

**FACTORS HINDERING TEACHING OF ORIENTATION  
AND MOBILITY TO STUDENTS WHO ARE VISUALLY  
IMPAIRED IN THIKA PRIMARY SCHOOL FOR THE  
VISUALLY IMPAIRED KENYA**

**BY**

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teaching of*



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# DECLARATION

## STUDENT:

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

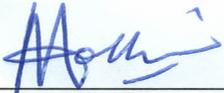


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This thesis has been submitted with our approval as university supervisors.

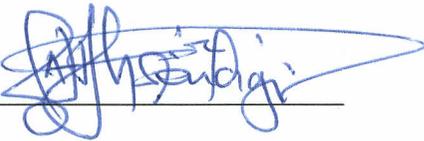
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## DEDICATION

The thesis is dedicated to my husband, Mr. Gerishom Milimu, my son Fadhili and daughters Joy and Faith who patiently endured my absence from home while undertaking this course.

More particularly my husband for his understanding and the loving concern he showed me and our children who needed my presence during their teenage years.

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## LIST OF ABBREVIATIONS

- A.D.L. – Activities of Daily Living
- C.B.M. – Christoffel Blinden – Mission
- D.M.S.B. – Detroit Metropolitan Society for the Blind
- K.I.E. – Kenya Institute of Education
- K.I.S.E. – Kenya Institute of Special Education.
- O & M – Orientation and Mobility
- R.C.S.B. – Royal Commonwealth Society for the Blind
- V.I. – Visually Impaired

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## ABSTRACT

The study was about orientation and mobility, which enable persons with visual impairment to move about and be in control of their environment. The problem of the study was to investigate the factors hindering teaching of orientation and mobility to students who were visually impaired in Thika Primary School for the Visually Impaired. The design was a descriptive survey study, which attempts to describe characteristics of subjects, phenomena, opinions, attitudes, preferences and perceptions of persons of interest to the researcher. For the purpose of the study, the target population was the head teacher, 27 teachers and 107 standard four to eight students of Thika School for the Visually Impaired. A purposive sampling technique was applied to identify the target population. Data was collected using two instruments, questionnaires and classroom observation schedule, all personally designed and developed by the researcher. Data was analyzed qualitatively, findings from the study showed that, 59% of the teachers supported the orientation and the mobility skill to be very important skill to be taught to students who are visually impaired. Despite of 81% of the teachers trained as mobility instructors, data revealed that orientation and mobility lessons were not included in the school timetable by 74% and 56% of the teachers confirmed that there were no enough mobility canes for training. In relating the researcher's findings, it was quite clear that there was need for the subject to be taught to students who are visually impaired before leaving primary education because most of them end their education at primary school level, hence they ended up in communities which had many places to interact with. The provision of mobility canes after class eight were vital in their daily living; they needed them permanently for individual use. From the research it was confirmed that the teaching of orientation and mobility was not effective in the school for the visually impaired due to shortage of instructors and enough mobility cane. The following recommendations were made; Teachers should give orientation and mobility training importance like other academic subjects and students to be encouraged to practice orientation and mobility skills. Ministry of Education to provide more funds to purchase for enough white canes.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

Education aims at giving children with visual impairments knowledge of the realities around them, the confidence to cope with those realities, and the feeling that they were recognized and accepted as individuals. Organized efforts to educate children who are visually impaired in Kenya are of comparatively recent origin. It was not until 1946 that the first school for the visually impaired children was established at Thika town.

Mobility instruction did not come about by chance, during the past decades. It was as a result of most visually impaired people being confined to narrow environments such as the school, workshop and homes for the visually impaired; during that period mobility was of no great importance. The fact that individuals who were visually impaired were expected to move about, formal training became essential. Orientation and Mobility, as a fundamental integral activity in the lives of persons with visual impairments, were first felt as an absolute necessity after the Second World War. Formal education for the people with visual impairments in 1960's included a number of highly developed arts and techniques, such as touch reading/writing, tumbling, chair canning and piano playing and tuning, but general competence in living without sight was left to the ingenuity of people with visual impairment themselves. That eventually led to more emphasis on teaching of orientation and mobility skills.

The earliest record of orientation and mobility training in Kenya date back to 1974. A private international organization from West Germany, Christoffel Blindenmission, sponsored the first

workshop. This organization held the workshop at the invitation of the Ministry of Education to train a group of teachers in Kenya's schools for the visually impaired in several subjects including orientation and mobility. The mobility instructor was Mr. Theodore Reusch. It was hoped that those teachers trained during one-month workshop would return to their schools and instruct other teachers and students in Braille, abacus, activities of daily living, and orientation and mobility skills. However without an orientation and mobility curriculum, an inspector to enforce the teaching of the skills and a national training course to train additional teachers, it was difficult for orientation and mobility to become a significant subject in the curriculum. (Tooze,1981)

Between 1978 and 1979, another attempt to introduce orientation and mobility in schools for the visually impaired in Kenya was made by a private British agency, the Royal Commonwealth Society for the Blind (RCSB). A noted English mobility teacher Doris Tooze conducted a short course of about one month in orientation and mobility. However, like the Christoffel Blindenmission course, it was not able to sufficiently influence the ministry of education officials and the schools to include mobility training in the school curriculum. (Mullen 1989). Some skills were taught by trainees to some of the visually impaired students but for various personal and professional reasons. The teaching of orientation and mobility as a critical skill in the lives of students with visually impairments was abandoned. (Tooze 1981).

The next phase in the development of orientation and mobility occurred in 1982 when the Ministry of Education granted a work permit to a Christoffel Blindenmission mobility teacher, Inge Danielcek, from Switzerland. Danielcek was assigned to St.Lucy's School for the visually

impaired in Egoji-Meru, where she taught mobility until 1985. As a result of her influence many students from St.Lucys became independent travelers. However, the influence did not spread to the students in the other six schools for the visually impaired. In January 1983 the Ministry of Education recommended the granting of a work permit to a second orientation and mobility teacher, Edward Mullen from the United States of America. Mullen was also an employee of Christoffel Blindenmission, whose main duties was to train Kenyan teachers in the theory and skills of orientation and mobility. (Mullen 1989).

Over the next three years, Mr. Mullen worked closely with the special education inspectorate section in conducting in-service courses in orientation and mobility at Kenya's schools for the visually impaired and planning for the first full-time orientation and mobility specialist teacher training course. In early 1986, a specialist course was held at the Kenya Institute of Education, co-sponsored by the Ministry of Education and Christoffel Blindenmission. Twelve persons were trained; nine teachers from schools for the visually impaired, a brailist from Kenyatta University, a rehabilitation counselor from the Kenya Society for the Blind and a lecturer from Kenya Institute of Special Education. Following their training each returned to his or her respective school or agency to implement an orientation and mobility programme. In support of that task the Chief Inspector of Schools wrote and distributed a circular letter directing each school to assign each trained mobility teacher to full-time mobility teaching duties. However, these teachers were allocated more teaching subjects and very little time for teaching orientation and mobility to the students who were visually impaired. An orientation and mobility course cannot exist without an approved curriculum or a training programme to

replace orientation and mobility teachers who leave the field through retirement, redeployments or given other assignments.

## **1.2 Statement of the problem**

Orientation and mobility is a programme of instruction designed for persons with visual impairments, to help them become aware of their positions in respect to the immediate surrounding and also move from one place to another independently. Orientation and mobility was a non-academic subject. As a specialist teacher, let me state that it was an essential subject for the students who are visually impaired, yet it was ignored because some people felt that the day was too crowded with the essential academic subjects.

