	Percentage
Yes	68	94.4
No	4	5.5
Total	72	100

Table 4.25 shows that 94.4% of the lectures' admitted to facing challenges when teaching students with special needs. 5.5% said that they did not face any challenges.

4. I3.1 Specific Challenges Faced by Lecturers

The lecturers were asked to specify the type of challenges they faced. The results are shown in Table 4.25

Table 4.26 Specific challenges

Challenges faced	College A		College B	
	Frequency	Percentage	Frequency	Percentage
Lack of specialized skills	26	20.6	10	25.0
Limited resources	28	22.2	19	47.5
Communication barrier	40	31.7	6	15
Rigid curriculum	20	15.9	3	7.5
Lack of time	12	9.6	2	5
Total	126	100	40	100

Table 4.25 reflects the challenges faced by the lectures from two institutions. 31.7% of lecturers in College A pointed out communication barrier as the main challenge faced. Limited resources were the second challenge faced at 22.2%. Lack of specialized skills was 20.6% while rigid curriculum was pointed out at 15.9%. 9.6% of the lectures said that lack of time was a challenge. The results from college B were slightly different. 47.5% from the institute pointed out that limited resources was the biggest challenge they faced. Lack of specialized skills was pointed out by 25% of the respondents. 15% said that communication barrier was a challenge while 7.5% said that rigid curriculum was a challenge. 5% said that the biggest challenge was lack of time. The disparity could be because college A deals with students with hearing impairment and had to use the services of sign language interpreters therefore communication was indicated as the biggest challenge. College B deals with visually impaired students who require specialized equipment such as Braille machines. Limited resources were therefore indicated as the main challenge faced by the lecturers.

4.13.2 Students Academic Performance

The lecturers were asked to rate the performance of the students with special needs using a scale of Very good, Good, Average and Poor. The results are shown in Table 4.26

Table 4.27 Lecturers opinion on students' performance

	Frequency	Percentage
SNE performance		
Very good	1	1.4
Good	17	23.6
Average	48	66.7
Poor	6	8.3
Total	72	100

When asked to state their opinion on the academic performance of students with special needs in the two institutions 66.7% indicated that their performance was average. 23.65% felt that the performance was good while 8.3% rated them poor. Only 1.4% thought that their performance was very good.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings, discussions, conclusions, recommendations and suggestions for further research on the factors affecting the academic performance of students with special needs in middle level colleges in Machakos County.

5.2 Summary of the Findings

The purpose of the study was to establish the factors affecting the academic performance of students with special needs in middle level colleges. The objectives of the study were to establish how family background influences academic performance; to establish how attitudes influence academic performance; to investigate how physical facilities influence academic performance and to determine how instructional strategies influence academic performance of students with disabilities.

The findings indicate that family background has a great effect on the academic performance of students with special needs. A student whose parent has a degree level of education is 91.5% more likely to perform better in academics compared to a student whose parent has no formal education. The findings also indicated that a parent's economic ability had an effect on the academic performance of the child.

Slightly over half of the respondents were not self-conscious about their disability. The findings also indicated that majority of the respondents supported inclusive classrooms and that they were 6.5% more likely to perform better in academics in an inclusive class than in segregation.

The physical infrastructure in the sampled institutions was suitably adapted to suit students with special needs. However the findings indicated challenges in the accessibility of library contents, the fields and the washrooms.

The findings indicated that a student with special needs who was issued with extra notes and handouts had a 93% chance of performing better in academics compared to a student who was not issued. The findings also indicated that a student with special needs in an adapted classroom had an 88.79% chance of performing better in academics than a student in a classroom that was not adapted.

5.3 Discussions of the Study

The following presents the discussions of the study on how family background, attitudes, physical facilities and instructional strategies influence the academic performance of students with special needs.

