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**FACTORS ENABLING TRANSITION TO UNIVERSITY
FOR STUDENTS WITH BLINDNESS IN KENYA:
A CASE OF KENYATTA UNIVERSITY**

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E55/10605/2007

**A Research Thesis Submitted in Partial Fulfilment of the Degree of
Master of Education Department of Special Needs Education
School of Education
Kenyatta University**

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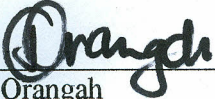
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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

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DEDICATION

To my beloved parents Mr. James Oranga and Mrs. Emily Oranga in appreciation for moulding and helping me realize God is omnipotent.

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The development of this thesis is the culmination of a participatory process that involved contribution from, first and foremost, my supervisors; Dr. John Mugo and Prof. Fatuma Chege who gave me valuable insights, directed and guided this work to the end.

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ABBREVIATIONS AND ACRONYMS

| | |
|----------------|---|
| AB | -Adventitious Blindness |
| CB | -Congenital Blindness |
| CBM | -Christefell Blindel Mission |
| CPE | - Certificate of Primary Education |
| EFA | -Education for All |
| ICT | -Information and communication Technology |
| IDEA | - Individuals with Disabilities Education Act |
| IEP | - Individualized Education Program |
| IS | -Integrated Schools |
| KIE | -Kenya Institute of Education |
| KCSE | -Kenya Certificate of Primary Education |
| KCPE | -Kenya Certificate of Secondary Education |
| KSB | -Kenya Society for the Blind |
| KUB | - Kenya Union of the Blind |
| LRE | -Less Restrictive Environment |
| SS | -Special School |
| UNICEF | - United Nations Children's Fund |
| UNESCO | - United Nations Educational Scientific and Cultural Organization |
| USA | -United States of America |
| WAIS-R) | -Wechsler Adult Intelligence Scale-Revised |

ABSTRACT

University students who are categorised as “blind” hardly receive research attention regarding their educational experiences including milestones that mark their educational success from primary, secondary and eventually university. The study investigated factors that have made it possible for relatively few learners with blindness to succeed in education when majority of these students do not go beyond the primary school level by exploring what are perceived as blind university students’ success stories in education. The location of the study was Kenyatta University’s Main Campus, in Nairobi. The research employed a qualitative research approach using a narrative design that enabled the researcher to capture subjects’ voices and represent experiences vividly. Interviews in form of biographies (life stories) were collected from ten students (five male and five female) with blindness using interview guides. The independent variable in the study was on the one hand, factors enabling transition of learners with blindness to university such as a barrier-free environment as well as relevant curriculum adaptations. On the other hand, transition to university was the dependant variable. The key objective of the study was to establish factors that have enabled transition of learners with blindness to university in Kenyatta University. A pilot study was conducted at Kenyatta University on a similar population; the four students in the pilot study did not take part in the actual study. The respondents were sampled purposively based on degree of blindness and level of university education (from PhD downwards). Recording of the interviews was done by use of a digital recorder. Interviews were transcribed to yield text data which were then coded and analysed qualitatively using Atlas ti computer software. From the study, a major finding is that forging of social relationships (friendships) with both sighted and learners with blindness and other persons in the surrounding was the main enabling factor in the transition of students with blindness to the university. The findings also show that schooling is a major emancipator of persons with blindness. A major recommendation is that the Ministry of Education should subsidize the cost of Braille textbooks to make them affordable. Further, Ministry of Education should translate supplementary text books used by learners with blindness into Braille to help reduce reliance on readers. The study findings may form part of the emancipatory lessons that may be used to inform and encourage other students with blindness. The findings may also be used in, planning, monitoring and evaluating programmes which aim at improving access and retention of students with blindness in higher education in Kenya.

CHAPTER ONE

1.1 Introduction

This chapter provides the following: Background of the study, statement of the problem, purpose and objectives of the study, research questions, significance of the study, limitations, the assumptions, the theoretical and conceptual frameworks and lastly operational definition of significant terms.

1.2 Background of the Study

Expansion and diversification of education to accommodate learners with disabilities constitute a major global component of planning and development as seen from the point of view of the World Conference on Education for All held in Jomtien, Thailand in 1990.

The UNESCO Report too, of 1994 came up with the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO 1994). This report laid emphasis on Inclusive Education up to the tertiary level to enable learners with special needs to learn in the Least Restrictive Environment (LRE). However, this has not been successful in most developing countries due to financial and social implications of the programme. Consequently, learners with visual impairments, especially those who are blind continue to grapple with myriad problems that include an insensitive curriculum and lack of enough essential facilities like Braille textbooks and Braille machines that threaten their continued pursuit of education.

UNESCO (2004), reports that disability, due to the challenges that come with it, is viewed increasingly as a major factor in those who are school-excluded, either through non-enrolment or dropout. Accordingly, around 40 million (or just above one third) of the 115 million children currently out of school globally, have disabilities most of which are often neither visible nor diagnosed.

Kenya Society for the Blind (KSB, 2006), estimated that learners with visual impairments have the lowest participation in education in Kenya. The KSB (2006) report points out that enrolment, attendance and completion of formal education among these students is low. KSB (2006) attributes this to stigmatization, retrogressive cultural beliefs, poor attitudes and ignorance on potential of children with visual impairments by their parents.

Averagely, 142 students with different kinds of visual impairments sit for Kenya Certificate of Secondary Examinations in Kenya yearly (Ministry of Education 2008) and approximately only 13 percent of these (as per the enrolment of students with visual impairments in public universities) join university each year, most of whom get admitted as self-sponsored students (Wawire 2009).

Studies have revealed that learners with visual impairments encounter many challenges that range from stigma, discrimination, physical and structural barriers and a curriculum that is not responsive to their needs (Alemna, 2004, KSB, 2006 and Sriram 2008). These challenges affect their school pathways and culminate to poor transition to university.

Studies on enabling factors in Education for learners with blindness in the African context have not adequately been explored. Studies have also not explored the position of the learner with blindness as an important actor in his/her successful

transition to higher levels of education. Furthermore, the tendency has been to research on factors that hamper the education progression of learners with disabilities (Songe, 2005,Blackorby and Wagner, 2005 and Sriram, 2008) .This study sought and investigated factors that enabled few learners with blindness to transit to the university amidst many obstacles that thwart their way. The study proposed and conducted an in-depth investigation into the schooling pathways of learners with blindness who have successfully transited the education ladder to enter the university by obtaining biographies and success stories from them. Pertinent to the research were the emancipatory lessons in overcoming barriers to transition to university. Understanding their educational success is important in providing the entire education cycle with information regarding learners with blindness' transition to university.

1.3 Statement of the Problem

An analysis of results from Thika High School for the Blind (the only high school for the blind in Kenya whose students have sat for Kenya Certificate of Secondary Education so far) revealed that between the year 2004 to 2007, only one student managed to score the competitive university entrance grade of B+ (Mugo, Oranga, Singal, 2008). Attainment of this competitive grade guarantees automatic entry into the university. This means that, a majority of the learners with visual impairments in Kenyan Universities, especially those who are blind seek admissions as privately sponsored students due to their inability to attain the required competitive grade for automatic university entry. Thus these students have additional financial burdens to shoulder, yet they are not entirely to blame for their relatively low performance in national examinations. Their schooling pathways are marked with numerous odds that

include poor curriculum adaptations and financial constraints that they must overcome to excel. Hence, this study was undertaken to explore the facilitating factors that are linked to the successful transition of blind students to the university with specific focus to Kenyatta University.

Studies on enabling factors in Education for blind learners with the learner as an important actor in the successful transition to university in the African context have not adequately been explored. Furthermore, the tendency has been to research on factors that hamper the education progression of learners with disabilities. This study sought and investigated factors that have enabled the few learners with blindness to transit to the university amidst many obstacles that thwart their way. The study proposed and conducted an in-depth investigation into the schooling pathways of these learners by obtaining biographies and success stories from them. Pertinent to the research were the emancipatory lessons in overcoming barriers to transition to university. Understanding their educational success is important as it may provide the entire education cycle with information regarding to transition for learners with blindness.

1.4 Purpose of the Study

The purpose of this study was to investigate the facilitating factors that have made it possible for relatively few learners with blindness to reach university and beyond despite myriad challenges.

1.5 Objectives of the Study

The study sought to:

1. Determine ways through which learners with blindness overcame social barriers that posed a challenge to them as they pursued education.
2. Establish the means utilized by the students in surmounting curriculum-related challenges that the students came across.
3. Determine ways through which students with blindness overcame economic constraints that threatened their continued pursuit of education.
4. Identify the means used by students with blindness to counter physical and structural barriers that they encountered in the course of their schooling.

1.6 Research Questions

1. What are the ways through which learners with blindness overcame social barriers that posed a challenge to them as they pursued education?
2. What are the means utilized by students with blindness to surmount curriculum-related challenges that they came across?
3. What are the ways through which the students with blindness overcame economic constraints that threatened their continued pursuit of education?
4. How did students with blindness counter physical and structural barriers that they encountered in the course of their schooling?

1.7 Significance of the Study

The findings of the study may be adopted by administrators and planners in the field of education to improve the quality of education accessed by persons with blindness. Findings of the study would inform the process of removing the barriers and therefore, create an environment that is disability sensitive and thus improve practice of education for learners with blindness in primary, secondary and higher levels. Furthermore the findings of the study may contribute to the deeper, understanding of education for learners with blindness with the aim of increasing enrolment and improving transition rates.

1.8 Limitations of the Study

Time and financial resources were the main limitations of the study. Hence the research was conducted only in Kenyatta University which has a comparatively large population of students with blindness.

Also, the study did not consider students with other disabilities who were studying at Kenyatta University due to the aforementioned reasons.

1.9 Scope of the Study

The study considered students who were blind and were studying at Kenyatta University.

1.9.1 Assumptions

It was assumed that:

1. Students with blindness who have reached the university level have encountered relatively more challenges in education than those who have not reached this level of learning.
2. Students with blindness in Kenyatta University will be willing to participate in this study.
3. Students with blindness who transit to the university are a success story and would inform discourse on enabling factors for transition.

1.10 Theoretical Framework

The study adopted Paulo Freire's theory of self emancipation. Freire (1971) examines the struggle for justice and equity within the educational system and proposes a new pedagogy. Accordingly, educators should focus on social justice issues that bring about fairness and equity with regard to gender, race, class, disability, and sexual orientation, consequently, creating equity within public issues. In Freire's view, the key to liberation in social and educational issues is the awakening of critical awareness and the thinking process in the individual. This happens through a new type of education, one which creates a partnership between the teacher and the student, empowering the student to enter into a dialogue and begin the process of humanization thought and its correlative action. The theory concerns itself with the disadvantaged, and those who suffer with them and fight by their side. Thus the disadvantaged and in this case, learners with blindness must see outside themselves, understand their situation, and emancipate themselves.

According to Freire (1971), freedom and equity is acquired by conquest, not by gift, thus learners with blindness should not relent in their struggle to bring about the desired change. Hence, the quest for change must be pursued constantly and responsibly as freedom and equity will be the result of praxis (informed action) when a balance between theory and practice is achieved.

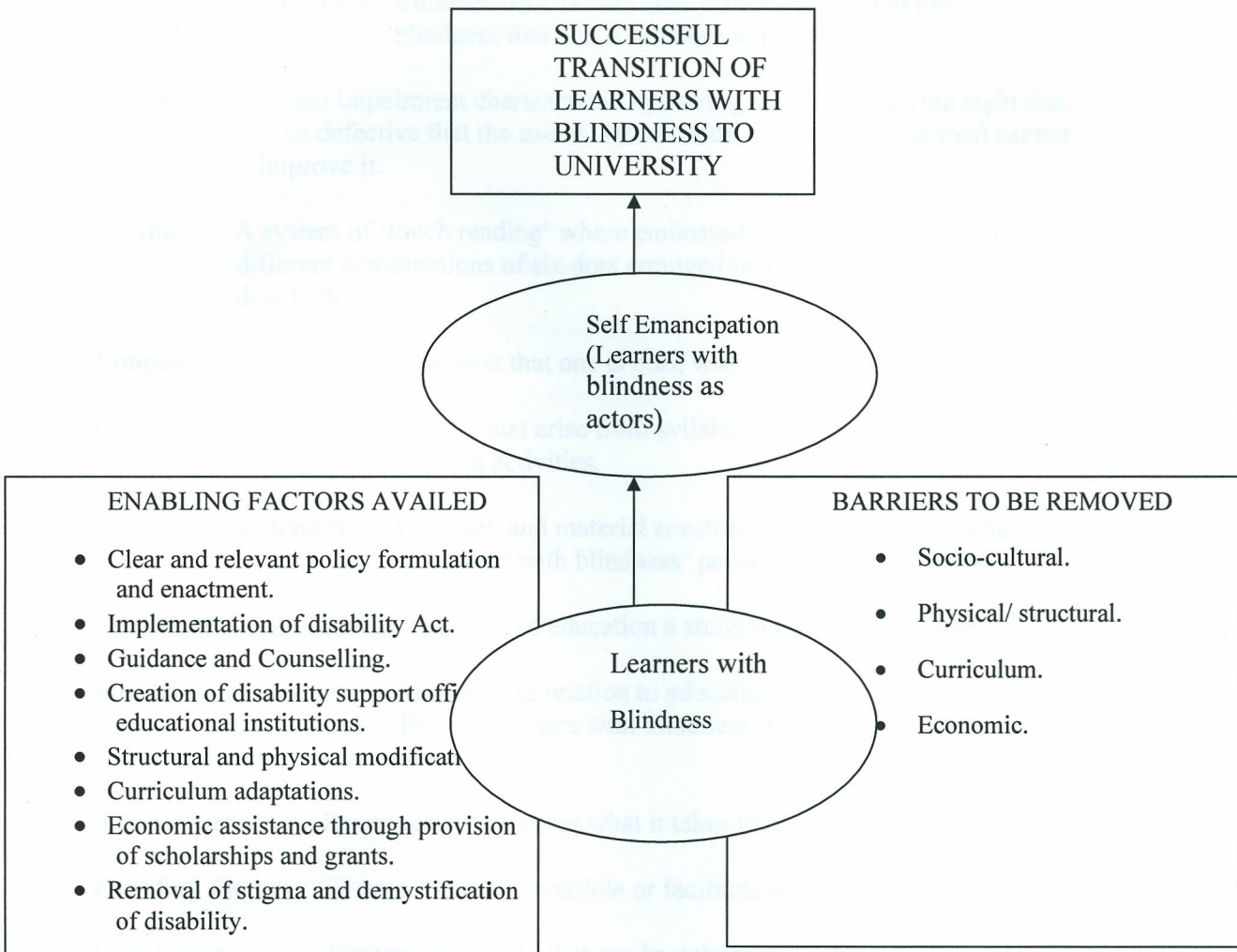
Freire (1971) sees peer relationships among learners as a determinant of the outcomes of schools. Hence methods including cooperative group work and diverse group interactions should be utilized.