Some head teachers considered a teacher of orientation and mobility as a luxury and the teacher was compelled or forced to teach other academic subjects in addition. At the end of the day or week, those teachers were too tired and had no time for extra-curricular subjects. Children in integrated programs learned orientation and mobility due to necessity, since they had no choice; they had to travel daily to and from school. The immediate environment become familiar and they gained confidence in their orientation and mobility skills. Children in special schools were very good in orientation and mobility in their school but not outside the school compound, since the schools had paved paths around the entire school. Training in orientation and mobility was critical if students from such schools were to function independently once they finished school and had to survive in their home areas or in inclusive schools. Therefore, the study was conceived to investigate factors that hindered the teaching of

orientation and mobility to students who were visually impaired at Thika School for the visually impaired (Mullen, 1989).

### **1.3 Purpose of the study**

The purpose of the study was to analyze the factors that hindered the teaching of orientation and mobility to students who were visually impaired in Thika Primary School for the Visually Impaired.

The specific objectives include:

- (a) To find out from the headteacher, teachers and students whether trained instructors for orientation and mobility skills were necessary for students who were visually impaired
- (b) To establish whether orientation and mobility as a subject was given its allocated time by the mobility teachers.
- (c) To provide accurate information on whether mobility was being taught effectively by use the white cane.
- (d) To establish the opinion of head teacher, teachers and students about orientation and mobility for students who were visually impaired.

### **1.4 Research Questions**

The study proposed the following research questions:

- (a) Were the teachers in the school trained in teaching orientation and mobility?
- (b) How much time was allocated to orientation and mobility and how many students per instructor?
- (c) How do students who were visually impaired utilize the use of white cane?

(d) What importance had the head teacher, teachers and students given to orientation and mobility as a subject?

### **1.5 Assumptions of the Study**

The basic assumptions of the study was that orientation and mobility subject; was allocated time by the orientation and mobility teachers, there were qualified mobility instructors, and enough mobility canes in Thika School for the Visually Impaired. The researcher hoped that the respondents would participate freely and effectively without fear, bias or prejudice and that the data to be provided by respondents through research instruments would be true.

### **1.6 Limitations of the study**

The major limitations of the study were that the study was to be conducted in one school for the visually impaired because most of the visually impaired schools were all treated as national schools and were also very distant and hence reaching them would require a lot of time and expense in terms of traveling to those schools.

Some of the teachers (including the head teacher) do not follow the time allocated for orientation and mobility to specific students and as such they may not release correct information because of time pressure for teaching academic subjects that interfere with the teaching of orientation and mobility.

## 1.7 Significance of the Study

It was hoped that the study would help the curriculum developers to stress on orientation and mobility as a very important subject to be taught to students who were visually impaired. The findings of the study might assist the Ministry of Education to run more courses to train mobility instructors. The results would prompt the government hopefully to provide more funds. Schools for visually impaired would purchase enough white canes to be provided to children with visual impairments for training and permanent possession after the mobility and orientation course. The orientation and mobility course would provide skills for independence after school while the educators would be able to guide and impart knowledge to students who were usually impaired, and would help them to master independent travel at school and hopefully at home.

## 1.8 Theoretical framework

The study was based on Havighurst's Developmental Task Theory. The Theory stated that "developmental task as skills, knowledge, frustrations and attitudes that a person has to acquire sometime in his/her life are acquired through physical maturation, social expectations and personal efforts". "A developmental task was in between an individual need and a social demand" (Havighurst 1972).

One important point in that theory was the concept of "teachable moment" psychologically speaking the teachable moment was the correct time for teaching and learning a given task. Successful mastery of those tasks resulted in adjustment and would prepare the individual for the harder tasks ahead. However, failure in a given developmental task would result in lack of

adjustment, increased anxiety, social disapproval and inability to handle the more difficult tasks to come. (Sarantakos 1994).

One of the tasks for adolescents who are visually impaired were managing orientation and mobility. Havighurt asserted that none of the school could ignore the developmental tasks, for research had shown that those tasks were closely interrelated and that difficulty in one task lead to difficulty in another. For instance, failure in academic work may be due to failure in other developmental tasks. Therefore, teaching orientation and mobility was important to students who were visually impaired. However, skilled instruction in orientation and mobility could not be given to persons who were visually impaired in that manner unless concerted efforts were made to evaluate their orientation and mobility skills.

Havighurt Task Theory was supported by Bandura's, (1986) Social Cognitive Theory, which stated that "human beings were influenced by their environment, the theory advanced that environment or the presences of others influence behavior". For example, in the course of growing up, young children learn to do the things that the adults do and often help adults to discover some things they had not known about themselves before. In support of that, Bandura conducted a number of studies demonstrating that people learned many things depending on the environment they inhabit. He conducted a famous Babo Doll study; in which children watched videotapes of other children hitting a Babo doll. The children who watched this, also acted aggressively towards the doll. While those children who did not watch the aggressive video showed general peaceful behavior. Therefore, it could be argued that people's behavior could be controlled and influenced by what they learned.(Bandura 1986)

Bandura's social cognitive theory was therefore one of those social development theories available, which tried to offer an explanation regarding how young people get to know what they didn't know by moving about. It was also derived from the fact that people's behaviour could be controlled through what they saw others do either directly or vicariously. Nevertheless, people could learn many things by observing others (Bandura, 1986). The adolescent in that case, was assumed to have learned many things by imitating parents, peers, teachers and administrators.

For the purpose of the study, the revelation of social cognitive learning theory put the learners who were totally visually impaired in a very awkward position since they were not able to learn using sight. That therefore, worked negatively in their orientation and mobility strategies, since they were not able to see how different professionals related with others to be motivated towards their movements. But they only depended on what they heard in the environment. That therefore called for a very skilled instructor to ensure that the visually impaired could see what they were meant to see as if they were sighted. So vicarious learning approach should be exploited maximally as stated by Bandura, (1986). Vicarious learning requires cognitive activity, because cognition was an important aspect of any comprehensive theory of human behaviour. The social learning cognitive theory was relevant to the study as it attempted to explain how students' who were visually impaired attitudes could be influenced by orientation and mobility through vicarious learning process and not through observation.