5.3.1 Influence of Family Background on Academic Performance.

The study findings indicate that family background has a significant influence on academic performance. According to the research, most of the parents and guardians had some form of formal education, from primary level to graduate. Finding from the research indicate that a student whose parents had no formal education had a 91.05% chance of performing poorly as compared to a student whose parents had formal education. The regression analysis shows a steady increase in correlation between level of education of the parent and the academic performance of the student. This agrees with earlier research by Sweet et al (2012) which showed that family background influences the students' educational plans and attainments. This includes family income although parents' level of education exerts a greater influence on children's future education. The researcher found out that most of the respondents had strong family support in form of financial as well as emotional support and encouragement. Most of the students indicated that they had parental support, both financially and psychologically. This is in agreement with earlier findings where Feistein & Symons (1999) stated that parental interest in their child's education was the single most powerful indicator of achievement. The research therefore concludes that family background influences the academic performance of students with special needs.

5.3.2 Attitudes of Students and the Influence on Academic Performance

The research found out that 44.9% of the students with special needs felt self-conscious about their disability and that they sometimes felt isolated from the rest of

society. The researcher also found out that 55.1% felt that society treated them differently due to their disability. This is in agreement with Massie (2006) who asserts that attitudes to disability are the major barrier to disabled people's full participation. The regression analysis showed p-values greater than 0.05 therefore leading us to the conclusion that although attitudes had an effect, it was not significant in determining the academic performance of the students with special needs. This could be attributed to errors in sampling. The researcher however found out that 92.3% of the students and 91.7% of the lecturers overwhelmingly supported inclusive education. This seems to support LeBlanc & MacDougal (2010) who assert that special needs students in an inclusive classroom setting made academic gains than their peers in a non-inclusive setting.

5.3.3 Physical Facilities and the Influence on Academic Performance

The researcher found out that efforts had been made to make the buildings and pathways accessible to students with special needs. However some areas were still not easily accessible especially where offices or classes were located in storied buildings. From the findings of the research, 51.3% of the students indicated that they did not have access to all areas of the institutions. 46.1% that they did not find the physical environment suitable for students with disabilities. This is in agreement with Johnson (2014) who states that students with disabilities often encounter physical barriers in the post-secondary environment. Their academic performance can be greatly improved by addressing the barriers they face in the institutions of higher learning. Physical barriers such as inaccessible rooms, pathways, stairs and bathrooms leads to exclusion from participating fully in all the programmes. The regression analysis showed p-values greater than 0.05 therefore we can deduce that although physical facilities are important, they do not significantly affect the academic performance of students with special needs. This is contrary to earlier research by Hallack(1990) which highlighted facilities as a major influence in the school system. He emphasized that availability; relevance and adequacy of these facilities contribute to students' achievement.

5.3.4 Instructional Strategies and their Influence on the Academic Performance of Students with Special Needs.

The study found out that 51.3% of the students were of the opinion that lecturers had adapted their teaching to suit students with special needs. Results from the analysis indicate that a student to whom teaching has been adapted is 58.54% more likely to perform better in academics than a student whom adaptation has not been done. The study went further to establish if issuance of extra notes and handouts is significant. The study found out that a student to whom extra notes and handouts is issued is 93% more likely to perform better in academics than a student who is not issued. The p-value was less than 0.005 therefore the study concluded that issuance of extra notes and handouts are significant factors in determining the academic performance of students with special needs. The research also found out that modifying classrooms has an influence on academic performance. 55.1% of the students were of the opinion that their classrooms were adequately modified to suit students with special needs. The findings of the research indicated that a student in a modified class is 88.79% more likely to perform better than a student in a class that is not modified. This agrees with earlier findings by Savage (1999), Stewart & Evans (1997) that the classroom environment plays a vital role in the teaching and learning process and can affect performance of both teachers and students. The study therefore concludes that instructional strategies influence the academic performance of students with special needs.

5.4 Conclusions of the Study

From the study findings it can be concluded that students with special needs in middle level institutions in Machakos County face challenges that influence their academic performance. Most of the students indicated that they had strong family support both financial and emotional. Findings from the study showed a strong increase in correlation between parents or guardians level of education and the academic performance of the students.