According to Freire (1971), parent/teacher and student/teacher relationships are central, as are access to information and resources for all students including those

with disabilities. He asserts that it is important to address equity issues in the classrooms, as this will ensure that students with disabilities are not left out. Freire (1971) maintains that the teacher should keep in mind that students come from numerous cultures, languages and lifestyles and a monoculture framework will not suit all students' needs. Additionally, the curriculum should be built on acknowledgment of the experiences of students and consequently, educators should match students' cultures and needs to the curriculum and instructional practices. This would ensure that the individual needs of learners with blindness are put into consideration.

Within the framework of Freire's theory on education for self-emancipation, this study seeks to explore the educational experiences of learners with blindness by positioning them as "actors" in the process of "freeing" themselves from possible maligning conditions that may be hinged in their disabilities. Of special focus is the way in which the blind learners managed to negotiate their education pathways to the university level.

1.11 Conceptual Framework



Source: Adapted from Freire's (1971) theory

In this framework, the researcher conceptualized that if the enabling factors are available and barriers removed, the transition to university of learners with blindness may improve. However, absence of some of the enabling factors may motivate the learners to work harder in order to attain educational success and hence transit to higher levels. This study paid attention to this observation in an effort to ascertain how this conceptualisation functioned for the sampled learners.

1.12 Operational Definition of Terms

Adventitious blindness: Blindness that occurs after birth or later on in life, blindness that one is not born with.

Blindness: Visual impairment characterised by having no sight or having sight that is so defective that the use of visual aids (for example, lenses) cannot improve it.

Braille: A system of 'touch reading' where embossed characters are used in different combinations of six dots arranged in a cell, two dots wide and 3 dots high.

Congenital blindness: Blindness that one is born with.

Curriculum challenges: Barriers that arise from syllabi, learning materials and learning activities.

Economic challenges: Monetary and material constraints that formed a barrier to learners with blindness' participation in education.

Educational Aspirations: The level of education a student aims at achieving

Education pathways: All events in relation to education that occurred in the lives of learners with blindness in their pursuit of higher education.

Emancipation: Empowerment, having what it takes to accomplish a task

Enabling factors: Factors that make possible or facilitate a process

Low Vision: Having some sight that can be enhanced by the use of lenses.

Persons With Disabilities: Persons who deviate from what society terms as normal children in sensory abilities and/or physical characteristics to such an extent that they require a modification of school and social practices.

Social barriers: Societal and human relationship factors that formed a challenge to learners with blindness' pursuit of education

Visual impairments: General term referring to ailments or disabilities affecting the eyes that range from mild (low vision) to profound (blindness).

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter outlines review of literature which is based on studies that have been done and that are either directly or indirectly related to the study. The literature is reviewed under the following sections: Persons with visual impairments' participation and transition to higher education, barriers hindering transition of learners with visual impairments to higher levels of education, factors that facilitate transition to higher education for learners with visual impairments, adventitious and congenital blindness and a summary of the discussed literature.

2.2 The Participation and Transition of Learners with Visual Impairments in Higher Education

In developed countries, studies that pertain to participation of learners with visual impairments in higher education have been done to a large extent and policies enacted to this effect.

Kirchner and Simon (2000), while reporting on Blindness and other Visual Impairments among college Students in USA, pieced together data from several sources in an effort to determine the number of students with visual impairments attending American colleges and universities. Their best estimate was that 18,000 (0.15%) of the approximately 12 million students enrolled in higher education in 1980 were visually impaired (ranging from low vision to blindness). According to Kirchner and Simon (2000), the incidence of visual impairment in the general population was 0.2%. Kirchner and Simon (2000) also reveal that academic achievement among learners with visual impaired students enrolled in institutions of higher education is difficult to evaluate because of the lack of research describing their achievement.

Monahan, Giddan, and Emener (1999) obtained above-average intelligence quotients and academic ability scores for a sample of 192 high school students with visual impairments in USA. However, their follow-up study indicated that, of the students from the original sample who were subsequently contacted, only 25% had obtained college degrees. The discrepancy between these students' above-average intellectual/academic abilities and their lack of success in college was difficult for the researchers to explain.

The findings of Monahan et al (1999) agree with those of Blackorby and Wagner, (2005). Blackorby and Wagner, (2005) observed that students who are blind or have low vision are entering all levels of post-secondary education at relatively higher rates than they did in 1987 in the USA, but unlike their peers with hearing disabilities they are less likely to finish college. The researchers attribute inability to complete college to challenges such as an insensitive curriculum and financial constraints.

There is a dearth of literature with regard to participation and transition of learners with blindness to university in developing countries. The available literature, apart from being sketchy, does not single out or point specifically at learners with blindness.

According to Kenya Society for the Blind (KSB, 2006), it is estimated that visually impaired learners have the lowest participation in education in Kenya. The KSB (2006) report points out that enrolment, attendance and completion of formal education among these students is low. KSB (2006) attributes this to stigmatization, retrogressive cultural beliefs, poor attitudes and ignorance on potential of visually impaired children by parents. Consequently, most parents do not enrol their visually

impaired children (including those with blindness) of school going age at school, thus barring their transition to higher education.

2.3 Barriers Hindering Participation and Transition of Learners with visual impairments to higher education

Studies that pertain to barriers to participation and transition of learners with visual impairments in education have been explored to large extent in both developed and developing countries; however the studies focus on learners with visual impairments in general, they do not focus on learners with blindness, thus missing out on educational challenges that are bound to affect this particular sub-group in unique ways.

Vancil (2001) observes that visually impaired learners in the USA grapple with a myriad of challenges in higher education, the problems range from poor living arrangements, orientation, mobility, organizational skills, readers, assignments, need for assertiveness, and self advocacy to social skills. According to Vancil (2001), these challenges form a barrier that further leads to low academic performance by learners with visual impairments.

A survey carried out at a university in the United Kingdom by Borland and James (1999) focusing on College Experiences of Disabled Students revealed that students with visual impairments had difficulty in reading white boards. The sample was drawn from college students with disabilities in their final year of study. According to the findings, video and visual presentations also produce problems for students with sight and hearing impairment barring their access to learning and education in general. Borland and James (1999) point out that for these students to benefit like their sighted counterparts, the learning environment should be modified to suit the needs of all learners. In this study, the researcher focused on narratives that

highlighted perceptions regarding removal of barriers in the schooling of learners with blindness.

Eden and Flame (1999) reported that students with visual disabilities unlike their sighted peers may not identify options for solving problems as readily because they may not see the problem approach. According to the authors, whether students with visual impairments use Braille, enlarged print, electronic books or books on tapes or CDs, they still are disadvantaged. The authors recommend that the administration must plan ahead to have the required materials that help in college classes and problem solving.

From developing countries, Sriram (2008), reveals the situation in India. The researcher observed that learners with visual impairments face many challenges in education which depend on the nature and degree of their visual impairments. Accordingly, the nature and degree of their visual impairments vary depending on onset, progress and intensity of visual impairments. According to the researcher, one of the challenges that face learners with visual impairments includes the quality of scribes allowed to write for the learners. Sriram (2008) maintains that it is easy for learners with visual impairments to get bogged down in these challenges. Sriram (2008) points out that taking responsibility for one's education helps a learner with blindness to focus on internal strength while making choices about academic pursuits.

Alemna (2004), in a report on Library Provision for Blind Students in Africa, reports that there is a dearth of appropriate material such as books in Braille and talking books to aid students with blindness. The author further explains that the existing library system does not provide adequate services to students who are blind, thus

hampering their educational success that is key in enhancing successful transition to higher levels of education.

According to the KSB (2006) newsletter, a significant number of visually impaired children face barriers in accessing quality education due to frequent change of curriculum and lack teaching/learning materials, especially Braille books. It is approximated in the newsletter that pupil to Braille book ratio for the visually impaired learners is still at 5:1 against the recommended 1:1. This is reported as the greatest challenge that learners with visual impairments face. The shortage is attributed to lack of finance as some learners with visual impairments depend on Braille donations from well-wishers.

Another study by Songe (2005) cited lack of qualified staff as a barrier to total inclusion in education of students with visual impairments. The findings show that 5% of the lecturers lacked experience while 10% lacked knowledge. This, according to the researcher, interferes with proper implementation of the curriculum.

Songe (2005) observes that 80% of students and 90 % of the lecturers who participated in the research indicated that none of the special equipment needed by the visually impaired learners was available in the institution.

Waihenya (2000) emphasizes lack of funds as a significant barrier to transition of learners with visual impairments to higher education. The author asserts that lack of funds makes it impossible to provide required grade level text books and leisure reading materials and to maintain Braille machines. According to the report, lack of funds also makes it impossible to buy basic specialized equipments along with learning and teaching materials for curriculum areas that are adapted to meet the needs of students with visual impairments.

Waihenya, (2000) continues to indicate that obstacles also exist in the area of adaptations of materials for students with visual impairments. According to the author, although some subjects such as biological sciences, home science, geography, and mathematics, in secondary schools have syllabi that is partially adapted for students with visual impairments in which complex psychomotor activities are replaced by more manageable ones, most syllabi used in general education classes do not have accommodations in terms of adapted activities for students with visual impairments

2.4 Factors that enable Transition to Higher Education for learners with Visual Impairments

Pugh and Erin (1999) report that for transition to higher education for learners with visual impairments to be enhanced, students with visual impairments should have learning teams who work together to plan, implement, monitor and evaluate programming and services. The study recommends that a qualified teacher must direct and lead the learning team in developing goals and objectives that are educationally relevant.

The authors recommend that members of the learning team should include classroom teachers, parents and administrators who should set appropriate expectations for progress and performance and they should provide strategies for assessing learning needs. The team should also provide direct instruction in disability-specific impairments skill areas like Braille learning because students who have visual impairments have special and diverse educational needs.

Vancil (2001) describes several ways of countering challenges faced by learners with visual impairments and recommends that learners with visual impairments should, where possible, move into a single room where one's belongings may not be moved around. In addition, they should Braille label folders and binders, acquire a sturdy water-resistant backpack with several well organized compartments, hire readers based on experience and learn to establish a 24 hour advance notice cancellation with readers.

McBroom (2009), in a study of the Transition Experiences of 102 College students with visual impairments established that colleges in America provided most of the services students with visual impairments needed to be successful in their academic pursuit. Regarding reading medium, the researcher recommends that students with blindness should use all kinds of alternatives such as taking notes in Braille, using readers for last-minute assignments, audio taping classes, and condensing relevant information. Accordingly, different reading media and accessible computers should be used in high school so that by the time students enter college, they should have perfected the techniques. According to the researcher, this would boost transition and retention of learners with visual impairments in higher education.

McBroom (2009) also asserts that preparation for college should begin in high school, when learners with visual impairments first explore various colleges and seek to match their needs with the colleges' programmes. Additionally, students with visual impairments must advocate for themselves, be assertive, and be aware of their legal rights.

Kiarie (2004) reports that Kenya Society for the Blind (KSB), Kenya Union of the Blind (KUB) and Cristefell Blindell Mission (CBM) have programs to oversee the

enrolment of children with visual impairments in special and public schools in Kenya. According to the author, other efforts include workshops and seminars at the Kenya Institute of Special Education to sensitize the public on the needs of students with disabilities (Kiarie 2004). Accordingly, plans for accommodating students with visual impairments in national examinations and trained teachers are areas which have witnessed improvement as pertain to the education of learners with visual impairments in Kenya (Kiarie 2004).

2.5 Congenital and Adventitious Blindness

Adventitious blindness is a visual impairment developed sometime after birth. It may be the result of injury, illness or emotional trauma (Hupp 2003). According to the author, congenital blindness is a visual impairment that has existed since birth and may be the result of in-vitro injury, developmental delay or illness.

Scholl (2000) defines adventitious blindness as loss of vision acquired after birth as a result of illness or accident. According to him, Congenital blindness is a loss of vision present at birth. Accordingly, some of the more common causes of congenital blindness are: prematurity, genetic diseases, prenatal and perinatal infections and maternal substance abuse.