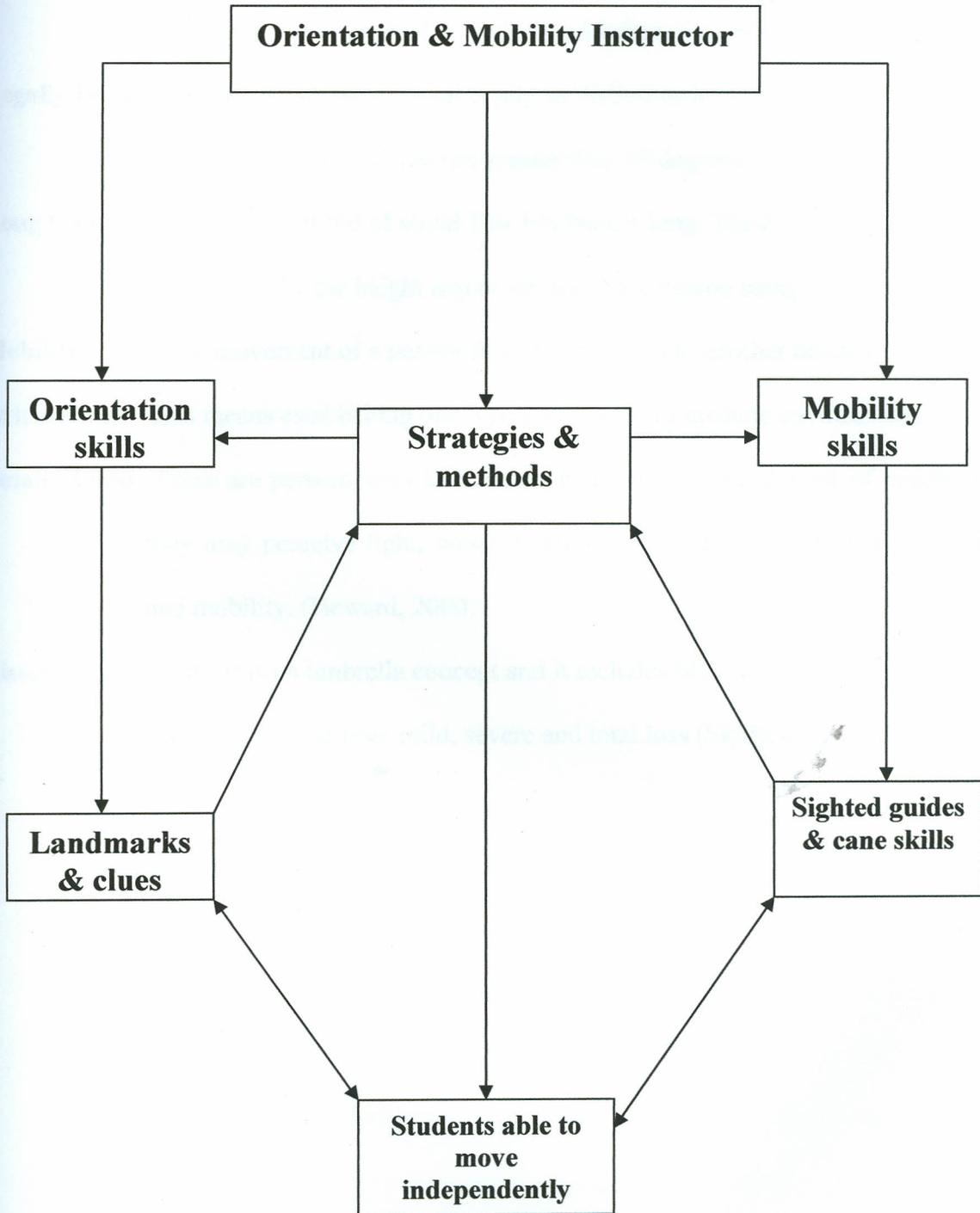
## 1.9 Conceptual Framework

In the Conceptual framework, it showed clearly how a student who was visually impaired got instructions of orientation and mobility from a mobility instructor. Various strategies and skills were used to teach orientation and mobility. If those strategies / methods were properly imparted to a student with visual impairment, the student was expected to move independently as demonstrated in the figure 1 page 13.



**THE CONCEPTUAL FRAMEWORK OF TEACHING ORIENTATION AND**

**MOBILITY**



## 1.10 Operational definition of terms.

**Land Mark:** This is any familiar object, sound, odour, temperature or tactual clue that is easily recognized, is constant and has a known permanent location in the environment. For example: a building, kitchen, factory, compost pit etc.

**Legally blind:** Children who have a visual acuity of 20/200 or less in the better corrected eye or who have a visual field of not greater than 20 degrees (Torres and Corn 1990).

**Long Cane:** is a lightweight rod of about 1 to 1 ½ meters long. The length is determined by the height and or strides of the person using it for movement.

**Mobility:** Is the movement of a person from one position to another desired position.

**Orientation:** This means establishing one's position in the immediate environment.

**Totally blind:** These are persons who learn through Braille without the use of vision, although they may perceive light, which is an advantage and can be used for orientation and mobility. (Heward, 2000)

**Visual impairment:** It is an umbrella concept and it includes blindness and all degrees of visual loss: mild, severe and total loss (Skjøten, 1997).

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

The chapter reviews literature on the concept of orientation and mobility; the history of orientation and mobility instruction to children, in Kenya and instruction in orientation and mobility in other countries. Need for training of orientation and mobility as a school subject. The last part talks about the importance of white cane in training orientation and mobility skills.

#### **2.1 Concept of orientation and mobility**

Orientation and mobility was simply knowing where one was in space and moving around safely, effectively and gracefully. Lowenfeld, (1974) defined: Orientation as “the process of utilizing the remaining senses in establishing one’s position and the relationship to all other significant objects in the environment”. “Mobility was actual locomotion of the individual from his present field position to his desired position in another part of the environment”. Lowenfeld continued to state that orientation and mobility terms had been used to describe the competency, which enabled the child to achieve safe, efficient, and graceful movement through the environment. He added that the individual needed to be effectively ‘oriented’ before he could achieve purposeful mobility. Carrol (1961) indicated further that orientation and mobility was an on going process in which the individual must not only perceive his present position but must also perceive it a new with each step taken. These orientation process was acquired by the visually impaired through the use of their auditory, tactual and kinesthetic senses. The best way to remember the relationship of orientation and mobility was to recall Fuller who observed that orientation and mobility was a skill of primary importance in the development of persons with

visual impairment. That was because people with visual impairment had limited familiarization and so had to be taught how to move around – a skill, which was almost automatic for sighted people. (Carol, 1961).

It is generally recognized that a severe visual impairment imposes serious restrictions on an individual's ability to move about freely and confidently in the environment. Less apparent and not appreciated was the debilitating effect this forced restriction had on the total self-concept of the individual. Irwin (1955) highlighted how inconveniencing it was in the following observation:

“The inability to go forth alone at will without accommodating oneself to the convenience of one's associate is perhaps the greatest affliction resulting from blindness. To have to ask a friend or a busy member of the family to go along on the simplest of errands is more humiliating than most people realize...”

One of the articles on orientation and mobility in The Teacher of the Blind stated that because children with severe visual impairment were restricted in their interaction with the environment concepts and in learning techniques to move safely through it. Developing realistic concepts must come first through concrete direct experience with the immediate environment. It goes on to assert that in the home the child should be taught such things as floor plans, that rooms have ceilings, and the relationship of lower and upper floors of houses. These concrete relational experiences then should be continued to teach the layout of the yard, the block and the neighborhood. Body orientation concepts and language, correct posture, and the gaits necessary to move through different environment often must be taught directly. Basic mobility skills such as using the forearm as a bumper, trailing the fingertips along a vertical surface to maintain directions of movement, and using the edges of things such as pavements as guides need to be

learned. As the student matures, he/she could learn how to interact unobtrusively with a sighted guide, to use the long cane as a mobility aid or eventually to acquire and learn the use of a guide dog. Proper use of the long cane require formal instruction by a trained orientation and mobility instructor.( Corn, 1990).

Orientation was also the ability to understand the relationship that objects had to one another – the creation of a mental pattern of the environment. But it was more than that, for having perceived the pattern, the subject into it, to relate it to his own position and movements. That was very difficult for the congenitally visually impaired; that was, those who had never had any sight. For those children an early start to training was essential.

The first step in orientation was the achievement of an awareness of one's own body and the relationship of the different parts of the body to each other. Furthermore, a visually impaired person would need to rely on the position of his own body to other objects about him in order to place himself in space. To support the idea that movement was a difficult task for an untrained child with visual impairment, Chapman, (1978): observes

“Easy and purposeful movement is not achieved, however, by every pupil who is visually impaired; early encouragement and opportunities to explore the physical environment together with training in orientation are necessary precursors to later achievement, and children deprived of these opportunities are likely to have difficulties in independent mobility later. Mobility training involves the acquisition of a set of skills and techniques, which enable a person with visual impairment to travel more easily through his environment. These skills cover a wide spectrum of activities. They are first seen in the ‘toddler’ learning how to find his way around his own house, and range to the travel techniques, which eventually enable the adult to travel through the world independently

Some of the leading educators in the field, as well as mobility specialists, have come to the realization that teachers must assume responsibility for the development of orientation and mobility skills, just as they assume responsibility for the development of other academic and social skills. The Competency Committee of the United States office of education stated that:

“The visually impaired child’s physical orientation and ability to travel are basic to his independence...Every teacher, recognizing the visually impaired child’s need for continued help in developing skills in physical orientation at each level of his growth, should also recognize that the child will need further instruction in the skill. The teacher should, therefore be aware of the available facilities for training. The teacher should consider the varying degrees of ability of visually impaired children in the interpretation of their physical mobility. With this in mind he/she should plan for activities to be carried on in an atmosphere of freedom and exploration, which will continue to improve the skills basic to the child’s physical orientation and travel. (Everett and Purvis, 1976).