The research also found out that students with special needs battled with low self-image and feelings of isolation from society. However, they were able to surmount these challenges and were in strong support of inclusive education. Majority were of the opinion that they gained more from learning in an inclusive setting rather than secluded in a special institution.

The sampled institutions had made effort to adapt their environment to suit students with special needs. However some students still could not easily access some areas of

the institutions. Some of the areas pointed out were offices, libraries, washrooms and games fields.

Issuance of handouts and extra notes was shown to have a significant effect on academic performance. Students who were issued with handouts and extra notes had a higher chance of performing better in academics as compared to students who were not issued. It can therefore be concluded that students in institutions of higher learning do face challenges that affect their academic performance.

5.5 Recommendations

Based on the findings we recommend that;

1. The government needs to enforce the various legislation enacted for the benefit of persons with disabilities such as the Disabilities Act (2003) and the Persons with Disabilities Amendment Bill (2007) which states that learning institutions shall take into account the special needs of persons with disabilities with respect to curriculum facilities examinations and other similar considerations.
2. Distance education as a mode of study be utilized to offer courses that are designed to accommodate the unique and special educational requirements of students with special needs.
3. Lecturers as well as support staff be given mandatory basic training on disability awareness in order to be better equipped to adequately cater for students with special needs.
4. Strengthen guidance and counseling services for the students with special needs in order to cultivate a can-do attitude and confidence in themselves and their abilities
5. Appropriate adaptations, accommodation and modifications need to be made in the instructional approaches and existing physical facilities in order to enable the students with special needs maximize their participation in the learning activities.
6. Library contents be availed in different formats such as braille and electronic formats which can make it possible for students with various disabilities to access and utilize them.

5.6 Suggestion for Further Study

1. A study to establish challenges faced by SNE students in Kenyan universities.
2. A study to establish what extend distance education as a mode of study is being utilized by students with special needs.

REFERENCES

- AccessSTEM. *The Alliance for students with disabilities in Science, Technology, Engineering, and Mathematics*. DO-IT, University of Washington, 2002-2014.
- Adoyo, P. O., Odeny, M. L. (2015). *Emerging Inclusive education Practices in Kenya: Challenges and Suggestions*. International journal of Research in Humanities and Social Studies. V. 2. 16. June 2015
- Ahunanya, S. I. & Ubabudu, M, C. (2006). *Enrolment, facilities and financial allocation in Lagos higher education: Implications for Quality graduates*. Nigeria Journal of Educational Administration and Planning. (NAEAP). 6 (1): 153-164
- Allen, S.M. & Daly, K. (2002). *The effects of father involvement: A summary of the research evidence*. *The F11-O News, Vol(1) 1-11*.
- Ali Norhidayan, et al (2009). “*Factors influencing students’ performance at Universiti Teknologi MARA Kedah, Malaysia*”. *Canadian Research & Development Center of Sciences and Cultures: Vol 3 No 4*
- Ali, Shoukat et al. “*Factors Contributing to the Students Academic Performance: A Case study of The Islamia University Sub-campus*”. *American Journal of Educational Research 1.8 (2013) 283-289*.
- Antonak R.F & Livneh H. (2000).*Measurement of attitudes towards persons with disabilities*. *Disability and Rehabilitation,22.211-224*.
- Balal I, Rehan I. (2012). *Discrimination and Stigmatization of physically Disabled Students in a General Educational Environment in Pakistan: A case study*. *Jourlib Journal ISSN 2333-9721*.
- Barbara, M., Altman (2001) *Disability Definition Models, Classification, Schemes and Applications*. *Handbook of disability studies*. Thousand Oaks, C. A Sage publications