The age and level of development of the student before the onset of the visual impairment influences the student's ability to acquire skills and concepts (Hupp, 2003). Students with congenital blindness may have difficulty acquiring concepts, while students with adventitious blindness may retain sufficient visual memory to benefit from visual descriptions. The researcher indicates that sight plays a major role

in the development of certain cognitive processes in the early stages of physical development about the sixth month of life and begins to diminish in importance as verbal communication develops around the eighteenth month. Consequently, significant visual impairment or blindness occurring prior to this time would adversely impact an individual's cognitive development (Hupp, 2003). Conversely, the occurrence of visual impairment or blindness after this critical period of development would have less of impact. Also according to the researcher, visually impaired or blind persons may have developed different cognitive pathways to acquire process and accommodate sensory information and as a result, visually impaired learners may "think differently" than sighted individuals.

Lyndum (2001) in a study on Cognitive Differences between congenital and Adventitiously Blind Individuals revealed that the only differences in cognitive functioning appear to be related to age of onset and not the kind of visual impairment. The findings further indicated that individuals with congenital blindness have indeed developed alternate methods of cognitively processing nonverbal, abstract or complex information involving a high degree of spatial orientation.

However according to Lyndum (2001), it is worth noting that the learners with congenital blindness performed better than those with adventitious blindness on tasks of alphanumeric sequencing, memory recall, spatial recall, and spatial analysis, which are all measures of attention and concentration. Thus, learners with congenital blindness reflected a more astute level of attentiveness, concentration, and cognitive efficiency as compared to their counterparts' with adventitious blindness

Lyndum (2001) findings concur with the sentiments of Shindel (2001). The author indicated that no significant differences have been found in Wechsler Adult Intelligence Scale-Revised (WAIS-R) between individuals with congenital and individuals with adventitious blindness. WAIS-R is a multi task intelligence test that is commonly thought of as a general IQ test. It is useful in predicting future academic success, and can give evidence of sought after potentials and weaknesses (Shindel, 2001). The author explains further that although differences in measures of intelligence have not been found between persons with congenital and adventitious blindness, it is important to realise that environmental experiences can be very different for this two groups with individuals with congenital blindness usually having a completely different concept owing to the fact that they have never seen before.

2.6 Summary

This chapter has discussed literature on The Participation and Transition of Learners with Visual Impairments to Higher Education, Barriers Hindering Participation and Transition of Learners with visual impairments to higher education and Factors that enable Transition to Higher Education for learners with Visual Impairments. From the literature reviewed, barriers to transition to higher education for learners with visual impairments include: Lack/poor curriculum adaptations, lack of reliable readers, economic hardships, mobility problems, poor living arrangements and organizational skills.

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From the literature reviewed, factors that enable transition to university for learners with visual impairments include, hiring readers based on experience, ensuring that the readers adopt a 24 hour advance cancellation notice, taking notes in Braille, audio-taping classes and Braille labelling of folders and binders.

Also according to the literature, the only difference in cognitive functioning between learners with congenital blindness and those with adventitious blindness appear to be related to age of onset and not the kind of visual impairments.

From the literature review also, there is a dearth of literature from developing countries as pertains participation of learners with visual impairments' in higher education as studies on enabling factors in education for learners with visual impairments in Africa and other developing countries have not been explored adequately. Hence, study sought and investigated factors that enabled few learners with blindness to transit to the university amidst many challenges that threatened their continued pursuit of education by conducting an in depth investigation into the schooling pathways of learners with blindness who have successfully transited the education ladder to enter the university.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was employed in the implementation of the research objectives. It entails research design, study location, target population, sampling techniques, sample size, data collection techniques and finally the data analysis method. The research instruments, their administration and determination of their reliability and validity are also discussed.

3.2 Research Design

In line with the qualitative methodology, the research employed a narrative design. The design enabled the researcher to collect data in form of biographies that documented the respondents' stories in their own words. According to Creswell (2003), narrative design enables the researcher to capture voices and represent experiences through stories.

3.3 Location of the Study

The location of the study was Kenyatta University, Main Campus in Nairobi. Kenyatta University is one of Kenya's largest universities having been established in 1970 as constituent college of the University of Nairobi through an act of parliament. It became a fully fledged university on August 23rd, 1985 through Kenyatta University Act. The act became operational on 1st September 1985 and the new university was inaugurated on 17th December 1985.

The University has the oldest and most developed Special Needs Education Department in Kenya. This was the main reason for its selection for this study.

At the conception of this study the University had 51 students with visual impairments that range from mild to profound. Out of this, 24 are blind (interview, office of the dean of students, 2nd Feb 2009).

3.4 Target Population

The target population of this study was the twenty four (fourteen male and ten female) students with blindness who were pursuing university education at Kenyatta University. This population included undergraduates and PhD (one male and one female) students with blindness.

3.5 Sampling Procedures and Sample Size

The sample was arrived at purposively. The technique ensured that only blind students were sampled as opposed to those who had lower degrees of visual impairments. The purposes that were followed included: degree of visual impairment that is, the researcher considered the highest degree of visual impairments (blindness) and level of university education (from PhD downwards).

The researcher began by selecting from amongst students who had reached a comparatively higher level of education because it was assumed in the study that these students had more and possibly varied experiences compared to those who were still at lower levels.

The sample consisted of five males and five females with blindness. Out of which two (one male and one female) respondents were PhD students of Kenyatta university. Four (two male and two females) were in their third year of study while of the remaining four, two (male and female) were in their second year of study. The last

two (male and female) were in their first year of study as summarised in the table 3.1 below.

Table 3.1 Gender and Educational (degree) Level of Sampled students

| Education level | Male | Female |
|----------------------|------|--------|
| PhD | 1 | 1 |
| Masters | None | None |
| 4 th year | None | None |
| 3 rd year | 2 | 2 |
| 2 nd year | 1 | 1 |
| 1 st year | 1 | 1 |

3.6 Research Instrument

The research instrument consisted of an interview guide. An interview guide was suitable for this study because it enabled probing of the participants. Probing enabled the researcher to cover all dimensions of the investigation such as curriculum, physical/structural, social and financial issues. Gall and Bong (1996) state that the interview guide makes it possible to obtain information that the individual probably would not reveal by any other data collection method. Accordingly, they are adaptable in that questions can be adjusted as the need arises. The interview guide also gave the researcher the opportunity to meet the respondents in the research.

The instrument had five sections based on the objectives of the study. The first section sought information related to family background followed by sections that highlighted social, curriculum, economic, and lastly physical/structural issues.

3.7 Pilot Study

Before the actual study, a pilot study was carried out at Kenyatta University on a similar sample. The pilot sample constituted 4 students, who were blind. This left 20 students with blindness in the university from whom a sample of 10 students was selected for the actual study. Kenyatta University was selected for piloting because it has a comparatively large number of students with blindness. The learners with blindness in the pilot study belonged to the lower degree programmes and did not take part in the actual study. Piloting helped the researcher to determine whether the instruments would give the expected results. After the pilot study, the interview guide was revised to include specific probes for every question. The probes had previously been left out and the absence of them had led to inconsistency and time wastage. This deficiency was corrected before the actual study.

3.7.1 Validity

Validity refers to the degree to which the sample of the test represents the content that the test is designed to measure (Orodho, 2009). The validity of the instrument was tested through criterion and content validity. All the items were carefully examined by the researcher and other experts in the field of Special Needs Education and judged on how well they represented the expectations of the research and how well they answered the research questions. The instruments were found to be representative enough.

3.7.2 Reliability

According to Orodho (2008), reliability of an instrument is the consistency in producing a reliable result at different times. To test reliability, test-retest method was used to estimate the degree to which the same results could be obtained with a repeated measure of accuracy of the same concepts. The following steps were followed: the researcher administered the developed interview guide to four students then the responses were recorded. The responses were then transcribed and scored manually. The same interview guide was re-administered to the same group of subjects after 2 weeks; the interview responses were transcribed scored manually. The comparison between the answers obtained was made. The following formulae, Person's product moment formula for the test-retest was employed to compute the correlation co-efficient in order to establish the extent of reliability.

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

A correlation co-efficient of about 0.8 was considered high enough to judge the instrument as reliable for the study.

3.8 Data Collection procedures

The researcher carried out the interviews with all the respondents. Interviews were recorded by use the of a digital voice recorder to enhance accuracy. A research assistant was trained by the researcher to take notes while the interview was in progress. This ensured that all non-verbal cues and other occurrences during the interview were recorded and enabled the researcher to concentrate on the interview guide.

The research assistant was trained a day before the actual data collection began. The interview was done at the convenience (time and place) of the interviewees.

3.9 Data Analysis Procedures

Interviews were transcribed to yield text data which were then coded and analyzed qualitatively using Atlas ti computer software. This software helped and automated the coding of the transcribed interviews according to the pre-determined themes, thus making analysis easier. Findings were then organised thematically following the logic of the study objectives and are presented in text form in Chapter Four.

3.9.1 Logistical Considerations

The researcher obtained a research permit from the Ministry of Higher Education, particularly from the National Council of Science and Technology after getting a letter of introduction from the office of the Dean, Graduate School. Permission was sought from Kenyatta University Dean of Students' office before administering the research instruments in the field. The researcher also booked informal appointments with the respondents to establish rapport and to discuss the relevance of the study.

3.9.2 Ethical Considerations

The researcher explained to the respondents what the research entailed and how data would be used before getting their informed consent. The researcher also treated persons with blindness with dignity and carried out the interviews at the convenience (time and place) of the respondents.

CHAPTER FOUR

Presentation and Discussion of Findings

4.1 Introduction

This chapter entails data presentation, analysis and discussion of findings based on the research objectives. Hence there are five sections in the chapter. The first section focuses on schooling pathways of the respondents while the second is concerned with the first objective which sought to establish determine ways through which learners with blindness overcame social barriers that they encountered in the course of their schooling. The third section focuses on the means utilized by the students in countering curriculum-related challenges while the fourth and fifth sections dwell on the means used by the respondents in overcoming physical / structural barriers and means used in countering economic constraints that the students encountered in the course of their schooling respectively.

4.2 Schooling Pathways

Apparently, the kind of school attended was not solely, a determinant of transition to university as the respondents (all of whom had transited to university) attended both integrated and special secondary schools. However in some instances, the kind of barriers that respondents encountered at secondary school level depended on whether they attended integrated Secondary (IS) or Special Secondary (SS). The findings also reveal that all the respondents had learnt in special primary schools. Three of the respondents had previously enrolled in regular primary schools before finally enrolling in special primary schools when their progressive visual ailments culminated into blindness.

The study too, was characterized by respondents who had either congenital blindness (CB) or adventitious blindness (AB). This however was not one of the purposes followed during sampling. Of the ten respondents interviewed three (two males and one female) had congenital blindness (CB) while seven had adventitious blindness, (AB). Out of this seven, four had gone blind between 2 the age of two and six years while the remaining three had gone blind after they had began schooling though they had all along had progressive eye ailments that culminated into blindness before their eighth birthday.

In presenting the results of the interviews fictitious names were used to preserve anonymity. The distribution of the respondents along educational level, category of blindness (congenital or adventitious), sex and performance in KCPE/secondary school entry point and KCSE/university entry point was summarised thus:

Table 4.1 Schooling Pathways and Academic Performance of Respondents.

| Respondent | Sex | Type of blindness | Type of Secondary School attended | Marks obtained in KCPE / Secondary School entry point | Grade obtained in KCSE/ University entry point | Level of education | Identity in the study |
|-------------------|------------|-----------------------------|--|--|---|---|------------------------------|
| Respondent 1 | M | Congenital Blindness (CB) | Special secondary (SS) | 332/500 | B- | 3 rd year, Kenyatta university | ALEX |
| Respondent 2 | F | Adventitious Blindness (AB) | Special secondary (SS) | 312/500 | B- | 3 rd year, Kenyatta university | SUSAN |
| Respondent 3 | M | Adventitious Blindness (AB) | Special secondary (SS) | 332/500 | C+ | 3 rd year, Kenyatta university | BEN |
| Respondent 4 | F | Congenital Blindness (CB) | Special secondary (SS) | 321/500 | B- | 1 st year Kenyatta university | MARY |
| Respondent 5 | M | Adventitious Blindness (AB) | Special secondary (SS) | 345/500 | C+ | 1 st year Kenyatta university | CHRIS |
| Respondent 6 | F | Adventitious Blindness (AB) | integrated secondary (IS) | 323/500 | B- | 2 nd year Kenyatta university | CAROL |
| Respondent 7 | M | Adventitious Blindness (AB) | Special secondary (SS) | 381/500 | B- | 2 nd year Kenyatta University | DERRICK |
| Respondent 8 | F | Adventitious Blindness (AB) | Integrated secondary (IS) | 315/500 | C+ | 3 rd year, Kenyatta University | DORA |
| Respondent 9 | M | Adventitious Blindness (AB) | Special secondary (SS) | 401/500 | B+ | PhD student | EDWIN |
| Respondent 10 | F | Adventitious Blindness (AB) | Special secondary (SS) | 320/500 | B- | PhD student | EMMA |

4.3 Understanding Social Barriers

The study sought to establish strategies that enabled student to transit to the university in view of social barriers. Under this theme the study sought and investigated societal and human relationship factors that enabled learners with blindness to transit amidst myriad societal barriers. Several social barriers have emerged from the analysis. The kind of social barriers that the respondents encountered while at secondary school depended on the kind of schools they attended, that is, the social barriers experienced by respondents who attended integrated secondary schools (IS) were different from those experienced by students who attended special secondary schools (SS). Barriers at primary school level like stigma and negative expectations were similar owing to the fact that all the respondents attended special primary schools, at least from standard four. Findings too reveal that respondents who had adventitious blindness (AB) encountered more social barriers like stigmatization and change of attitude from peers than those who had congenital blindness. These learners also needed to change their lifestyles after becoming blind, yet self acceptance seemingly posed a bigger challenge as more often than not self acceptance comes after a long spell of denial. This thus, may explain why learners with adventitious blindness encountered more challenges including self pity and fear of rejection. Respondents with congenital blindness did not pass through this stage as they were born in this physical state and knew no other.