According to Corn (1990), any programme for visually handicapped children should emphasize training in orientation and mobility and any educational programme designed to meet the total needs of every visually impaired child should include; orientation and mobility, or it is not a programme. “The methods available to the visually impaired may be categorized as:

- Independent travel without the use of an aid or device for those having low vision.
- Use of a sighted guide.
- Use of a guide dog.
- Use of the long cane
- Use of electronic mobility aids.

Research and demonstration projects funded by the United States office of education during the 1960’s produced evidence that children could benefit from formal orientation and mobility instruction during their school years.(Everett and Purvis,1976). The project done by the Detroit Metropolitan Society for the Blind (1963) concluded that children with visual impairments and teenagers could be taught to overcome problems that limit their ability to move freely in the

environment. It was also noted that public schools provide many opportunities to develop mobility. By illustrating the rewards of independent travel, the public school environment helps children to regard mobility as a useful skill- not as an isolated subject. Corn (1990) indicated that mobility skills used in the Veterans' Administration programme did not need to be revised for children. However, it was also pointed out that orientation skills and knowledge need further development, primarily because blind children lack experiences with their environment classified as educative rather than rehabilitative.

The acceptance of university to train professionals as the providers of formal orientation and mobility instruction for children became evident as the office of education initiated additional university programmes to train specialists to serve children. The rapid move of mobility specialists to positions in educational settings was documented by studies done in the early 1970's. Blasch and Wurzburger (1971) reported that while 49 percent of graduates with a master's degree were employed in rehabilitation agencies and 8 percent in hospitals, 18 percent were employed in residential schools and 25 percent in public systems. This suggested that more than 40 percent of mobility specialists were working with children. Welsh and Blash (1974) reported that 45 percent of the mobility specialists work with school age individuals.

For sometime there was a reluctance to publish the actual techniques taught by mobility specialists. There was fear typical of new developing professions that if the techniques were easily available in print they might be used incorrectly by those who did not understand them completely or that the need for mobility specialists might lessen. As the profession has matured, however, these fears related to the publication of methods and techniques have been replaced by

the recognition of the need to put the present body of knowledge of the profession into print as a necessary step towards the standardization and further development of the field. The American Foundation for the Blind published the first techniques book, by Hill and Ponder, (1976). This was followed by the centre for independent Living publication of the techniques of orientation and mobility in the form of behavioral objectives (Allen, et al, 1977). The text represents another significant stage in the growth of the profession, the first effort to bring together the wide range of background information needed by mobility specialists.

Teaching orientation and mobility skills to children with visual impairment does differ in certain respects from teaching adults. One area of difference relates to the concern about the appropriate time to begin mobility instruction. Generally it is important to relate the expectation of children with visual impairment to the stages of development of non-impaired children at the same age. If efforts to help children with visual impairment to move independently were delayed beyond the normal ages when such skills appear in the non-impaired population, that delay in itself may have the effect of compounding the impairment. Below was an illustration from *Blindness and Early Childhood Development, Second Edition*, revised by Warren, (1977) which provided a much more detailed analysis of the role that instructions play in orientation and mobility, as well as specification of training procedures for correcting postural difficulties. Their sample consisted of 45 students, ranging from 17 to 58 years of age, who showed both postural defects and mobility deficiencies. After the diagnostic phase, both mobility and medical (postural) treatment phases were initiated and continued for 12 weeks. About two thirds of the sample students showed mobility improvement in posture and improvement in mobility...correction of postural difficulties lead to more effective mobility.

Mobility success, both in the sense of response to formal mobility training and in the more informal sense of general ability to get around, deserved more intensive study, since successful mobility was one of the key pre-requisites for the independence of a visually impaired child or adult.

## **2.2 The history of orientation and mobility instruction to children**

Before the Second World War, children with visual impairment were educated primarily in residential (boarding) schools. The prevalent attitude among the general public seemed to be that persons with visual impairments could not even take limited responsibility for their own safety. Society as a whole did not seem to consider the individual and his/her strengths and assets, but rather focused on the stereo-typed weaknesses and limitations imposed by blindness and attributed them to all persons with visual impairments. As a result, there was no systematic approach to independent travel being offered that would enable a child to be independent as an adult. Some children taught themselves to travel and shared their techniques with their peers, others were taught by students with low vision. Following the Second World War successfully rehabilitated veterans who were visually impaired and self-emancipated adults with visual impairment were having a positive impact on society's attitudes towards the visual impairment. In addition, parents of children with visual impairments pushed local education programmes into providing services for their children.

Attention began to turn towards preparing children with visual impairments for integration. Research and demonstration projects funded by the United States Office of Education during the

1960's produced evidence that children could benefit from formal orientation and mobility instruction during their school years.

Corn (1990) indicated that the mobility skills used in veterans administration programme did not need to be revised for children. However, it was also pointed out that orientation skills and knowledge needed to be developed further, primarily because children with visual impairments lack experiences with their environments. The project done by the Detroit Metropolitan Society for the Blind (1963) concluded that the children and teenagers with visual impairments could be taught to overcome problems that limit their ability to move freely in the environment. It was also noted that public (Day) schools provided many opportunities to develop mobility skills. By illustrating the rewards of independent travel the public school environment helped children to regard mobility as a useful skill-not as an isolated subject.

### **2.3 Instruction in orientation and mobility in Kenya**

Just like in other countries, educations of the persons with visual impairments were realized in Kenya after the Second World War. The initiative was a result of the Second World War veterans, who had been blinded in the war, thus requiring rehabilitation and education on how to cope with the impairment. The Salvation Army missionaries took the lead in educating the visually impaired even earlier than the end of the Second World War when Col. Baron in 1942 started teaching one student for trial. (Wakoli, 1988)

In 1946, the Salvation Army started "the institute for the visually impaired" in Thika. Those who were admitted at this institute were mainly adults who had been blinded during the war. The

institute did not last long for in 1952 there was a strike which made the administration admit young children and thus changed the place to a school – Thika School for the Visual Impairment. Despite these efforts towards education for person with visual impairment, orientation and mobility was not given formal instruction.

#### **2.4 Instruction in orientation and mobility in other countries**

The body of knowledge that has been developed in relation to orientation and mobility for the persons with visual impairments had also spread to other countries. Blasch and Wurburger, (1971) discussed how this began in the 1960's as a result of interaction between America and British programmes. British specialists visited American programmes and American mobility specialists visited Great Britain for extended periods of time to initiate mobility training programmes for people with visual impairments and to train mobility specialists. (Tooze, 1981) the convener of mobility working parties, gave a clear description on how orientation and mobility was reviewed and encouraged in schools for the visually impaired in Great Britain:

“Four meetings of representatives from nearly all schools for the visually impaired were held between 1970 and 1971 to study the practice of mobility training in schools. The first conference was held at Worcester on 15<sup>th</sup> November, 1970. As a result of that conference three workshops on mobility were held. Specialists gave demonstration on methods used in teaching mobility and gave papers outlining their techniques. In each case that led to a very lively discussion where those who were present made further contributions.”

It was also felt by the members attending the working parties that it would be useful if the minutes of those meetings could be put together and printed in the “Teacher of the Blind...” this has now been done.” Some of the areas that were discussed during the conferences were:

- a) Number of periods allocated for mobility on the schools timetable.
- b) The techniques of teaching mobility to school children.

c) The difficulties that the instructors experienced in training the children.

More extensive exchange visits were also made to programmes in Australia and shorter programmes were concluded for persons interested in orientation and mobility in Paris, Japan, Brazil, South Africa and many other places. Students from other countries, who studied in the United States and returned, established mobility programmes in their own countries.