- Bandura, A. (1986). *Social Foundations of Thought and Action*. Englewood Cliffs, NJ. Prentice-Hall.
- Bandura, A. (1997). *Self Efficacy. The exercise of Control*. New York: W.H. Freeman.
- Bender, R and Benner, A. (2000). *Calculating Ordinal Regression Models in SAS and S-Plus*. Biometrical Journal, 42,6, 667-669.
- Blanck, P. D. (1996). *Empirical study of the Americans with Disabilities act: Employment issues from 1990-1994*. Behavioral Sciences and the Law, 14(1) 5-7.
- Borland J and James S. (1999) *The Learning Experience of Students with Disabilities in Higher Education. A case study of a U K university*, *Disability and Society* 14(1).
- Chubon, R. (1992) *Attitudes toward disability: Addressing Fundamentals of Attitude Theory and Research in Rehabilitation Education*. Rehabilitation Education 6: 301 -312
- Clark, N. E., & Crewe, N.M. (2000). *Stake holder attitudes toward ADA Title 1:Development of an indirect method*. Rehabilitation Counseling Bulletin.
- Davis-Kean, P (2005). *The influence of parents Education and Family Income on Child Achievement: The indirect role of parental expectations and the home environment*. Journal of Family Psychology, 19 (2), 294-304
- Desforges, c. & Abouchaar, A. (2003). *The impact of parental involvement, parental support and family education on pupil achievement and adjustment: A literature review*. London: Department of Education and Skills.
- Fan X (2001). *Parental involvement and students academic achievement: A growth modeling analysis*. Journal of Experimental education, 70, 27-61.

- Fan, X & Chen, M (2001). *Parental involvement and students' academic achievement: A meta- Analysis*. Educational Psychology Review, 13 (1), 1-22.
- Flouri and Buchanan, A. (2004). *Early father's and mother's involvement and child's later educational outcomes*. *British Journal of Psychology*, Vol.74.
- Georgiou, St. (1999). *Parental attributions as predictors of involvement and influences of achievement*. *British Journal of Educational Psychology*, 69(3).
- Georgiou, S. N. *Parental involvement: Beyond demographics*. *International Journal about Parents in Education*. 2007, Vol.1, No. 0, 59-62
- Golafshani, N. *Understanding Reliability & Validity in Qualitative research*. *The Qualitative Report* Volume 8, Number 4. Dec 2003.
- Hallack, J. (1990). *Investing in the future: Setting educational priorities in the developing world*. Paris: IIEP and Pergamon Press.
- Hallum, A. (1995). *Disability and the transition to adulthood: Issues for the disabled child, the family, the pediatrician*. *Current problems in pediatrics*, January, 12-50.
- Husain, Abid (2006). *Effects of Guidance Services on Study Habits and Academic Achievement of Secondary School Students*. *Bulletin of Education and Research*, vol 28, No 1 (35-45)
- Hoover Dempsey (et al 2004). *Parental Involvement in Homework. A review of current Research and its Implications for teaching after school programmes, staff and parent leaders*. Harvard family Research Project. October 2004
- Johnson, B. (2014). *Designing the Physical Environment*. Prezi.
- Keegan, D. (1986). *The Foundations of Distance Education*. London. Croom Helm.

- King, G. A et al (1993). *Self evaluation and self concept of adolescents with physical disabilities*. American Journal of Occupational Therapy, 47, 132-140.
- Judge Ephraim Laron et al (2005). *Laron report of the public commission to examine matters relating to persons with disabilities and promote their intergration into the community*. Jerusalem.
- MacCullagh, P. (1980). *Regression Models for Ordinal Data*. Journal of the Royal Statistical Society, 42, 109-142
- Leblanc, M., McDonald, J. (2010). *Academic Achievement in Self Contained Vs Inclusive Special Education Classroom*. State University of New York.
- Mazooe, P. (2011). *The Academic Challenges Facing Deaf Students at Durban University of Technology*. Research space. University of Kwazulu, Natal
- Mugenda O. And Mugenda A. (2003). *Research Methods. Qualitative & Quantitative Approaches*. Nairobi. African Centre for Technology Studies Press.
- Mutai, P. K. (2000). *How to Write Quality Research Proposal*. Thelley publication
- Ministry of Education. (2009). *National Special Needs Education Policy Framework*. Government Printer. Nairobi.
- Newman L. (2005) *Family involvement in the educational development of youth with disabilities*. Menlo Park, CA:SRI International.
- Nirmita N. *Technology for Accessibility in Higher Education. Enabling Access for Persons with Disabilities to higher education and Workplace*. Indian Institute of Management. Bangalore.
- Noe, R.A. (2002). *Employee training and development (2nd ed.)*. New York: McGraw-Hill. Peck,B., & Kirkbride, L.T. (2001). Journal of Vocational Rehabilitation, 16, 71-75.