4.3.1 The Social Barriers

Various understandings of social barriers have emerged. Subsequently, students adopted various strategies to overcome the social barriers. Five key social barriers that have been established include: stigma, negative expectation, social exclusion and ignorance and low level of education of parents.

Stigma

Stigma was very pronounced both at school and at home. It mostly emanated from the respondents' peers as felt by a male respondent with adventitious blindness. The respondent had continued to attend his former regular primary school for a short while after blindness struck, before being transferred to a special school:

I just hated being called 'kipofu' (blind person). You see I lost my sight in class one, so before I changed schools to St Oda, I would still go to school once in a while and other pupils suddenly started calling me 'kipofu'. This really hurt me. I cried a lot and told my father to take me to hospital to be treated. I felt relieved when I went to St Oda, we were almost the same, and other students had never even seen anything. At least I knew some colours. (Chris, interview on 6th Jan 2010)

Apparently the respondents who became blind adventitiously were more affected with stigma than those who had congenital blindness. This could have been due to the changed attitudes from the people around them who previously knew them as sighted. Findings reveal that respondents would wake up one day and find their sight gone even though they had all along had progressive eye ailments. This may have led to a sudden change in attitude from the society coupled with the respondents own disbelief, denial and struggle for self acceptance.

Stigma as was also felt as a result of neighbours' or friends' preconceived ideas or myths concerning the probable causes of their disability as expressed by a male adventitiously blind respondent in the following excerpt:

I came across myths and beliefs... that my father fought someone and that's why I became blind. My friend / neighbour also told me that his mother had told him that most people in my mother's genealogy are blind and so I would also get blind children. This was not true. My mother could not remember any person in her generation who was blind; I explained to them what caused my blindness. I just focused on the truth, that my blindness was caused by meningitis when I was one and a half years. My assertiveness helped me a lot (Ben, interviewed on 3rd January 2010)

Negative Expectation

Apparently negative expectations made blind students feel less than their non disabled counterparts. Respondents who went to integrated secondary schools encountered more negative expectations from school than those who went to special secondary schools. This could have been due to the fact that they would be measured by the same yard stick used to measure the performance of their non –disabled counterparts. Thus, they may have been seen as not performing well, consequently, breeding negative expectation amongst the teachers. This may have trickled down to the respondents' parents as they got feedback from school and they may also have ended up not expecting much or rather having negative expectation from their children with blindness. Negative expectation was so extreme to the extent that these students felt discriminated against even when they proved themselves worth as explained by a female adventitiously blind respondent who attended an integrated secondary school thus:

And some teachers never wanted us, they discriminated against us . We had to drop their subjects in Form Three; they thought their subjects' mean grade would go down if we took them, because of our disability. I used to perform so well in Geography, I never got below B- but when I reached form three the teacher said in class that those who were visually impaired could not manage form 3 Geography. This was an integrated school. So I dropped it and just moved on. (Dora, interview on 8th January 2010)

Apparently the situation was better in special schools because of the informed attitudes of teachers, workers, and peers.

Social Exclusion and Neglect

It also emerged that social exclusion both at school and at home was rampant and more often than not, was as a result of negative expectations from the blind students by the society. Social exclusion was felt by the respondents as explained by female adventitiously blind respondent:

When holiday tuition was organized in my neighbourhood during school holidays, my parents forgot that I would also benefit through listening if not seeing, they would look for money to give my siblings, I felt excluded ... (Carol, interviewed on 5th January 2010) .

Consequently, the following sentiments were expressed by a male adventitiously blind respondent

We were so many in my family so my parents would begin providing for those with sight, such that by the time they reached me there was no money left, I felt so helpless without support from my parents yet I had to help myself. I explained to my headmaster and we found a sponsor..... (Ben, interviewed on 3rd Jan 2010)

Parental support was not always there and in some instances it lacked completely. Accordingly, students who experienced parental neglect, sometimes due to the perception that they would not be beneficial to the family in the long run developed low aspirations in education, which further translated into bad performance:

I felt I would not go on without the right attitude and support from my parents; it was not easy ... I could not concentrate and I thought my parents were right, that I would not achieve anything (Derrick, interview on 6th Jan 2010)

Ignorance/Low Level of Education of Parents

It emerged that the level of schooling of parents also determined the kind of support the students with blindness received, the lower the level of schooling of the parents the poor the moral and material support the students with blindness received from

them as explained by a male congenitally blind respondent who went through special primary and secondary schools, thus:

My parents had never gone to school, in fact they were illiterate, they didn't know that a blind person can succeed, they did not support me... My parents had never gone to school and my pleas to them bore no fruit (Alex, interview on 3rd Jan 2010)

The non-schooled parents may not have been economically empowered or employed, thus materially may not have been able to meet the needs of their disabled children hence seen as unsupportive, the low level of schooling of parents posed a barrier to the acquisition of holistic education by learners who were blind as also expressed in the following excerpt by a male adventitiously blind respondent who attended a special school:

My parents were illiterate. They did not know that I needed more support than my siblings. They would not even have me in mind and there was very little money... (Derrick, interview on 6th Jan 2010)

Some respondents' parents preferred their being at school than at home and never bothered to collect them when school closed this is expressed by a male adventitiously blind student who attended special primary and secondary schools:

I would remain at school for an extra day or so when we closed until the administration and teachers gave me transport money to go home and my parents would not look surprised...they simply said there was no money to come and pick me from school. (Ben, interview on 8th Jan 2010)

4.3.2 Overcoming Social Barriers

Ways through which learners with blindness overcame social barriers that they encountered included among others: tolerance and assertiveness, befriending sighted and non sighted peer, playing a role in sensitization and demystification of disability, parental support, self acceptance and ignoring negative sentiments. Respondents also overcame social challenges through showing independence and being friendly and

respectful to teachers. Participating in extracurricular activities too helped build confidence and provide a healthy break from class routine.

4.3.2.1 Surmounting Stigma

The findings reveal that stigma was surmounted through: Tolerance and assertiveness, Sensitization and demystification of disability by students with blindness, involvement of guidance and counselling and enrolment in special schools as discussed below:

Tolerance and Assertiveness

To fight stigma, the respondents' resorted to being tolerant and assertive, they would tolerate and also assert true facts about their disability when the situation called for it. This as is evident in the following excerpt from a male adventitiously blind respondent:

I explained to people what caused my blindness. I just focused on the truth. I knew that my blindness had been caused by meningitis when I was one and a half years and I dismissed the myths that people spread about me. My assertiveness helped me a lot (Ben, interviewed on 3rd January 2010)

Stigma, thus, was lessened through tolerance and assertiveness. This is in line with the recommendations of McBroom (2009) in a study of the Transition Experiences of 102 College Students with visual impairments in USA. McBroom (2009) recommends patience and tolerance as one of the ways through which learners with blindness may counter negative sentiments and attitudes. Accordingly, the author asserts that students with blindness should not let bad attitudes bog them down.

Involvement in Sensitization and Demystification of Disability

The respondents too played a role in spreading awareness aimed at conquering stigma in that, while at school they composed songs and poems which they recited whenever they were called upon. They also recited them during competitions with other schools (special or regular).

While composing my (mashairi) poems I focused on disability. I aimed to sensitize people on blindness and I also speak for the blind in the poems. I have composed many 'mashairi' (poems). I recited some during competitions. I am about to publish some of them, and I have already found a publisher. (Chris, interview on 6th Jan 2010)

The findings concur with KSB (2006), which recommends sensitization of the communities as a way of reducing stigma. Accordingly stigmatization is attributed to retrogressive cultural beliefs, poor attitudes and ignorance of the potential of visually impaired children by the society, accordingly, stigma bars transition and participation in education of learners with visual impairments.

The respondents took it upon themselves to educate their audience about causes and effects of disability whenever they had an opportunity. They strived to demystify disability during these activities and also through ordinary verbal explanations as expressed in the following except by a respondent who went to an integrated school:

When I went to high school, the students feared me, they thought I would depend on them entirely, it was an integrated school, only two of us had sight problems, the other(one) student was partially blind, I was the only one who was totally blind. I looked for an opportunity to explain to them what happened to me and I told them that there were things that I could do for myself. (Carol, interview on 5th Jan 2010)

Thus, it is apparent that students with blindness who attended integrated schools experienced resentment from sighted colleagues. This may have been due to the fact that some of these students had never previously interacted or lived with persons with blindness, and as a result they may have feared them and thought they would be

entirely dependant on them. Hence the respondents overcame this by explaining or talking about their disabilities to those around them.

Involvement in Guidance and Counselling

In high school the respondents took their guidance and counselling sessions seriously as the respondents, as a result of counselling, derived courage and confidence as explained:

Our guidance and counselling department really helped us cope; I never wanted to miss any session. I did not care so much that some people still rejected me because of my blindness...I became so strong ... we were also told it was not yet time to get into intimate relationships' with the opposite sex (Chris interview on 6th Jan 2010)

A female respondent who went through integrated setting responded thus:

I looked forward to my guidance and counselling sessions as more often than not I was counselled alone...I think due to my impairment, my problems were different. The teacher was so kind and I felt renewed and more confident at the end of every session. (Carol, interview on 5th Jan 2010)

The importance of guidance and counselling was not overemphasized by Eden and Flame (1999) in a report called, Disability and Response. According to the authors, constant guidance and counselling is indispensable for students with disabilities. Further, Eden and Flame (1999) assert that for guidance and counselling to benefit students with disabilities, the sessions should be properly scheduled and done at regular intervals. The authors maintain that adolescents and teenagers with disabilities need constant guidance and counselling. Therefore, constant guidance and counselling in high school may have made the respondents overcome the challenges that came with the teen years better. This may in turn have led to good concentration in class leading to good performance. Apparently guidance and counselling was very handy at this stage.

Enrolment in Special Schools

Students' enrolment in special schools also enabled them cope faster and feel accepted. Coping may have been easier in special schools because of the structures and informed attitudes of teachers, workers, and peers. Consequently, the respondents widened peer relationships:

Before joining primary school, I made friends within family mostly due to limited mobility, transition to primary made me widen friendships; I was enrolled in Likoni primary School for the blind, (Emma, interviewed on 6th Jan 2010)

The respondents with adventitious blindness also accepted themselves easily and felt a lot better when they enrolled in special primary schools as explained by a female adventitiously blind student thus:

I felt relieved when I went to St Oda (Special Primary School), we were almost the same, and other students had never seen anything. At least I knew some colours. Enrolment in St Oda really helped me accept myself (Dora, interview on 8th Jan 2010)

The peace, comfort and acceptance found in special schools made them concentrate on their academic work rather than waste time fighting stigma. This may in turn have brought about good grades, leading to the respondents' transition to university.

Self Acceptance

Self acceptance also helped the students fight stigma and ignore negative attitudes, as explained by a female student thus

I just had to accept myself...I stopped pitying myself and stopped thinking about what others thought about me....then I moved on (Carol, interview on 8th Jan 2010)

4.3.2.2 Circumventing Social Exclusion and Neglect

The findings reveal that Social exclusion and neglect were surmounted through:

Formation of social relationships, boldness and self advocacy and moral support from parents as explained below:

Forging of Friendships (Social Relationships):

To surmount social exclusion, the respondents forged friendships (social relationships) with whoever they came across. Apparently this was one of the most important facilitating factors in the transition of students with blindness to the university. As reported thus:

I just got out of my cocoon; there is no way I could have gone on without friends at home and at school I just became good to everybody I met because I needed to be with people and to be involved in activities in my surrounding . At school I also made my own friends I needed to know where the bathroom and even kitchen were. (Carol, interview on 5th Jan 2010)

The study established that apart from providing moral support, forging strong social relationships with peers who were not totally blind helped students with blindness surmount the barrier of inability to read print (especially in the case of supplementary books). These relationships were not forced but students with blindness' outgoing behaviour (which they had learnt over time, out of necessity), endeared them to many students, some of whom were not totally blind. Out of the friends they made, those who had some sight or low vision always volunteered to read for them on request as explained by male congenitally blind respondent who went to a special secondary school:

Out of the many friends I had, my closest had some sight and they would always read print for me voluntarily. I always had students who could help me out because I had many friends, and I have never lost any of them, we are still friend today. I have made more friends today in Kenyatta University (Edwin, interview on 6th Jan 2010)

Friendship was helpful as it also enabled them engage in healthy academic discussions thus making them understand better and consequently leading to good performance in exams. Good performance more often than not ensured transition to other levels of education and eventually to the University.

Freire's (1971) theory of self emancipation that the study adopted sees peer relationships among learners as a determinant of the outcomes of schools. The theory is discussed in the Theoretical Framework of this study in chapter one. Accordingly, methods, including cooperative group work, and diverse group interactions should be utilized. This may subsequently lead to good academic performance which may it turn lead to improved transition rates to the university.

Boldness and Self Advocacy

To surmount social exclusion and neglect too, the respondents resorted to advocate for themselves that is, self advocacy .Social exclusion and neglect both at school and at home was a big challenge in the lives of the respondents as explained thus:

When holiday tuition was organized in my neighbourhood during school holidays, my parents forgot that I would also benefit through listening if not seeing, they would look for money to give my siblings, I felt excluded and I told my mother that I, too, could benefit through listening. They finally made arrangements for me to attend the tuition. This made me work so hard. Wanted to prove to everyone that I too, could make it....now my parents are so happy (Carol, interview on 5th Jan 2010).