## **2.5 The need for training in orientation and mobility**

In order to overcome or cope with the loss of sight, many teachers have highlighted the necessity of systematic training in orientation and mobility for the persons who were visually impaired. For instance, various speakers at the 16<sup>th</sup> International Mobility Conference in Spain claimed that orientation and mobility was a key factor in facilitating and promoting self confidence in a person with visual impairment, (Malki, 1994).

Independent mobility was often a critical factor in determining whether a person with visual impairment gets a job and keeps it, and maintains a life style of independence and dignity (Uslan, 1990). Others have noted the importance of orientation and mobility training in creating self confidence to make a person who was visually impaired of whatever age to be self reliant (Tooze, 1981; Yakura, 1994). According to Blasch and Welsh, (1980) many individuals who had visual impairment, for a variety of reasons were unable to achieve that goal on their own. Formal or systematic mobility services had been developed to guarantee each individual the opportunity to learn how to travel to the fullest extent of his/her abilities. However, society must take steps to ensure that each member will have that opportunity and that the acquisition of that knowledge was not left to chance.

Similarly, it was important not to assume that every handicapped person would develop independent travel skills without structured intervention. It must be emphasized, however, that just because a person had a handicap or was old he might not necessarily need mobility training. The opportunity for formalized orientation and mobility instruction must be provided for all handicapped and elderly persons who need such assistance. That was necessary if we were going to be consistent with policies to integrate such people into the mainstream of our society more readily. Making policies, changing the environment and developing new equipment were not enough. Appropriate learning experience must be provided when needed and necessary. (Tooze, 1981)

Many programs developed to assist persons with certain mobility limitations to learn how to use prosthetic devices, or other equipment such as wheelchairs to assist in locomotion, or to learn or relearn the use of muscles needed for walking, have not systematically addressed the many subtle factors involved in independent travel. Programs for persons with mental retardation had sometimes helped such persons to develop the concept needed for moving independently through the community. But most of those efforts had been directed at the entire process of independent travel not considered the needs of the total individual. Among the skills of independent travel that might concern the mobility specialist; according to Jose (1983), regardless of the disability of a particular client were:

- a) Orientations skills such as map reading and route planning
- b) Valid concepts of the environment

- c) Social competencies such as asking questions, getting directions, asking for help when in need, politely refusing assistance when not needed and dealing with other aspects of a stigmatized identity.
- d) Related skills such as handling money, telling time, and estimating distance and reading signs & schedules.
- e) Movement skills and knowing the capabilities and limitations of such skills.
- f) Skills in using whatever prosthetic device that might be necessary.
- g) Skill in using whatever type of transportation systems available.
- h) The ability to generalize those skills to as many environmental situations as possible.

Early methods for systematically teaching orientation and mobility to person with visual impairments focused primarily on compensating for the visual loss. Individuals provided most of the early instruction with corrective therapy, physical therapy or physical education's backgrounds. Instruction focused on the physical aspects of ambulation and on devices such as canes, guide dogs and electronic aids that could be used to obtain information from the environment.

At first, emphasis was on the physical skills needed to use the long canes to scan and to use a guide dog. Persons with corrective and physical therapy backgrounds were originally selected for the Hines Veterans Administration Mobility Program for Blinded Veterans because they had worked with other handicapped individuals to increase their physical mobility and ambulation. A systematic orientation and mobility instruction for the persons who were visually impaired began to expand beyond the veteran's administration and to serve populations with additional and in

many cases more complicated mobility problems (for example congenitally blind persons, older persons with visual impairment and persons with developmental handicaps in addition to blindness). (Josse, 1983)

It became apparent that the initial approaches to instruction emphasis on the physical skills were not sufficient. Problems such as poor concept development, family over protectiveness, inadequate motivation and mental retardation affected the teaching and learning process. Mobility specialists began to realize that many of the problems of independent travel without vision were not always the most obvious and expected ones with many clients, much of the instructional times were spent on overcoming the effects of negative expectations of family members, learning to think logically to solve orientation problems and to cope with the reactions of others on the street. Problems, which only became apparent as the instructor and client, became involved in the total process of learning to travel. A more complete understanding of the mobility process also grew from efforts to serve clients with low vision more appropriately. Many clients with low vision did not need a long cane or a guide dog but they did need to learn to use residual vision to plan routes, to deal with people and develop confidence about travel. (Frosting and Maslow, 1970).

## **2.6 Orientation and mobility as a school subject**

According to Blasch and Welsh, (1980) orientation and mobility was a key discipline in the rehabilitation and education of people with visual impairments. At the beginning the authors say that the discipline faced a lot of opposition and misunderstanding. It has endured and finally

flourished”. Efforts to provide orientation and mobility services to the visually impaired persons sprang from the necessity of meeting their real needs in particular situations.

When talking of orientation and mobility as a subject, we do not mean teaching children two or three familiar routes. However what we meant was teaching the principles required to enable the child be an actively mobile individual, capable of fending for himself/herself whenever he/she wanted to and be capable of deriving enjoyment in overcoming difficulties in the environment by applying those principles in a wide range of settings. It was not enough for students who had visual impairment to know how to cross a particular landmark. The child should know the principle of crossing streets safely and the principle of ensuring that even a newly described landmark could be encountered. The child should know when to ask for assistance, and when he could do without. He should not only know that he was along the right route, but where he had got and when he had got lost. But at the very beginning, the child should have knowledge about his body, legs and arms, and head. He should know about the extent to which he could make use of the remaining senses and he should be encouraged to explore the environment rather than shun it.

Our ultimate standard of comparison must be the degree of mobility attainable by the sighted. Anything short of that as an ultimate aim would afford us the excuse of perpetuating past attitudes. We should no longer say to ourselves: “Little Nekesa was walking quite well – considering she was visually impaired.” We should acknowledge that, as likely as not, little Nekesa walks about freely as an old lady on a set of cobblestones, that her shins (knees) are

frequently bruised, and her nose not infrequently scratched. We should not accept that as good enough, (Wakoli, 1988).

There was among many people who were visually impaired had strongly held belief that bruises and scratches, tumbles and stumbles were an inevitable price to be paid for independent mobility. They paid that price cheerfully and we stood by and let them pay it. There was nothing inevitable about all that, and much of it should be reduced within a matter of months from now; if there was the will to accept change among the visually impaired and, among those responsible for the people's who were visually impaired education and welfare. We may not be able to reach that ultimately. (Tooze, 1981).

## **2.7 Importance of white canes in training orientation and mobility**

Most mobility experts and clients agree that the long cane was the most efficient, convenient and affordable and almost universally available mobility aid so far developed which was said to be one of the only proven and widely accepted primary modes of independent travel (Uslan, 1990).

It was also a common observation that a properly trained cane user walks straight, upright and confident, which helped to change the public attitudes of pity towards him to that of admiration.

The cane was first designed by Hank Levy, a visually impaired British man in 1872, but it was not accepted in England until 70 years later when Hoover modified Levy's touch technique in America in 1946 (Dodds, 1993).

The cane may come in different forms such as the long cane, the folding or collapsible cane, the white wooden cane, the support or orthopedic cane or the laser cane (Dodds, 1993). Each of

those types of canes had advantages and disadvantages concerned storage, convenience, and efficiency among others. The basic purpose of using the cane was for protection, information about the basic texture under foot, detection of holes, drop-offs, and other changes in the level of the terrain. It also symbolizes the user as one with visual impairment, thus needing consideration on the road (Mullen, 1989).

The most commonly used technique was the touch technique. It required the user to use the proper skills for gripping the cane, tapping the right way from left to right, in step rhythm for foot and cane coordination among others. Training for the use of the cane was therefore paramount. Carrol (1961) puts it "the cane is worse than useless without proper instructions," for instance, like the sighted guide technique mentioned earlier, due to lack of training in cane skills in Kenya, it was common to see a man who was visually impaired holding a cane or a long stick on one end following a small boy, who was walking a head of him holding the other end of the cane. The study confirms an observation by many, (including the researcher) that there was an acute shortage of trained personnel to train the persons with visual impairment in these very important travel skills. In Kenya, the percentage of persons who were visually impaired have trained in orientation and mobility was negligible and the same was true for trained mobility hearsay, though statistics were not available to support this. It however became evident from Ellis, (1991) survey that, the ones trained in the cane skills had a clear mobility advantage over the untrained ones.