- Orodho J.A. (2008). *Techniques of writing research proposals and reports in education and social sciences*. Bureau of Educational research. Kenyatta University. Nairobi Kenya. Kanezja HP Enterprises.
- Orodho J. A. (2004). *Essential Educational and Social Science Research Methods*. Nairobi, Masola Publishers.)
- Pollock N. MD, Steward D. (1990). *A survey on Activity Patterns and Vocational Readiness of Young Adults with Physical Disabilities*. Canadian Journal of Rehabilitation, 4, 17-26.
- Republic of Kenya, (2007). *The Persons with Disabilities Amendment Bill*.
- Republic of Kenya, (2003. *Persons with Disabilities Act*.
- Resnik, M.D., Hutton, L.(1987). *Resiliency among physically disabled adolescents*. Pediatric Annals, 17, 796-800.
- Russell D. (2010). *Inclusion or Illusion of Inclusion: A study of interpreters working with deaf students in inclusive education settings*; University of Alberta, Canada.
- SADPD (2012) *Secretariat of the African Decade of Persons with Disabilities*
- Savage, T. V. (1999). *Teaching Self Control Through Management and Discipline*. Boston Ally and Bacon.
- Stewart, S. C., Evans, W. H. (1997). *Setting the Stage for Success. Assessing the Instructional Environment, Preventing School Failure*. 41 (2), 53 - 56
- Special Education News. May 10 2014. Enabling Education Network.
- Shapiro, A. H. (1999). *Everybody Belongs: Changing Negative Attitudes Towards Classmates with Disabilities*. 2 World Member Libraries Worldwide

- Shaugnessy, J. et al (2014) *Research Methods in Psychology*. Kindle edition.
- Simon, M. K. (2011) *Dissertation and Scholarly Research. Recipes for success*.
Seattle, WA, Dissertation Success, LLC
- Simonson, M. et al (1999). *Theory and Distance education. A new discussion. The American Journal of Distance Education*.
- Unger, D. D. (2002). *Employers' attitudes towards persons with disabilities in the workforce: Myths or realities? Focus on Autism and other Developmental Disabilities*, 17, 2-10.
- UNESCO (2004). *The Salamanca Statement and Framework for Action on Special Needs Education*. Salamanca, Spain.
- United Nations Convention on the Equal Rights of Persons with Disabilities (CRPD). (2006).
- United Nations. (2008). *Convention on the Rights of Persons with Disabilities*.
- Weidner, D, A. (2013). *Self esteem in special needs children. Building confidence and can-do attitudes*. March 15
- White, M. J. et al (2006). *Implicit and Explicit Attitudes towards Athletes with disabilities*. *Journal of Rehabilitated* 72 (3) 33 – 40.

APPENDICES

APPENDIX 1: LETTER OF TRANSMITTAL

Mary Lore
P. O. Box 124-90100,
MACHAKOS

Dear Respondent

RE: REQUEST FOR DATA

I am a post graduate student pursuing a Master of Distance Education (MDE) at University of Nairobi. I am required to submit as part of my research work assessment, a project on **Factors influencing the academic performance of students with special needs in middle level colleges in Machakos County**. To achieve this, you have been selected to participate in the study. I kindly request you to fill the attached questionnaire to generate data required for the study. This information will be used purely for academic purpose and will be treated in confidence. Your name will not be mentioned in the report

Your assistance and cooperation will be highly appreciated.

Thank you in advance.

Yours faithfully,

Mary Lore

APPENDIX II. STUDENTS QUESTIONNAIRES

You have been selected as a respondent in the study to establish the factors influencing the academic performance of students with special needs in middle level colleges in Machakos County. Your response will be treated with the utmost confidentiality. The information you give will be limited to the purpose of the study only.