Thus boldness and self advocacy came in handy in the fight against exclusion. Self advocacy called for being ones own defender, this may have led to better understanding of the respondents by others, hence leading to better treatment. Better treatment meant that they felt accepted and this may have translated into good grades due to psychological contentment.

Enlisting Parental Support

Positive results were registered whenever there was parental support, as explained thus:

My family always put me first, they would consider me first in everything...they were fairly well educated, those days (30-35 years ago) form four was a good education. I worked so hard because I never wanted to let them down. From primary in Mombasa I went to high school then went to a University in America for my undergraduate (Emma, interviewed on 6th Jan 2010)

When parental support lacked as was common in the study, the respondents enlisted/demanded it, self advocacy again became imperative as explained by a female adventitiously blind respondent:

I would still tell my parents that I could make it..... I reminded them all the time, then they began changing and started believing in me and I did not let them down, I scored good grades. (Susan, interview on 6th Jan 2010)

Mc Broom (2009) as discussed in the literature review section of this study asserts that students with visual impairments especially those who are blind must advocate for themselves, be assertive, and be aware of their legal rights.

According to Freire (1971), for emancipation to take place, all learners, including those with blindness should not relent in their struggle to bring about the desired change. Accordingly the quest for change must be pursued constantly and responsibly as freedom will be the result of praxis (informed action) when a balance between theory and practice is achieved.

4.3.2.3 Countering Negative Expectation

Negative expectation was countered through: showcasing of one's worth /potential and showing a degree of independence as explained below:

A Showcase of One's worth/ potential

Apparently negative expectations bred despair amongst students with blindness, thus interfering with gainful studies. To some respondents this also became a driving force as they wanted to prove their worth thus the respondents resorted to looking for a chance to prove and showcase their worth/potential as explained by a male congenitally blind respondent who attended a special secondary school, thus:

I worked so hard to make others believe that I too could pass exams. I wanted to prove to my aunt and uncle who thought I would not make it that I too could make it (Ben, interviewed on 3rd Jan 2010).

Learners with blindness would also showcase their potential by engaging in a variety of activities which sighted students were able or not able to engage in as explained:

I represented my school twice at the provincial level, and this really made me happy. It gave me a lot of confidence. I would stand in front of huge audience and they would listen to me. Some of my sighted friends could not recite poems leave alone stand in front of a large audience (Chris, interview on 6th Jan 2010).

Hence, being able to engage in social events like the one mentioned above really boosted the respondents self esteem and made them feel confident. High self esteem may have made them work harder in class, consequently resulting in better grades in examinations.

A show of Independence

Students with blindness also countered negative expectations by showing their non disabled peers that they have a degree of independence.

The findings revealed that a show of independence went a long way in countering negative expectation the respondents looked for ways of showing that they were not totally dependent, that there were so many things they could do without assistance as explained thus:

I would hear them say ‘na atafuaje nguo zake (how will she wash her clothes)’, I just ignored this sentiments, then on Saturday I asked them where the tap was, they showed me, they pretended they were passing just to prove that I was actually washing my own clothes and hanging them. After this they befriended me. They couldn’t believe (laughter), they knew then that I had some degree of independence.....this happened when I went to secondary school (integrated). (Carol, interview on 5th Jan 2010)

Apparently their sighted peers initial resentment and fear arose from the preconceived belief that making friends with students with blindness would turn them (sighted students) into perpetual assistants to them thus infringing on their time, hence they thought keeping off students with blindness was the best thing to do. However students with blindness proved them wrong by showing a degree of independence.

Blackorby and Wagner, (2005), as discussed in chapter two of this study under literature review, indicate that students who are blind need not entirely rely on their sighted peers. Accordingly, they should always cautiously strive to be independent and only seek help when they deem it necessary.

4.4 Understanding Curriculum Barriers

The study sought and established strategies that enable student to transit to the university in view of curriculum barriers. These are barriers that arise from the syllabi and learning activities.

As noted earlier all the respondents attended Special Primary Schools. The findings revealed that the respondents who attended integrated secondary schools (IS) experienced more curriculum barriers than their counterparts who attended Special Secondary Schools (SS). Also, under curriculum barriers the respondents who were adventitiously blind (AB) encountered more barriers than those with blindness. This could largely be attributed to the fact that they may not have adjusted completely to their changed curriculum needs and also spent a lot of time trying to accept themselves. Respondents with congenital blindness did not undergo this as they were born with blindness.

Under curriculum challenges too, the sex of the respondents did not determine the kind or intensity of curriculum challenges encountered. This could have been due to the fact that under normal circumstances boys and girls are subjected to the same school curriculum thus the challenges for both sexes are likely to be the same.

4.4.1 The Curriculum Barriers

Under this theme various understandings of curriculum barriers emerged. Subsequently, students adopted various strategies to circumvent the barriers.

Five key barriers established include: lack/poor of curriculum adaptations, lack of dependable readers, untrained teachers and inadequate time in examinations.

Lack/ Poor Curriculum Adaptations

The findings revealed poor syllabi accommodations in Biological Sciences, home Science, Geography, and Mathematics for learners with blindness. The study also revealed that most syllabi used in general education (in integrated settings) classes do not have accommodations in terms of adapted activities for students with blindness, thus respondents called for an adapted curriculum. According to the respondents, they experienced the worst accommodations in Mathematics. Apparently Mathematics has not been adequately adapted to suit the special education needs of learners with blindness thus leading to bad performance in the same as explained by female adventitiously blind respondent who attended an integrated school:

We had problems of adaptation in many subjects, for instance the teachers didn't simplify Mathematics, it was so hard to work out 3 dimensional tactile diagrams (Carol, interview on 8th Jan 2010)

Due to poor adaptations long calculations and working with large numbers too posed a big challenge to students with blindness especially because they could not use calculators like their sighted colleagues. Calculators were allowed for use during regular learning and in examinations by the Kenya National Examination Council (KNEC) in 2005.

Sometimes I wished we could have talking calculators, it was hard to memorise all the 'remainder' numbers....our sighted colleagues are able to right down and they also have the advantage of using calculators. They can also do rough work, we could not. (Derrick, interview on 6th Jan 2010)

Thus Braille users were totally disadvantaged as they could not afford to import "talking" calculators. Apparently, it was also so hard to memorise the 'remainder'

numbers as they were not able to note them somewhere or also do rough work like their sighted colleagues.

It was also hard for teachers to adapt diagrams in Geography, Biology and even Home science or sometimes they forgot to. According to the respondents, poor adaptations also led to their inability to opt for practical sciences. Accordingly this was a barrier towards acquisition of holistic education as explained by a female adventitiously blind student who attended a special school

We could not just make out what some diagrams contained especially in geography” (Dora, interview on 8th Jan 2010)

The respondents were sensitive of their inability to study practical science subjects (physics and chemistry) like their sighted counterparts due to their impairment as much as they would have liked to. Once admitted to high school, the respondents only studied Biology and Home science as their science subjects and this were mandatory.

Untrained Teachers

It emerged from the study that most of the teachers who taught the respondents were not trained to teach learners with blindness as explained by a female adventitiously blind respondent who went to special schools (primary and secondary) thus:

Teachers didn't know how to use abacus in mathematics so they never taught us how to use them. Also, the teachers were just too fast (Emma, interview on 6th Jan 2010)

The same sentiments were expressed by a male adventitiously blind respondent who also attended special schools as follows:

In upper primary we were mixed up in the class, the totally blind, partially blind and low vision all sat in one class. The teachers would forget about the totally blind, they would demonstrate some things for the low vision and partially blind without verbalizing to enable us benefit. (Chris, interview on 6th Jan 2010)

The situation was worse in the integrated settings where the findings revealed a lot of insensitivity among the teachers:

The teachers moved along with the majority in the class who were sighted, in fact in my class I was the only one who was blind, I always asked my friends for explanations and clarifications after the teachers had left class (Dora, interview on 8th Jan 2010)

Lack of Dependable Readers

Apparently the cost of a braille text book is double and sometimes thrice the cost of a printed book. The high cost of Braille books made the respondents resort to books written in print. This made readers indispensable as much as the learners with blindness would have wished not to have them. The unaffordable cost of Braille text books made them perpetually dependant on printed books thus making readers a necessity as explained:

Braille text books are just expensive, we could not afford them, we jus had a few, the only textbooks we could easily access were printed and so we needed readers... (Susan, interview on 6th Jan 2010)

The respondents, too, needed readers as supplementary books that the students required for in depth understanding could not be found in Braille. Yet the readers who happened to be other students (as they could not afford to hire private ones) would also be preparing for exams or studying in class when they are needed most by learners with blindness, this posed a big challenge as explained by a female adventurously blind respondent:

I really felt that I inconvenienced my friends especially when I needed them to read for me yet they were also busy preparing for their exams. (Emma, interview on 6th Jan 2010)

Inadequate Time in Examinations

Findings revealed that the additional 30 minutes allocated in examination in KCSE (Kenya Certificate of Secondary Education) and KCPE (Kenya Certificate of Primary Education) was also not enough. According to the respondents, reading in Braille takes a longer time than reading with the eyes and the additional time is not commensurate to that, as explained thus:

Reading Braille is what takes time, the additional time is not enough, and some students are extremely slow. It is not like reading print. It even takes time to read the entire exam question so as to come up with the easy questions, to start with. . (Carol, interview on 5th Jan 2010)

4.4.2 Countering Curriculum-Related Challenges

To counter curriculum-related challenges, the respondents developed strategies that included: peer tutoring, remedial teaching, time management, group discussions, keenness on curriculum based radio programmes, recording lessons, early learning of abacus, memorising of formulae in Mathematics, early learning of Braille, inquisitiveness, enlisting family support and booking readers in advance.

4.4.2.1 Responding to the Challenge of Poor Adaptations of Syllabi

To overcome the barrier of poor syllabi adaptations, the respondents' enlisted family support, requested for remedial teaching and also made use of peer tutoring as explained:

Enlisting Family Support

The respondents enlisted family support from relatives and siblings when schools closed; this helped them to understand better, the concepts in question:

To manage Geography map work I got relatives when I went home to supplement the teacher's explanation because it is was quite abstract to me. Even understanding the compass point, was hard, I could not easily get the concept in class. (Emma, interview on 6th Jan, 2010)

The study also revealed that respondents with congenital blindness sought relatively more explanations and further clarification on issues and topics as compared to their counterparts with adventitious blindness. This may have been due to their never having been able to see before, thus made them find most concepts very abstract.

Remedial Teaching

The respondents sighted remedial teaching as tool that helped them especially in areas that required a lot of imagination and creation of mental pictures, thus they would always request for extra teaching and most teachers would get out of their way to carry out remedial teaching, due to the cordial relationship that the respondents had with their teachers:

We requested teachers to teach us again what they had taught us earlier, especially Mathematics, they would teach us again when they had time; this improved my understanding to some extent. (Carol interview on 5th Jan 2010)

The study also revealed that mastering of formulae and memorising them helped the respondents improve in Maths. Improvement also called for dedicating a lot of time to practice. It called for studying Mathematics on a daily basis and asking sighted colleagues to read the formulae for them and memorizing them as mentioned by a male adventitiously blind respondent:

We improved in mathematics due to practise and a lot of memory work (Derrick, interview on 6th Jan 2010)

A female adventitiously blind respondent who attended an integrated school had this to say:

I told sighted colleagues in the integrated school I attended to read formulae for me then I memorised them. . They also read for me revision books were written in printed and they dictated notes to me when teachers asked us to make notes from text books which were not in Braille. Group discussions also helped me a lot. (Carol, interview on 5th Jan 2010)

The respondents wished chemistry and physics could be adapted to suit their needs so that they too could study the subjects like their sighted counterparts. The respondents felt disadvantaged as expressed thus:

I decided work so hard in Homescience but really wished I could study other practical subjects apart from Biology. Home science has an adapted practical section for students with blindness and I ended up taking it and scoring a B- in it. It was my second best subject. Physics and Chemistry are not adapted so we never study them (Susan, interview on 3rd January 2010).

They tried to make up for the fact that they could not study other practical science subjects by engaging in other areas of academics they thought were 'superior' as reported by a male congenitally blind respondent who attended a special school,

I decided to do French, if someone told me 'I study physics' I told them 'I study French' (Alex, interview on 3rd January 2010)

Reading widely and constantly was also useful to the respondents. The respondents had to read all time as opposed to their sighted counterparts who had the advantage of internalizing content through observation. Constant reading also helped them improve their Braille reading speed as expressed thus:

I read a lot.... I read even what I was not supposed to read as long as it was written in Braille; I even read novels that we were not studying in class. This helped me improve framing of sentences and improved my Braille reading speed; this turned me into a fast Braille reader (Chris, interview on 6th Jan 2010).

Hence learners who read widely and constantly registered general improvement in their academic performance and also increased their braille reading speed.

4.4.2.2 When Readers not Readily Available

The challenge of readers was surmounted through many ways including: widening of friendships, note taking in Braille and tape recording as discussed below:

Widening of Friendships

Findings reveal that widening of friendships to include learners from the other classes was one of the strategies employed by the respondents to negotiate the challenge of lack of readers. This strategy was also adopted by respondents who went to integrated schools. This ensured that they would still get readers even when exams were in session amongst their friends in other classes that did not have exams at that particular time or that day as explained by female congenitally blind respondent in a special secondary school:

I just made friends with the low vision and partially blind students with the full knowledge that they would read for me when I needed a reader... It became manageable during the exam period. If one had many friends from other classes they could get a friend who didn't have exams at that particular time or on that day to read for them when their class members were busy (Mary interview on 8th Jan 2010)

The same sentiments were expressed by a male respondent who was adventitiously blind and went to a special school too:

I widened my friendships to include many low vision students..... In high school, I had low vision friends in all classes so that I did not lack a reader when I needed one, this is because sometimes my classmates would also be busy ...(Ben, interviewed on 3rd Jan 2010).