The orientation and mobility aids are rather expensive for the average Kenyan with visual impairment and therefore need to be provided for in the national or programme budgets. It was

observed by a committee setup by the Kenya government in 1976 to draw education objectives and policies in Kenya that the students who were visually impaired required specialized and expensive equipment (Gachathi Report, 1976). However, in the current global and national economic crisis it was not always possible to provide the required aids for meeting the needs of the persons who were visually impaired adequately.

## 2.8 Developing the curriculum

The mobility specialist must develop a curriculum that was a general blue print from which he would work with most clients. The particular assessment of the needs of each client would lead to the design of the teaching plan for the individual. However, the development of a general catalogue of skills that made it possible for independent travel and the methods for helping clients to develop those abilities were an essential part of providing effective mobility training, (Jose, 1983).

Such a curriculum was usually based upon a logical analysis and was supplemented over time by input from consumers of the services who fed back to the curriculum needs that may have been overlooked or that only emerged in the peculiar circumstances in which certain clients found themselves. According to Blasch and Welsh, (1980). Curriculum designers should consult the literature and other professionals for additional ideas about curriculum contents. Ideally, the contents of curricula should be submitted for empirical review using a research methodology to test the assumptions concerning the need for particular skills or the analysis of the critical sub skills or prerequisites.

None of the orientation and mobility curricula that were developed had been researched. Orientation and mobility specialist had generally relied on the traditional notebook of mobility techniques as the basis for the curricula developed for specific agency or school programmes. Those techniques had included skills in using a sighted guide, indoor protective and orientation techniques, cane skills, techniques for traveling in and out door areas and crossing streets, techniques for travel in business areas and using public transportation, and special techniques for situations such as using elevators, escalators, revolving doors and soliciting aid from sighted pedestrians. Those techniques had been organized and taught in a sequence that roughly approximated a hierarchy of skills for the person who had not traveled previously without vision.

Usually the written techniques had also included suggestions for teaching methodology and for altering the techniques to meet the needs of special clients. The mobility specialist had also to develop lesson plans in a particular agency and nearby neighbours that would offer the opportunity to teach the variety of skills involved in the curriculum.

A comprehensive presentation of these techniques was published for the first time by Everett & Purvis (1976). Later, Allen et al (1977) published a similar list of techniques written in the format of behavioral objectives. Both of these curriculum guides share the same deficiency that has characterized the individualized techniques notebooks. They are very thorough in the area of the cane skills and in the movement skills that go into independent travel without vision, but they treat only minimally the skills of orientation, decision making and interacting with the public that are also important areas in independent travel.

Weisgerber and Hall, (1975), as part of the research project supported by the veterans administration, attempted to isolate some of the skills and behaviors related to orientation, decision making and other sensory and perceptual factors. Even though the latter material was not as thorough and comprehensive as it should have become, it was significant as an effort to delineate orientation and other components of the mobility process that had not previously been dealt with in sufficient detail.

In writing a curriculum, it was important that the skills and abilities be described in as much detail as possible in order to improve communication among those who read the curriculum and to add to the effectiveness of the instructor who planned and implemented individual lessons. Orientation and mobility instructions by its nature had always contained a level of concrete specificity that exceeds other types of teaching and human service. Yeadon (1977) had suggested that mobility instruction could be made more effective through the use of behavioral objectives.

The most difficult parts of the curriculum to write in specific detail were those that related to less concrete and more variable skills and abilities needed for independent travel. Part of the mobility instruction process must focus on helping the client to develop sound judgment in a variety of quite different situations. The curriculum that was written must reflect a variety of levels of acceptable performance within it. Given the range of clients served, no one standard of successful mobility could be expected. The curriculum should be structured in such a way that individuals of varying levels of ability could be given learning experiences that were most appropriate for them in view of both their abilities and their aspirations. So the factor of

curriculum had been a very big hindrance of effective teaching of orientation and mobility to students' who were visually impaired as discussed above.

## 2.9 Conclusion

From the studies reviewed, it emerged that one major factor that hindered orientation and mobility as a subject, was the time allocated. The instructors took it as co-curricular subject and not as serious as academic subjects. According to the researcher's observation, the instruction of orientation and mobility was quite a critical issue, since the trained orientation and mobility teachers were thought to be very few and the white canes were not enough. Orientation and mobility was recommended by the curriculum developers but did not appear on the timetable for the school for persons who were visually impaired. The researcher assumed that the teaching of orientation and mobility was not effective in schools for children who were visually impaired.

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

The chapter provide a description of the methods applied in conducting the focused study on the research design, the location of the study, target population, population sample and sampling procedures, research instruments, piloting of the study, reliability and validity of instruments, description of variables, data collection and analysis procedures.

#### 3.1 Research design

The main purpose of the study was to investigate the factors that hindered the teaching of orientation and mobility to students who were visually impaired in Thika School for the Visually Impaired. The research adopted a descriptive research design. A descriptive research design presented what was, in a social system. It included the conditions that existed between relationships, opinions held, processes that were on and trends developed among others (Best, and Khan, 1993, Abagi, 1996). It aimed at getting a true picture of a situation, behaviour or attitude of individuals and the community at large (Onyango, 2000). In that case, it was appropriate since it sought to analyze factors associated with certain occurrences, outcomes or type of behaviour. It provided clues for subsequent research that was more specific and aimed to uncover the nature of facts in a given situation.

The research study used questionnaires and interview schedules. The questionnaires were to cater for, quantitative data while interviews were to form the main thrust of the qualitative data. Qualitative strategies were to enable the researcher to collect data in the actual context in which

the phenomena would occur. As a result, it was to give a more holistic picture. It implied that it was to provide a description of societal dynamics which included values, systems and perspectives within a given cultural context (Abagi, 1996). The approach was appropriate because it was a high analytical content and it was the best way of getting in depth information including sensitive and personalized experiences which were unlikely to be obtained using other methods, (Kane, 1995).

On the other hand, quantitative method had the advantage of getting responses of the same questions from a large number of people and those responses could be quantified for conclusion to be drawn from them (Bell, 1993). Quantitative approach would be applied for the large number of teachers' students and head teacher. The quantified information would summarize the results, while at the same time it would complement the qualitative data. The above reasons formed the basis for which the descriptive research design was used. As anticipated, the design would be the most appropriate for the study that was to obtain exhaustive and accurate accounts of various factors that hindered the teaching of orientation and mobility to students who were visually impaired in Thika Primary School for Visually Impaired.

### **3.2 Location of the study**

The study was conducted in Thika Primary School for the Visually Impaired, which is located in Thika Municipality in Thika District about 47Km North of Nairobi. Thika district neighbours Kiambu, Maragua, Machakos and Nairobi districts. The area climate like that of the general district was characterized by very little rainy seasons. The long rains start in March and end in early May with a peak in April. The short rains start in October and end in December with a peak

in November. The rest of the year are drier months. Rainfall varies from 500mm to 1100mm. The climate is not very good for crops like maize, bananas which need enough rains. The inhabitants are mainly agriculturalist from the Kikuyu and Kamba communities plus other ethnic communities working in towns within the district. Thika district is known as an industrial town since it has many industries like Del-monte for pineapples and Thika clothes mills

### **3.3 Population of the study**

The study targeted the head teacher, 27 teachers and 107 students from classes 4 to 7 in Thika School for the Visually Impaired. The total population for the study was therefore, 135 persons. In class 4 we had eighteen students, class 5 had twenty-one, class 6 twenty-five, class 7 twenty-one and class 8 had twenty-two and the teachers were 27, making a total of 135 including the head teacher. The teachers were supposed to be teaching orientation and mobility. The head teacher and his deputy were selected because they made the timetable for teaching orientation and mobility. The students who were totally blind were the clients to be taught orientation and mobility. The researcher selected the school to focus on purposively since it was the first of its kind to be established in the country. Also being situated near the capital city, it was expected that there were many students compared to other institutions in other provinces within Kenya.