Tick as appropriate

SECTION A. GENERAL INFORMATION

1. What is your gender?
a) Male b) Female

2. Which is your institution?
a) MTTC b) MTIB

3. What is your age bracket?
a) 18-20 yrs b) 20-25 yrs
c) 26-30 yrs d) 31-40 yrs
d) Above 40yrs

4. What is your disability?
a) Visually impaired b) Hearing Impaired

5. Where you born with the disability?
a) Yes b) No

6. If not, when did you become disabled?
a) As a child b) As a teenager c) As an adult

SECTION B. Student's family background

7. What is your parent's/ guardian's level of education?

- a) No formal education b) Primary c) Secondary
d) Graduate

9. What is your guardian's / parents profession?

- a) Not employed b) Informal employment
c) Formal employment

10. My parents/ guardians encourage me to go for further studies

- a) Yes b) No c) Never discuss

SECTION C. Attitudes of students with special needs

10. My disability makes me feel self-conscious

- a) Yes b) No

11. I sometimes feel isolated because of my disability

- a) Yes b) Never c) Sometimes

12. I feel that society treats me differently because of my disability

- a) Yes b) No

13. Do you support inclusion of students with special needs in teacher training colleges?

- a) Yes b) No

SECTION D. Availability and accessibility of physical infrastructure

14. Do you have access to all areas in the institution?

a) Yes b) No

15. Is the physical environment in your college suitable for the disabled?

a) Yes b) No c) Some areas

16. Do you have access to the library materials?

a) Yes b) No c) Some

17. Are the hostels disability friendly?

a) Yes b) No

18. Are the bathroom facilities adapted for use by students with special needs?

a) Yes b) No

19. Which areas of the institution are not accessible

Learning areas Pathways Offices Games fields

SECTION E. Instructional strategies

20. Have the tutors adapted their teaching methods to suit learners with special needs?

a) Yes b) No c) Some

21. The teachers avail handouts and extra notes to the students with disabilities

a) Yes b) No c) Some

22. Is the classroom environment (lighting, seating arrangement), modified to suit students with special needs?

a) Yes b) No

23. What recommendations would you make to improve the academic and social life for students with special needs in the college?

a) Trained personel

b) Adapted teaching methods

c) Modified environment

d) Specialised equipment

e) Sensitisation

24. How do you rate your performance in the Midcourse examination?

a) Pass

b) Credit

c) Distinction

APPENDIX III: LECTURERS QUESTIONNAIRES

You have been selected as a respondent in the study to establish the factors influencing the performance of students with special needs in middle level colleges in Machakos County. Your response will be treated with the utmost confidentiality. The information you give will be limited to the purpose of the study only.

Tick as appropriate

SECTION A. General Information

1. What is your gender?
a) Male b) Female

2. What is your highest academic qualification?
a) Diploma b) Bachelor Degree
c) Masters d) Others (Specify) _____

3. What is your age bracket?
a) 20 – 25 Yrs b) 26 – 35 Yrs c) 35 – 45 Yrs
d) 46-55 Yrs e) Above 55 Yrs

4. For how many years have you taught?
a) 1 - 5 Yrs b) 6 - 10 Yrs c) 11 - 15 Yrs
d) 16 Yrs and above

5. Do you have any training in special needs education?
a) Yes b) No

If yes, up to what level?
a) Certificate b) Diploma c) Bachelor Degree
d) Masters

6. Have you ever attended a seminar on how to assist students with special needs?

a) A long time ago

b) Recently

c) Never

SECTION B. Attitudes of lecturers

7. Do you have students with special needs in your class?

a) Yes b) No

8. Do you face some challenges when teaching students with special needs?

a) Yes b) No

If yes, what challenges do you face when teaching the students with special needs?