Respondents, who went to integrated schools, apparently after finally settling down, made friends whom they taught Braille and they, in return, read for them.

When I finally settled down in high school (integrated school), students were amazed at the Braille and how we write and read it, they would always ask me to show them how this is done. I did this all the time and in return I got willing readers. (Dora, interview on 9th Jan 2010)

Thus the problem of readers made the respondents get out of their way to make friends in and outside their classes. Those in special schools had to be good to many students especially the partially blind or low vision and in return get willing readers.

Note- Taking/Making in Braille

To negotiate the problem of readers too, the respondents, tried so hard to make/take notes in Braille or write anything they learnt/heard in class or during academic discussions in braille. This made their revision not totally reliant on readers to some extent so that readers were only called upon when it was necessary. However the need for readers was not totally eliminated. This is explained by a female adventitiously blind student;

I made sure I made good Braille notes so that I could carry out my revision to some extent without readers and without the use of expensive Braille textbook However at some point I had to find a partially blind or low vision friend who could read print to read for me, especially the supplementary books (Susan, interview on 8th Jan 2010)

The same sentiments were expressed by a male adventitiously blind student who attended a special school:

Also, I did not want to burden my readers during revision time so I would listen and write in Braille. I new too I would enhance my reading skills when I read Braille all the time, than relying so much on readers even when I could have made the notes in Braille. Most of the time, readers just supplemented what I had in Braille ,that doesn't mean I did not need readers because for me to write in Braille in and out of class I had to get a reader to read for me printed notes or books..(Edwin, interview on 6th Jan 2010)

The same sentiments were expressed by a different adventitiously blind respondent who attended a special secondary school, thus:

I tried hard to write my notes in Braille when the teacher taught so that I do not entirely depend on readers to read for me print, Braille reading is slower than print reading and most student give up and wait for someone to read print for them later when they are revising. (Emma, interview on 6th Jan 2010)

It emerged from the study that respondents would also ask siblings and other relatives to read for them while at home.

Tape Recording

Tape recording some lessons whenever possible especially in literature also proved useful in minimizing to some extent, the need for readers, as explained below:

Apart from tuning in to radio lessons, especially in primary school, in secondary school I also recorded lessons especially literature and 'fasihi' with a small tape recorder that I had, and then I played it later, I only recorded with the teachers' permission (Carol, interview on 5th Jan 2010)

Thus, tape recording some lessons lessened the need for readers during revision. This is in agreement with the recommendation of Monahan et al (1999) after assessing the results of a 10-year longitudinal study of prospective blind/low vision college students in Florida, USA. It was recommended that different reading media, tape recorders and accessible computers should also be used in high school as this would boost transition of learners with blindness to university.

4.4.2.3 Surmounting the Challenge of Untrained Teachers

As reported earlier, the findings of this study revealed that some of the respondents' teachers were not trained to teach students with blindness. The respondents complained that most teachers lacked the skills to adapt the diagrams and other parts of the syllabus or forgot to do so.

To overcome the challenge of untrained teachers, the respondents made use of peer tutoring, early/timely learning of abacus and cultivated extreme imagination.

Peer Tutoring

To overcome the challenge of untrained teachers, the respondents made use of peer tutoring as explained by a female adventitiously blind respondent:

In mathematics I gained more from peer tutoring and discussions with classmates than what I was taught by the teacher. The teachers were just too fast, they also could not use abacus (Edwin, Interview on 6th Jan 2010)

As reported, these students apparently complemented each other's knowledge with the little they knew or had gained from class. It emerged that in integrated settings, the respondents would benefit a lot from their sighted peers. Freire (1971), in his Theory of Emancipation, as discussed in chapter one of this study sees peer relationships among learners as a determinant of the outcomes of schools. Freire (1971) advocates for cooperative group work, and diverse group interactions amongst learners, thus the findings of the study are in line with Freire's theory.

In line with the above, a female adventitiously blind respondent who attended an integrated secondary school had this to say

I would request sighted colleagues in my secondary school (integrated) to read to me revision books that I didn't have and which were written in print. They also explained concepts to me and dictated notes to me from text books which were not in Braille. Group discussions also helped me a lot (Carol, interview on 5th Jan 2010)

Thus peer tutoring ensured that the students got clarification on issues that they were not sure of from other learners, thus leading to better understanding. This may have translated into good grades that further led to transition to university.

Extreme Imagination and Creativity

This was a tool the respondents developed and used to enhance understanding and to register concepts taught in their brain as the teachers sometimes did little to help.

Art/craft in primary was an issue, especially the concept of colour. It was not adapted. I have never seen colour (turned blind just after birth) thus did not capture the concept of colour, it was abstract to me. The teacher could not just help me understand. I just had to do a lot of unimaginable imagination. (Emma, interview on 6th Jan, 2010)

Early/Timely Learning of Abacus

Respondents cited early learning of abacus, in primary school with a lot of seriousness as the reason behind their improved performance in Mathematics. They advocated for a positive attitude towards learning the abacus and removal of the preconceived idea that abacus was hard to learn. Apparently, students should have their own initiative and learn from other people if the teacher is not well versed with it. They should also demand to be taught as expressed by a male congenitally blind respondent, thus:

Learning of abacus can make a difference in maths. You see we just feared abacus, I thought it was too hard because even teachers did not know it. I believe I could have got a good grade in maths if I learnt how to use it in primary school. (Edwin, interview on 6th Jan 2010)

Apparently those who used it registered improvement in mathematics. The study also found out that mastering the formulae and memorising them together with dedication of a lot of time to practise helped a lot. This, the respondents did out of their own initiative, hence alleviating the need of having to be taught by teachers who may not have understood abacus or other concepts that are concerned with teaching learners with blindness as earlier explained.

This is in agreement with Songe (2005), who researched on Barriers to Total Inclusion in Education of Students with Visual Impairments in the former Kenya Polytechnic as discussed in the literature review section of this study. The findings cited lack of qualified staff as a barrier to total inclusion in education of students with visual impairments.

The study revealed that 5% of the lecturers lacked experience in teaching learners with blindness while 10% lacked knowledge. This, according to the researcher interferes, with the proper implementation of the curriculum.

4.4.2.4 Surmounting the Problem of Inadequate Time:

Inadequate time was surmounted through the development of a time management strategy and early introduction of Braille as discussed below:

Time Management Strategy:

The students developed a time management strategy of reading through the whole examination paper to find questions that they thought were easier then attempted them first, they did not waste time on 'difficult' questions. They gave their best to the questions that they were sure of other than wasting precious time on the questions they were not sure of as explained by a female respondent with congenital blindness who attended a special school:

We would begin with easiest questions so that we did not waste time on hard questions that we were not sure of....I would always read through the exam then come up with easier questions that I would start with..... (Mary interviewed on 3rd Jan 2010).

Early Introduction of Braille

To counter inadequate time in examination, which to some extent resulted from the slow pace of reading Braille, the respondents advised that Braille learning should begin early that is, in primary school so that students can become proficient in Braille early enough. A lot of practise in reading Braille is required to enable students to improve their reading speed as reported by a respondent:

I enhanced my Braille reading skills when I wrote and read in Braille, readers just supplemented what I had in Braille, again you can't tell readers "please repeat, please repeat. So it's good to strive to write, one's own notes in braille so that you also improve your Braille-reading skills because Braille reading is usually slower. (Ben interviewed on 3rd Jan 2010).

4.5 Understanding Physical /structural Barriers

The study sought to establish strategies that enabled students to transit to the university in view of physical and structural barriers. Physical and environmental barriers seemed more threatening at the onset of disability among the respondents who were adventitiously blind (AB). It emerged that adventitiously blind learners feared venturing out on their own once blindness struck; they needed a lot of encouragement to be able to try out on their own and even be able to go to school. This may have been because they may not have been sure of the steps they would make without vision after having been able to see before. The findings of this study revealed that the respondents who went through integrated settings had more barriers to contend with than those who went to special schools.

From the findings too, the sex of the respondents did not determine the number or intensity of physical and environmental barriers encountered. This could have been

due to the fact that the educational physical environment for both boys and girls were the same and as such, the barriers encountered were not determined by gender.

The findings reveal that respondents, who went to integrated settings, had many barriers to contend with than those who went to special schools. This may have been due to the fact that special schools have adapted facilities and a disability sensitive physical environment. This was expressed by an adventitiously blind female respondent who went to an integrated secondary school:

When I went to special school, there were no big problems to deal with. The environment was to some extent disability friendly. I even knew if I fell I would not hurt myself. (Dora, interview on 8th Jan 2010))

Another adventitiously blind female respondent who went to an integrated secondary school had this to say:

When I went to primary school (special), I just felt at home .I knew there would not be many physical obstacles.....but when I went to secondary school (integrated) I was so afraid to walk alone, it took me along long time to try out on my own. . (Carol, interview on 5th Jan 2010)

4.5.1 The Physical / Structural Barriers

As pertains physical/structural challenges, four main barriers have been established including: The challenge of mobility, the challenge of Organizational skills, and the challenge of guides.

The Challenge of Mobility

Mobility as an issue arose from the respondents' need to move from one position to the other both at school and at home. The need for movement was necessary in both integrated and special school settings to enable the respondents to access certain services. In the special school settings, the respondents had to move daily to their dormitories, administrative offices and to the toilets and bathrooms and also needed to

do personal chores like washing and cleaning, thus, encountering various challenges in the process.

Mobility was a big issue on opening and closing days too, as stated by a female adventitiously blind respondent:

I could not trust myself, sometimes I thought I would bump into wicked men as I tried to find my direction, I had heard of a blind girl who was sexually abused, she fell into a trap of wicked men after being misdirected (Susan, interview on 8th Jan 2010)

Organizational Skills as a Challenge

This challenge entailed accessing or finding objects or requirements in the residential rooms, classrooms or other environments. This is revealed in the sentiments expressed by an adventitiously blind male student who attended a special school, thus,

Finding an item was sometimes a nightmare, one could waste a lot of time trying to tangibly search for items that one had forgotten where he/she placed them or had been moved without one's knowledge. (Chris, interview on 5th 2010)

The Challenge of Guides

It was hard to afford a guide as reported by a male adventitiously blind respondent, thus:

Some guides wanted compensation for the hours they lost from work while they were out with us, so apart from the guide's transport we also paid some money as compensation. (Chris, interview on 6th Jan 2010)

It was challenging too, to find a dependable guide, when it was imperative to have one. A male congenitally blind respondent expressed thus:

I needed guides to take me to bookshops, education offices and sometimes to help me carry my luggage. On opening days it was hard to carry a large luggage, it is hard to carry a luggage when one is blind. Some of the guides I got did not know the places I wanted to be taken to. Most close relatives were not always willing; they looked at it as waste of time, because they knew since they were relatives, they would not be paid. (Alex, interview on 3rd Jan 2010)

4.5.2 Responding to Physical / Structural Barriers

These include strategies invented by respondents to overcome the challenge of mobility, the challenge of poor organisational skills and the challenge of lack of guides.

4.5.2.1 Surmounting the Problem of Mobility

This challenge was overcome through the following ways:

Building up of Confidence and Courage

The fear of venturing out by learners who became blind adventitiously apart from being surmounted through constant encouragement, also called for the building up of courage and confidence within the students themselves as revealed in the following excerpt by a female adventitiously blind respondent:

At one point I almost gave up, I just wanted to stay in the house, I never wanted to leave the house except with a guide but I told myself that I didn't want to be dependant in future. I then got courage to start walking around. I had a longing for school that is how I began trying to walk around on my own (Carol, interview on 5th Jan 2010).

Travelling in Groups

The challenge of mobility was also tackled through travelling in groups as explained by a male adventitiously blind respondent who attended a special school throughout his schooling, thus:

Students from the same direction would travel together on closing days for easy identification should a problem arise. We booked the same vehicle. This also saved us the cost of having our parents come to pick us. (Chris, Interview on 6th Jan 2010)

In integrated schools the findings reveal that learners with blindness could join the group of students who came from the same direction with them as most students in

integrated schools were not visually impaired. The respondents avoided travelling alone. This is also reported by a female adventitiously blind respondent,

On closing days I did not leave the company of the students with whom we came from the same place, I would travel with them till I reach home (Dora, interview on 8th Jan 2010)

This helped the students to cut down on the costs that they could have otherwise incurred in getting a guide or relative to pick them from school on closing days. Hence, the money that could have been used to get a relative /guide to pick them may have been put into other relevant use.

Leaving Early

To keep time when changing venues at school, the respondents left earlier so that if they lost direction, they would still have enough time within which to find the right direction and still arrive at the venue in good time.

After break I would start walking towards the classrooms earlier than the sighted students because I wanted to master the paths alone, this ensured that I still reached classes at the right time even if I confused the paths. In my secondary school (integrated), the classes were far from the dining hall (Carol, interview on 5th Jan 2010).