### **3.4 Sample and sample size**

Purposive sampling techniques were used. Whereby the head teacher, 27 teachers and 42 students who were visually impaired were selected. Mugenda and Mugenda (1999) contend that at other times the target population was so small that selecting a sample would be meaningless and that taking the whole population in such cases was advisable.

The sample size for the study comprised 70 respondents

Types of respondents	Population	Sample
Head teacher	1	1
Teachers in class 4 to 8	27	27
Students	107	( those who were totally blind) 42
Total	135	70

### 3.5 Instruments to collect data.

The major instruments that were used in the study were questionnaires. It consisted of 3 sets of questionnaires, which had two parts. One set of questionnaires were administered to students in classes 4 to 8 in the school, another to selected teachers who taught orientation and mobility to class 4 to 8 and the final one to the head teacher. The researcher also used classroom observation to gather more data in addition to the questionnaires. The questionnaires contained both open and closed ended questions. The open-ended questions gave the respondent greater freedom of expressing their own ideas and opinions and gave suggestions where necessary. The closed ended items were to enable the researcher to obtain specific responses from the respondents.

(Orodho, 2003)

### 3.6 Pilot study

The researcher conducted a pilot study at Kibos School for the Visually Impaired in order to validate the research instruments. The researcher selected a school in a different province because the schools for visually impaired were scattered all over the country, (Mertens and Mclaughlin, 1995). The purpose of piloting was to discover any weakness in the instruments,

check for clarity of the questions or items and also elicit comments from respondents that would assist in the improvement and modification of the instruments. Piloting was also to enable the researcher to detect any flaws in the administration of the research instruments.

Random sampling technique was used in which teachers and students picked a Yes or a No to select 5 teachers, 10 students and the head teacher was purposively picked for the pilot study. The procedure that was used in piloting was the same ones that were used in the main study. The population in the pilot school was not to be included in the actual study.

### **3.6.1 Validity**

A measure is said to be valid if it does what it is intended to do (Codican, 1996). Validity in this case therefore refers to whether the items in the instruments ask what they are intended to ask. In order to establish the validity of the instruments, the researcher discussed them with the lecturers in the department of Special Education at Kenyatta University who were well versed in the area being studied. The researcher's supervisors were also consulted. Comments and suggestions that would ensue from the discussions were incorporated to better the instruments before data collection was done.

### **3.6.2 Reliability**

Codican (1996) observed that reliability referred to a measure of consistency in producing similar results on different but comparable occasions. Reliability of the instruments of the study were established using test-retest method. The questionnaires were administered to 5 teachers and 10 students at the pilot school. The responses from the instruments were scored manually.

After a period of one week, the instruments were again given to the same people and the answers scored manually.

### **3.7 Data collection**

Before going to the field, the researcher was to obtain a research permit from the Ministry of Education authorizing her to carry out the research. The researcher would then visit the selected school to establish rapport with the administration, to get permission from the school head and to arrange with teachers on the appropriate days and lesson hours when orientation and mobility was to be taught to enable her do observations. The researcher finally issued questionnaires to head teacher, teachers and standard four to eight sampled students. The researcher went over the questionnaires before asking the participants to complete them. They were given a period of one day to respond to the items in the questionnaires and thereafter, they handed them back to the researcher. The head teacher, teachers and students completed the questionnaires within two days and handed them back to the researcher. Out of the seventy five questionnaires five from students were filled half way, so the researcher disregarded them.

### **3.8 Data analysis**

The data collected was analysed using qualitative method of analysis in a descriptive approach. According to Semakula (2000), quantitative analysis entailed analysing numbers about a situation by choosing specific aspects of that situation. On the other hand, qualitative analysis entailed analysing in words or figures by collecting data, recording people's experiences not selecting any pre-chosen aspect. The two types of questionnaires (for teachers and students) were to yield quantitative data and interview schedules were to yield qualitative data.

Quantitative data were analyzed and tabulated using descriptive statistics i.e. means, simple tables, frequencies, percentages and ratios. These were chosen because they easily communicated the findings to the majority of the readers (Gay, 1976). These types of mode of presentation were given a quick visual impression of the quantifiable variables affecting orientation and mobility for students who were visually impaired.

The researcher assembled all the questionnaires and classroom observation schedules obtained from the field. The instruments were then serialized numerically. Data was cleaned and coded in a code sheet. The statistical package for social sciences (SPSS) was used to analyze data. The data was presented with the aid of frequency tables, pie charts and percentages. Microsoft excel was used to make the pie charts. From the tables, pie charts and percentages, major findings of the study and discussions were made on the basis of the study; the researcher gave suggestions and recommendations.

### **3.9 Logistical and ethical considerations**

The researcher obtained a letter from the Graduate School of Kenyatta University addressed to the Ministry of Education, which in turn gave her a letter authorizing her to conduct research. Before the permission was granted, the researcher presented a copy of the final proposal to the Ministry of Education. She then sought informed consent of each respondent explaining the true nature and purpose of the research to them. The confidentiality and identity of the respondents were kept and their privacy would not be invaded and that was made known to them from the start.

## CHAPTER FOUR

### DATA PRESENTATION AND ANALYSIS

#### 4.0 Introduction

The purpose of that study was to investigate the factors hindering the teaching of orientation and mobility to students with visual impairment in Thika Primary School for the Visually Impaired.

The data for the study was collected using questionnaires and classroom observation. The questionnaires were used to obtain data from head teacher, teachers and students in the school.

The data was analyzed based on the objectives of the study. The analysis of data involved the use of frequencies, percentages and tables.

#### 4.1 Teachers' and pupils background information

Objective one of the study was to find out about the qualifications of orientation and mobility instructors or teachers in the school by sex, age, academic background and teaching experience.

The analysis of their responses revealed that 59% of the teachers were females while 41% were males. The information about the other variables were analyzed and presented in the following tables.

**Table 4:1 Teachers' profile**

Age	No. of Teachers (N= 27)	Percentage
21 – 30	4	15
31 – 40	12	44
41 – 50	8	30
51 – above	3	11
Total	27	100

The findings in Table 4:1 revealed that 44% of the teachers were between thirty and forty years of age while 30% of the teachers were between forty and fifty years of age.

**Table 4:2 Pupils Ages**

Age	No. of Pupils(N=42)	Percentage (%)
8 – 10	4	10
11 – 13	5	12
14 – 16	16	38
17 – 19	15	35
20 – above	2	5
TOTAL	42	100

From the data collected and presented in Table 4:2, it showed that most pupils in the school ranged between the ages of 14 – 19 years of age i.e. 73%. The sampled data showed that 42 pupils in the school were the ones who were totally blind with 24 of them being male and 18 being female. The class included in the sample was from standard four to eight because at that stage they were more capable of using the white canes.

**Table 4:3 Academic and Professional Qualification of teachers by Grades**

Grade	No. of Teachers (N = 27)	Percentage (%)
P1	6	22
S1	8	30
DIPLOMA (SPEC.)	9	33
B.ED (SPEC.)	4	15
M.ED (SPEC.)	-	-
TOTAL	27	100

The results from Table 4:3 showed that 33% of the teachers were professionally trained at Diploma in special education level and 30% of the teachers had S1 qualifications, 22% had P1 qualifications and 15% of the teachers were professionally trained graduate teachers in special education. The findings in the table clearly revealed that most teachers were professionally qualified. There were few mobility-trained teachers in the school whereas most of those teachers were just generally trained in education but not specifically in special education.