(Tick the appropriate choices)

a) Lack of specialized skills b) Limited resources

c) Communication barrier d) Rigid curriculum

e) Lack of time

9. How do you rate the general performance of students with special needs in your college?

a) Very good b) Good c) Average d) Poor

10. In your opinion, do you support inclusion of students with special needs in regular colleges?

a) Yes b) No

Elaborate your answer briefly -----

SECTION C. Instructional strategies

11. Do you adapt your teaching methods to suit learners with special needs in your class?

- a) Yes b) No c) Sometimes

12. Do you give students with special needs extra reference materials or notes?

- a) Yes b) No

13. Do you have meetings with the special needs students in your classes to discuss their needs?

- a) Yes b) No c) Never thought of it

SECTION D. Availability and accessibility of the physical infrastructure

14. Do you think the physical environment in the college is safe for students with disabilities?

- a) Yes b) No

15. Are the classrooms adequately modified to cater for students with special needs (lighting, seating arrangement)?

- a) Yes b) No

16. Do the special needs students have easy access to all areas such as library, washrooms or offices in the college?

- a) Yes b) No

17. In your opinion, what suggestions would you recommend to improve the performance of students with special needs in your institution?



UNIVERSITY OF NAIROBI
COLLEGE OF EDUCATION AND EXTERNAL STUDIES
SCHOOL OF CONTINUING AND DISTANCE EDUCATION
DEPARTMENT OF DISTANCE STUDIES

Telegram: "CEES"
Telephone: KARURI 32117/32021/9
Fax: 254 066 33135

P.O. Box 30197 NAIROBI
or P.O. Box 92, KIKUYU KENYA
Email: info_cees@uonbi.ac.ke

Ref: L45/84229/2012

1st August 2014

TO WHOM IT MAY CONCERN

RE: MARY N.MAINGI - L45/84229/2012

The above named is a registered student in the School of Continuing and Distance Education, College of Education and External Studies, University of Nairobi where she is pursuing a Masters course in Distance Education.

She is currently carrying out a research project entitled:-

"Factors influencing the performance of students with special needs in middle level colleges: A Case of Machakos County".

The student has identified your organization for data collection to understand and practice of distance learning. The information given will be treated with strict confidentiality and will only be used for academic purposes.

Any assistance given to her as she collects data will be appreciated.


DEPARTMENT OF DISTANCE STUDIES
SCHOOL OF CONTINUING AND
DISTANCE EDUCATION
CEES - UON
P.O. Box 92, 00102, KIKUYU.

DR. ANNE NDERITU
CHAIRMAN
DEPARTMENT OF DISTANCE STUDIES

/mk



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No.

Date:

25th September, 2014

NACOSTI/P/14/2759/3314

Mary Maingi Lore
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Factors influencing academic performance of students with special needs in middle level colleges. The case of Machakos County,”* I am pleased to inform you that you have been authorized to undertake research in **Machakos County** for a period ending **10th November, 2014.**

You are advised to report to **the County Commissioner and the County Director of Education, Machakos County** 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. S. K. LANGAT, OGW
FOR: SECRETARY/CEO

Copy to:

The County Commissioner
The County Director of Education
Machakos County.

CONDITIONS

- 1. You must report to the County Commissioner and the County 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) hard copies and one(1) soft copy of your final report.**
- 6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.**



REPUBLIC OF KENYA



**National Commission for Science,
Technology and Innovation**

**RESEARCH CLEARANCE
PERMIT**

Serial No. A-3355

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:

**MS. MARY MAINGI LORE
of UNIVERSITY OF NAIROBI, 0-90100
MACHAKOS, has been permitted to
conduct research in Machakos County**

**on the topic: FACTORS INFLUENCING
ACADEMIC PERFORMANCE OF STUDENTS
WITH SPECIAL NEEDS IN MIDDLE LEVEL
COLLEGES. THE CASE OF MACHAKOS
COUNTY**

**for the period ending:
10th November, 2014**

M. Lore
.....
**Applicant's
Signature**

**Permit No : NACOSTI/P/14/2759/3314
Date Of Issue : 25th September, 2014
Fee Received :Ksh 1,000**



[Signature]
.....
**Secretary
National Commission for Science,
Technology & Innovation**