Cognitive Mapping

The students also became keen and enhanced the use of their mental abilities, when moving around otherwise known as cognitive mapping to guard against losing their sense of direction as revealed by male congenitally blind student who went to a special school:

I would be very keen when visiting a new place....like my journey to secondary school. I listened and drew mental images of the route to school. I wanted to register the directions in my mind because I knew I would frequently have to use the route again. (Alex, interview on 3rd January 2010)

The White Cane

When visiting new places in the school or when they went to places they rarely visited, the respondents made use of white cane. According to the respondents the white cane was important because paths or ways could change overnight. There too, may be new obstacles on the way which the white cane may help to evade or detect as reported:

Students (blind students) these days think using white cane is a weakness, they don't like using it. It helped me a great deal. It even helped me to master the landscape faster at school, I listened to every sound it made as it hit the ground and I knew then, the kind of environment I was in. The white cane helps students to sense obstacles on the way. (Edwin, interview on 6th January 2010)

The use of the white cane was also recommended by the respondents during orientation as this cane produces different sounds when hit or when it comes into contact with different surfaces or landscape features:

I always had my white cane during orientation so as to detect any change in the sound produced as I hit it the ground, this helped me to master the landscape well and helped me in cognitive mapping... (Chris, interview on 6th January, 2010)

Hence the white cane was used by both AB and CB learners regardless of whether they attended special or integrated schools during orientation and familiarisation. The importance of the white cane was aforementioned by Vancil (2001) under Factors that Enable Transition to University for students with blindness in the Literature review section of this study. The author highly recommends the use of the white cane during orientation and in mobility in his report called Steps to Success in College for Students with Visual Impairments in USA. Accordingly the use of the white cane increases cognitive familiarisation with the environment.

Inquisitiveness

The findings revealed that an inquisitive and outgoing nature, too, had to be developed to enable the respondents to enquire with ease whenever they doubted the environment as they moved around, as revealed by a male adventitiously blind respondent:

I learnt over time that I had to ask people around me for help. If you do not ask you can't get anywhere. I had to become social and I would always appreciate after being assisted (Edwin, interview on 6th January, 2010).

Physical /Environmental Orientation

Apparently, the institutions arranged for orientation when students were admitted to the institutions. This happened in both integrated and special school settings but as revealed by the respondents, the orientation was either not enough or it was done hurriedly.

The respondents thus asked friends for good orientation even after the administration of the schools had oriented them because according to them, their friends would not orient them hurriedly and it would also be done informally consequently making them learn the environment in an easier and relaxed way as expressed in the following excerpt:

I preferred to be oriented by my friends because they would not be in a hurry. I would ask my friends all kind of questions regarding the landscape because we would have a lot of time with them than with the administration (Mary interview on 8th Jan 2010)

This may have led to good mastery of all structures in the environment thus making transition from one venue to the next or from one subject to the other swift, leading to conservation of time. This ensured that the respondents had more time for their studies.

Learners with blindness also reinforced orientation by venturing out on their own whenever they were free so as to master the environment and other structures therein.

One had to become daring but careful so as to know the landscape well.

4.5.2.2 Responding to the Problem of Poor Organizational Skills

To enhance and improve ones organization skills, the respondents had to prohibit/limit movement of items anyhow in their hostels or classes. Without proper organizational skills, students found it difficult to access items in their hostels or other environments, hence their friends, sighted and non- sighted were made to understand that they shouldn't move items in the dormitories or classrooms or even at home, from their positions. They were also meant to know that should they move things by any chance, they should return them to their initial positions. Accessing or finding objects in the rooms or other environments sometimes became a nightmare as expressed by a male congenitally blind respondent who attended a special secondary school thus:

If you do not keep items properly for example pens and books you could spend a whole day looking for them...we told friends not to move things and also to return them where they are kept should they move them around... (Alex, interview on 3rd Jan, 2010)

This strategy is in agreement with Vancil (2001) who advocates for having items in their usual position all the time and having a back pack with compartments to help blind students to organize their items, thus minimize time wasted in looking for misplaced items.

4.5.2.3 Surmounting the Challenge of Guides

Booking Guides in Advance

It was sometimes hard to find a ready guide when it was imperative to have one. To surmount this challenge the respondents would book them early enough as expressed by a female congenitally blind respondent:

We needed guides to take us to bookshops, education offices and even on opening days, we just had to learn to tell them early enough so that they do not programme other things on that day. Even close family members had to be booked in advance (Mary, interview on 8th Jan 2010)

Whenever the respondents could not find an appropriate guide in the family especially when they needed to visit a place not known to family members, they would have to find an appropriate guide, outside the family.

Apparently, the respondents used some of the friends they had made as guides to take them around especially during the initial stages of familiarisation in the school. This is expressed by a female respondent with adventitious blindness who went to an integrated school.

Then I made many friends, I needed them to show me where the tap, washroom and even the cloth line were. I befriended any one I came across and removed their fears about blind people. At first they thought that I would depend on them entirely (laughter...), then I proved to them that I could do so many things on my own even though I could not do without them. Thus I got more friends (Dora interview on 8th Jan 2010)

The respondents' inability to participate in regular vigorous sports such as rugby, football and even netball as their sighted counterparts due to physical and structural barriers in sports and recreation was overcome through excelling in the special games they participated in. For instance they participated in indoor football with a lot of zeal, as explained:

I may not have participated and competed in most sports and games due to my lack of sight, but nobody would beat me in our football (for the blind), last week we had a competition here at the university and so many of us participated....being able to participate makes me feel just like other people who have sight. (Chris, interview on 6th Jan 2010)

4.6 Understanding Economic Constraints

The study sought to establish monetary and material barriers that the learners with blindness encountered and the strategies employed by respondents to surmount these barriers. The findings reveal that the economic constraints were neither dependant on the sex of the respondent nor on the type of school attended.

4.6.1 The Economic Constraints

Under this theme, various understandings of economic constraints have emerged. Subsequently, students adopted various strategies to surmount the economic constraints.

The Four key economic barriers that have been established include:

4.6.1.1 Lack of Fees

The study revealed that lack of fees was a major challenge that threatened the Respondents' pursuit of education:

I stayed at home for one year after class eight because of lack of fees I wrote letters to various organizations and finally succeeded and went to Bahari girls (integrated school). Staying at home really made me long for school and when I went I worked very hard. I am thankful to Lillian Foundation for sponsoring my education. I wanted to become a nurse. I want to improve the economic situation of my family. I am still determined. (Carol, interview on 5th Jan 2010)

It was apparent that while students with sight also encountered these challenges, the fact that the respondents could not engage in casual or temporary work even after completion of secondary school like their sighted colleagues worsened their situation.

This made them totally dependant financially as they waited to transit to university after completion as explained by a male congenitally blind respondent who had attended a special secondary school, thus:

When I was in form two, I just wanted to slash or plough for someone so that I could get transport back to school, but nobody would trust that I would slash or plough well because I can't see. It was made worse by the fact that I would always need transport for two (plus guide) whenever I travelled far. At one point after form 4, I wanted to come here (Nairobi) to find out what the requirements for enrolment in an undergraduate course were, but there was no money, and I could not get manual work in the village like my sighted peers ...Manual work in my village involved digging, harvesting sugarcane and slashing. (Alex, interview on 3rd January, 2010)

The same sentiments were expressed by a male adventitiously blind respondent who had also attended a special secondary school:

After finishing form four, youths in my community engaged in menial jobs ,the money helped them to transit to colleges or even to the university, sometimes I really wished I could take part in the menial work because the money obtained would cater for transport and subsistence at the university (Ben, interviewed on 3rd January,2010)

4.6.1.2 Parental Neglect

Parental neglect worsened the respondents' economic situation .In some instances the respondents would only be given financial and material assistance by their parents only after their non disabled siblings' needs had been met. This called for strong self advocacy skills (as expressed above under social issues). Most of the time, the respondents needed more transport as they also needed to transport the guide.

4.6.1.3 Lack of Essential Materials

There were few braille machines, writing frames, Braille papers, Braille books, typewriters or tape recorders. They could not adequately practise writing using Brailers to improve their Braille writing speed at home. The respondents reported shortage of Braille papers, Braille textbooks, and Braille machines. Findings reveal

that shortage of Brailers was acute in primary that the respondents had to resort to the use of slates and styluses which were quite slow and cumbersome as reported by a female adventitiously blind student thus...

We ended up using stylus and slates at school because the brailers' were few...they were only given to students in upper primary....it was not easy to learn Braille then... (Susan, interview on 8th Jan 2010)

This could have been due to lack of finance as many learners with blindness apparently depended on Braille donations from well-wishers. None of the respondents interviewed bought their own brailers. The findings also reveal that these students also felt left behind in computer knowledge (ICT) because they could not afford talking computers which they cited as being an important component of learning. Only a few of them had ever used computers with jaws.

4.6.2 Responding to Economic Challenges

This section discussed strategies invented by respondents to counter the challenge of lack of fees and the challenge of lack of essential materials.

4.6.2.1 The Challenge of lack of Fees:

The challenge of lack of fees was overcome through:

Seeking Sponsorship

The respondents' surmounted economic constraints in their pursuit for education through hard work and persistently seeking sponsorship/scholarships as pointed out by a male adventitiously blind student who went to a special secondary school:

I had perpetual fee problems until I got a sponsor in secondary. I would be sent home all the time, I applied to four organization then finally CBM (Cristefell Blindel Missiom) accepted to sponsor me. (Ben interviewed on 8th January, 2010).

It was also clear that not all who applied for these sponsorships got them as expressed thus:

There were other students who did not receive sponsorship. Some dropped out school, my class prefect in St.Oda in class six dropped out, I never saw him again, we all applied for sponsorship but some did not succeed. Other could not even get transport home when we closed school (Susan, interview on 8th Jan 2010)

The respondents were daring enough to seek help from organizations/personalities that had previously not aided students as explained by a female congenitally blind respondent who attended a special secondary school:

I had not heard that Citizen Broadcasting Cooperation offers educational sponsorship, I just decided to try. I had gone to KBC (Kenya Broadcasting Cooperation) but they told me that they do not sponsor students. I then went to Citizen (television channel). They told me that they would communicate and they haven't. KTN (Kenya Television Network) pledged to pay kshs.40, 000 for me for this semester when I went there a second time. I went to check yesterday, they said the cheque would be ready Friday this week. Then I would be able to register for this semester, I hope the registration deadline would not have passed. (Mary, interview on 8th Jan, 2010)

The same sentiments were expressed by a male congenitally blind student, thus:

I thought about it for many days then decided to go to Kakamega Town Hall and explained my situation to the Mayor whom I had not met before. The mayor gave me Kshs2500. I then got a guide and came and filled in the university entry forms, this was Nov 2008 ... (Alex interview on 3rd January, 2010)

Thus persistence and boldness in the respondents' quest for economic assistance proved useful whenever the respondents were in need.

The respondents also had acute financial problems to the extent that they couldn't get transport back home. As stated by a male adventitiously blind respondent, thus:

I had problems up to class four then CBM came in to help. Parental support was very minimal... I was given bus fare once by school chaplain because I wasn't able to go home when we closed school (Chris, interview on 6th Jan 2010)

At times they would inform the school administration or teachers of their financial hardships and they would bail them out. The teachers subsequently formed organizations to help needy students with subsistence as expressed by male congenitally blind student who attended a special secondary school, thus:

When I was not able to go home when we closed school in form one in Thika High School for the Blind, teachers included me in the group of very needy students and from there hence fourth they provided me with transport when schools closed. They would also buy us subsistence items from the money they contributed. The teachers really helped us. (Alex, interview on 3rd Jan, 2010)

To get sponsorship, these students had to get out of their way to apply and even visit the organizations. Apparently, getting sponsorship needed a lot of boldness and persistence

I stayed at home a whole year after finishing Form Four because my sponsorship ended at secondary level, I scored an B- and I wanted to further my studies, I feared becoming a beggar like some blind people turn out to be ...I ended up here...am just here (Kenyatta university) but I have not registered, since the semester began I have gone back home four times to get fees. I have tried to seek sponsorship and luckily, I've got Thirty Thousand Shillings loan from HELB (Higher Education Loans Board), you know they began giving loans to self sponsored students, but they give very little. Then I went to Citizen and KTN (Kenya Television Network) to solicit for more assistance (Mary interview on 8th Jan, 2010)

4.6.2.2 Countering the Challenge of Lack of Essential Materials

Lack of essential learning material was surmounted through the use of improvised materials, keenness on curriculum based radio programmes and soliciting of donations/charity.

Use of Improved/Substitute Material.

To counter the challenge of lack of essential materials and to ensure continuity, the respondents resorted to the use of slates which are quite slow and cumbersome and whose use had been replaced by Braille. This is because they encountered an acute shortage of Braille machines due to their high cost. However slates ensured that the respondents attempted assignments that they were required to submit when schools opened though the use of slates and stylus slowed down acquisition of Braille skills. But the option was better than not attempting the exercises at all. This is expressed by a female adventitiously blind respondent thus:

I just attempted the exercises using stylus and slates which we had long stopped using. But this is what I could find at home. Stylus and slates are so hard to use and quite slow...but all in all I did the assignments (Emma, interview on 3rd Jan, 2010).

Thus the use of improvised material/alternative material like stylus and slates helped alleviate the problem of shortage of Braille machines.

Keeness on Curriculum Based Radio Programmes

Students also surmounted the problem of shortage/unaffordable Braille text books through several strategies including keeness on curriculum based radio programmes as these programmes did not require the use of the sense of sight. This was of great help especially in primary as most subjects they learnt also had radio presentations. They would note the time when this programmes would be broadcasted then made it routine to listen, while at school, this was organized by the administration. In high school there were a few radio programmes for literature and 'fasihi' based on set books. These were beneficial to the respondents:

Literature and fasihi were well discussed on radio; this supplemented what we learned in class without the need for readers....I would not miss any of them during school holidays. (Alex, interview on 3rd Jan 2010)

To lessen the impact of shortage of Braille textbooks which were also expensive they tried so hard to write notes or everything they heard in class or during discussions (in Braille). This was expressed by a male adventitious blind respondent as follows:

I made sure I wrote good Braille notes so that I could do my revision to some extent without readers and without the use of expensive Braille textbook ... However at some point I had to find a partially blind or low vision friend who could read print to read for me, especially supplementary books (Edwin interview on 6th Jan, 2010).

A female student with adventitious blindness had this to say:

Recording of some lessons was beneficial. I recorded lessons especially analysis of literature set books, and then I would listen later. This killed the monotony of having to read Braille all the time during revision (Carol, interview on 5th Jan 2010).

Seeking Assistance

Students too sought assistance in order to acquire some requirements as explained thus:

I wanted to do my own work at home and to improve my own skills in Braille yet I did not have one, one day I went to Lillian foundation and explained my problems to them. They understood and they gave me a Braille machine which I use at home, I was so happy. I could have continuity at home. I am now fast at reading Braille... (Ben, interviewed on 3rd Jan 2010)

Thus the respondents had to get out of their way to seek assistance and charity.

4.7 Emerging Constraining Issues

It was clear that social relationships mixed with intimate cross sexual relationships lead to declined performance thus, respondents who transited to university kept off intimate or sexual relationships as explained in the following excerpt:

I could not do such a thing, I just wanted to pass my exams, two girls got pregnant while we were in form three and they went home and only one came back and she failed her exams. If you engage in other relationships whether you are blind or not, you cannot do (perform) well, but it is worse when you are blind because one needs to do a lot. In mathematics, one has to cram figures ... In English and Kiswahili you have to read over and over and to find friends to help you with reading of texts not written in Braille. If you mix this with other relationships it becomes very hard to pass. (Mary, interview on 8th Jan 2010)

In response to the same inquiry, a male respondent had this to say:

You cannot mix the two; in fact there is no time. Only those who didn't care engaged in relationships and they finally failed their exams. One has to read all the time (Chris, interviewed on 6th Jan 2010)

Teaching Braille was the other issue as Braille was programmed on the time table as were other subjects to help the students improve their Braille skills. These took up a lot of time that was meant for revision and completion of assignments as the respondents had an extra subject to master pitting them against their sighted counterparts further.

The findings also reveal students also felt left behind in computer knowledge because they could not afford talking computers which they cited as a very important component of learning. Only a few of them had ever used computers with jaws. Thus they felt behind in ICT.

4.8 Philanthropic Attributes

Teachers, in some of the schools attended by the respondents, formed unions to which they contributed monthly to help students who were well behaved, hardworking and needy as reported by a male adventitiously blind respondent who attended a special school:

When the teacher on duty noticed that I did not have subsistence items when I reported, he asked me how I would make it through the term without soap and shoe polish. I told him I would borrow from other students because I did not have any money; I told him a well-wisher had given me transport to school. The teachers confirmed that my class work was good and so they included me in the list of students they would assisted. (Alex, interview on 3rd Jan 2010)

CBM and Lillian foundation played an important role in the provision of scholarships and material donations to students with blindness.

I had perpetual fee problems until I got a sponsor in secondary. I would be sent home all the time, I applied to four organization then finally CBM (Cristefell Blindel Mission) accepted to sponsor me (Mary, interview on 8th Jan 2010)

The following sentiments were also expressed by a female respondent:

Staying at home really made me long for school and when I finally went, I worked very hard. I am thankful to Lillian Foundation for sponsoring my education. I want to improve the economic situation of my family. I wanted to become a nurse but I couldn't pursue it because I am blind . I am still determined to help my family, though I will now become a teacher. (Carol, interview on 5th Jan 2010)

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter includes summary, conclusion of the findings based on the objectives, recommendations based on the findings and recommendations for future research also based on the findings.

5.2 Overcoming Social Barriers

Ways through which learners with blindness negotiated social barriers that they encountered in the course of their schooling included: being friendly to teachers, befriending sighted and non sighted peer, taking part in sensitisation and demystification of disability, accepting themselves, ignoring negative sentiments and developing an inquisitive nature. The respondents also took their guidance and counselling sessions seriously at secondary school level. Participating in extracurricular activities too helped build confidence, remove self pity and provide a healthy break from class routine.

5.3 Surmounting Curriculum-Related Challenges.

The respondents tape recorded lessons whenever possible and this proved very helpful as they would re-play the tapes whenever necessary thus lessening their need for readers.

Respondents cited early learning of abacus, with a lot of zeal as the reason for their improved performance in mathematics. The respondents also developed a time management strategy of reading through the whole examination paper to find questions they thought easy then they attempted them first.

Being keen on educative and curriculum- based radio programmes also helped the children lot. Apparently the respondent's marked the time when the programmes would be broadcasted then made it a routine to listen to them. This was especially useful in Literature and Fasihi (literature in Kiswahili) as the discussions on radio were based on set books.

Inquisitiveness and enlisting family support was helpful in that parent and siblings would read for the respondents and also explain concepts that the respondents found abstract. This enhanced their understanding.

Being active and paying attention in class also helped a great deal as it was easy for students with blindness to loose concentration especially when they were unable to create the right mental pictures of the concepts they learnt. The respondents also involved themselves in academic discussions with both sighted and non-sighted peers.

5.4 Overcoming Economic Constraints

The ways through which students with blindness circumvented economic constraints in the course of their schooling included:

Aggressiveness and persistence in looking for sponsors, especially when faced with the challenge of lack of school fees. Findings revealed that the learners never relented in their search for sponsorship.

Working hard in class was the other way the respondents surmounted the barrier of economic hardship as it was easier for a student with good grades to get a sponsor than a student with poor grades. Sponsors looked out for students who performed well.

Willingness to improvise or use alternative equipment or materials like slates, when the cost of modern, recommended materials was out of reach also helped the respondents' surmount economic barriers. For instance the respondents resorted to the use of slates when the cost of buying a personal Braille machine for use at home was out of reach. The improvised materials ensured continuity at home.

Sharing and willingness to borrow what one lacked also helped the students as they would benefit from materials that their colleagues had and which they couldn't afford due to economic constraints.

5.5 Surmounting Physical and Structural Barriers

The respondents, through the friends they had made got guides to take them around, especially during the initial stages of familiarization at the school. The findings revealed that an inquisitive and outgoing nature had to be developed to enable the respondents to enquire with ease whenever they doubted the environment.

The respondents also asked friends to orient them, even after the administration had oriented them because according to them friends would not be in a hurry and it would be done informally making them learn the environment in an easier and relaxed way.

Building up of inner courage and confidence within the students who were adventitiously blind was an important factor as the physical and environmental barriers seemed more threatening to them compared to those who were born with blindness.

The respondents also ventured out on their own whenever they were free so as to master the environment and other structures around them. Whenever they needed to go to a venue or to change venues the respondents left earlier to enable them have some allowance of time should they lose direction.

When going to a new place inside the school compound or a place they rarely visited, the respondents made use of the white cane. According to the respondents the white cane was important because paths or ways could change overnight. There too would be new obstacles in the way which the white cane would help evade or detect. The respondents also developed and enhanced the use of their mental abilities. They engaged in cognitive mapping with their brain to guard against losing their sense of direction.

Respondents overcame the challenge of travelling to and from school on closure and opening of schools by travelling in groups. Where possible they ensured they had a low vision or partially blind student in their groups. This helped them cut the cost of having to hire a guide. They also ensured they travelled in their school uniform for easy identification. They would do the same on opening days.

The respondents recommended limited movement of items in the dormitories, classrooms and at home, from their usual positions. This ensured that the items would be found with ease whenever needed.

The respondents' participation in special games (mostly indoor) with zeal boosted their morale and brought their talents to the fore.

5.6 Recommendations

5.6.1 Recommendations to Teachers

Teachers should play a role in eliminating negative perceptions and build high expectations amongst students with blindness as low expectations or no expectations at all interferes with their educational aspirations.

Teachers should also encourage students with blindness to utilize all kinds of alternatives at their disposal like audio taping lessons and taking notes (dictated notes) in Braille as according to the respondents, these may enhance learning and understanding.

Teachers should encourage mixed group discussions in integrated settings as blind students obviously benefit a lot from peer tutoring and group discussions as reported by the respondents.

Orientation of the physical environment and of other structures in the environment should also be taken seriously by teachers and administrators of academic institutions as the findings revealed that good orientation helped learners with blindness adapt to the physical/ structural environments easily.

5.6.2 Recommendations to Parents

Parents should also ensure strong sibling and peer support towards learners with blindness and ensure they are grounded in the family. This may increase their confidence and result in high aspirations in education.

There is also need for parents to guide and counsel the learners and sensitize them on issues of sexuality as the respondents reported cases of their peers (females) dropping

out of school due to early pregnancies. Parents should carry on with guidance and counselling while the learners are at home. Continuous guidance and counselling may make the learners to focus and concentrate on academic work.

5.6.3 Recommendations to the Ministry of Education

The Ministry of Education, should allocate 30 more minutes during assessment of learners with blindness to enable them compete fairly with their sighted colleagues as Braille reading takes a longer than reading print and the 30 minutes already allocated is not enough.

The Ministry of Education should also programme early learning of Braille. Braille learning should begin at lower primary level. According to the respondents this would result in faster Braille reading speed.

Affordable Braille textbooks are required, thus the Ministry of Education should translate supplementary books into Braille so that students with blindness do not rely on readers. Kenya Institute of Education (KIE) ,which plays a leading role in curriculum development need to examine the content of what is taught to learners with blindness, select entry points to the curriculum and determine appropriate accommodations and modifications for instruction and assessment.

Respondents mentioned that early learning of abacus helped them improve in mathematics, thus there is need for the Ministry of Education to programme for the introduction of abacus in the early years of school to help improve the students performance in mathematics

The Ministry of Education should provide learners with blindness with assistive technology like the purchase and use of talking calculators and computers with jaws.

According to the respondents the use of talking calculators would help level the playground between learners with blindness and their sighted colleagues and greatly improve their performance in mathematics.

The Ministry of Education should improve the ability of blind people to access education and the world in general by mobilizing educational resources and raising public awareness of the issues relevant to blind people. Accordingly, the strengths and potentials of blind people and the challenges they face should be brought into the public eye. Further, the Ministry of Education should make integrated school environments disability sensitive to enable learners with blindness fit and benefit from the arrangement. The respondents reported having fitted better in special schools because the structures and environment were sensitive to their disability.

The government needs to support disabled persons through implementation and enforcement of Persons with Disability Act as its enforcement would ensure that all learning environments are disability sensitive. The respondents reported that integrated environments were not disability sensitive.

5.7 Recommendations for Further Research

Research should be carried out to establish factors that have enabled transition to University for learners with other disabilities including those with hearing impairments and physically handicap as this study focused only on learners with blindness.

A quantitative research may be carried out to enable comparison of results with the results of this study as this one adopted a qualitative approach.

Further, research could be done in other universities on factors that enable transition to university of learners with blindness as this study focused only on Kenyatta University.

This chapter has highlighted the summary of major findings of the study, conclusions, recommendations as well as recommendations for future research. The chapter marks the end of this thesis.

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APPENDICES

Appendix I: Interview guide for Students With blindness

| Theme | Question | Probes |
|--------------------------|--|--|
| Family background | Please tell me about yourself? What curriculum-related challenges have you encountered? (a) What means did you utilize in countering these challenges? | (i) Home background, age, onset of disability, occupation of parents, age/time when began schooling, kind and names of schools attended from nursery to university. (ii) If adventitiously blind: -How did blindness affect academic performance, if affected adversely how you did recover? |
| Social issues | What are the social factors that affected your education beginning from nursery school? a) Out of the above factors are there any that i) Propelled you up the education ladder? ii) Bugged you down and affected your education negatively? b) How did you circumvent those that had a negative effect on your education? | Stigma, myths about disability, self esteem Presence\ lack of Social relationships, Presence\ lack of peer support, parental negligence |
| Economic Issues | What are the economic factors that have influenced the course of your schooling from pre-primary school till now? a) Are there any that threatened your pursuit for education? If yes how did you circumvent the economic constraints that threatened your education? | -Lack/availability of money to: purchase specialized equipment, adaptive facilities, enable visits to the doctor, and pay fees.) -Labour market |


| | | |
|------------------------------------|---|---|
| Physical /structural issues | What are your experiences and means you invented in negotiating physical and structural barriers? | Presence/absence of large doorways, unfriendly landscape, special toilets, location of classes, adapted laboratories, location of hostels/ dormitories/residential rooms) |
| Curriculum issues | <p>What curriculum-related challenges have you encountered?</p> <p>(a) What means did you utilize in countering these challenges?</p> | <p>-Construction of diagrams in Geography, Mathematics, Art and Craft, Art and Design,</p> <p>-challenges in Practical exams, Physical Education (P.E).Long calculations and dealing with large numbers in maths.</p> <p>-Challenges of KCPE and KCSE. Marks and grade obtained. (How did you manage to get the marks?) Were there other students who didn't get c+ and above? Why?</p> |

Appendix 2

BUDGET

The budget for this thesis was:

| <u>ITEM</u> | <u>AMOUNT</u> |
|------------------------------|-------------------------|
| 1. Stationery | Kshs5, 000. 00 |
| 2. Piloting | Kshs5, 000. 00 |
| 3. Research Assistant | Kshs5, 000. 00 |
| 4. Typing and photocopying | Kshs25, 000. 00 |
| 6. Thesis typing and binding | Kshs20, 000.00 |
| TOTAL | Kshs. 60, 000.00 |


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Date:
4th February 2011

Josephine Nyanga Oranga
 Kenyatta University
 P. O. Box 43844
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RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*factors enabling transition to University for students with blindness in Kenya: A case of Kenyatta University*" I am pleased to inform you that you have been authorized to undertake research in **Nairobi Province in Kenyatta University** for a period ending **30th June 2011**.

You are advised to report to **the Vice Chancellor, Kenyatta University** before embarking on the research project.

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

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