**Table 4:4 Experience in teaching students who are visually impaired by age.**

Teaching experience	No. of Teachers (N=27)	Percentage (%)
1-10	15	56
11-20	8	30
21-30	3	11
31 and above	1	03
TOTAL	27	100

The information presented in Table 4:4 revealed that 56% of the teachers had a teaching experience of less than ten years. 30% of the teachers had a teaching experience of between eleven and twenty years, while 11% of the teachers had a teaching experience of between twenty-one and thirty years. 3 % of the teachers had thirty-one years and above teaching experience. The findings revealed that 44% of the teachers had taught for more than ten years.

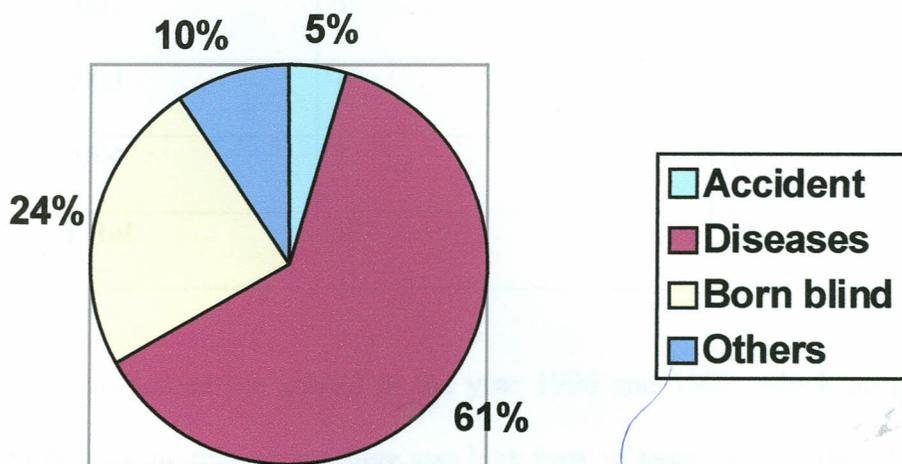
**Table 4:5 Number of students by class**

Class	No. of pupils (N=42)	Percentage (%)
4	6	15
5	9	21
6	10	24
7	8	19
8	9	21
Total	42	100

From Table 4:5 it was clear that the highest percentage of students who were Visually Impaired were in class six. It showed that those students needed orientation and mobility at that stage before leaving standard eight since it was not taught in secondary school and tertiary institutions in the country.

**Table 4:6 Causes of visual impairments**

Cause	No. of pupils (N=42)	Percentage %)
Accidents	2	4.8
Diseases	26	62.0
Born blind	10	24.0
Others	4	9.2



That verified that the main cause of visual impairment was diseases because it had the highest number of pupils 62%. That meant that they had acquired it and there was need for orientation and mobility.

**Table 4:7 Year of joining school**

<b>Year</b>	<b>No. of Students (N=42)</b>	<b>Percentage (%)</b>
1995	10	4
1996	24	10
1997	25	11
1998	7	3
1999	7	3
2000	5	2
2001	5	2
2002	5	2
2003	10	4
2004	2	1
<b>Total</b>	<b>42</b>	<b>100</b>

Most students joined the school in the year 1996 and 1997, which according to my thinking implied that during that period there was high form of awareness on the education of the children who were visually impaired.

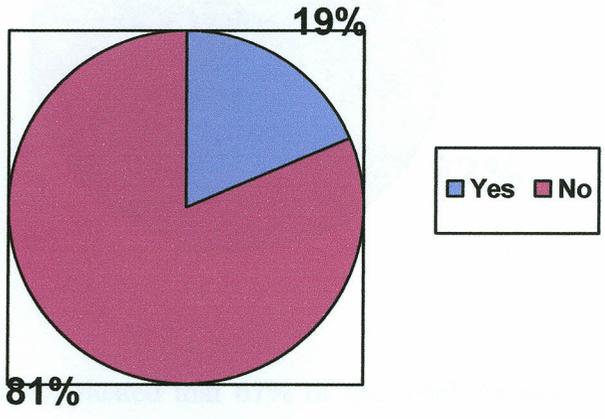
#### **4.2 Time allocated to orientation and mobility on the school timetable**

Objective of the study was to establish the time allocated to orientation and mobility on the school timetable, the number of trained teachers in orientation and mobility, if orientation and mobility should be included in the school curriculum for the students who were visually impaired

and how many orientation and mobility lessons were taught by a mobility teacher per week. The data was analyzed and summarized in Table 4:8, 4:9, and 4:10

**Table 4:8 Teachers trained as mobility instructors**

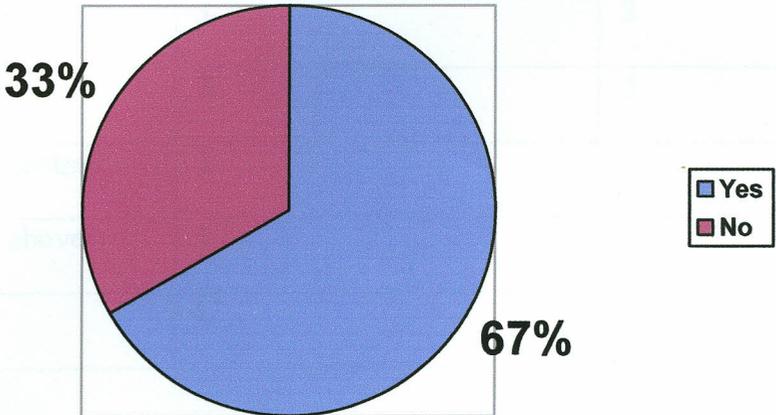
Response	No. of teachers	Percentage (%)
Trained	5	19
Untrained	22	81



The information from the Table 4:8 revealed that 81% of the teachers were not trained as mobility instructors. Only 19% of the teachers were trained. This clearly showed that most of the teachers in Thika Primary School for the Visually Impaired were not specially trained to give instructions in orientation and mobility even after the school had been in existence for more than 50 years.

**Table 4:9 Orientation and mobility should be included in the curriculum.**

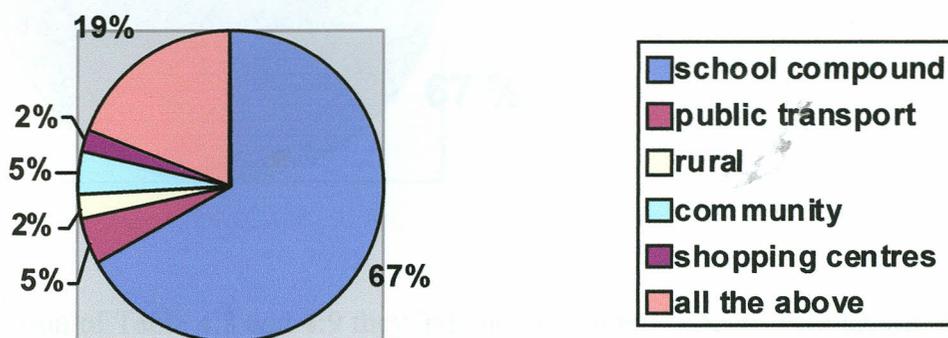
<b>Orientation &amp; mobility included</b>	<b>No. of teachers (N=27)</b>	<b>Percentage (%)</b>
Yes	18	67
No	9	33



The results in Table 4:9 indicated that 67% of the teachers were in favour of orientation and mobility to be included in the curriculum for students who were visually impaired. While 33% that felt there was no need for orientation and mobility to be included in the curriculum for the students who were visually impaired. A majority of the teachers felt that it was very necessary for orientation and mobility to be included in the curriculum for the students who were visually impaired. It was supported by the following reasons; it would be for better movement in different environments, to enhance their confidence as they move in the community for self, safe travel and to add more interest to the usage of the white cane. When the teachers were asked about including orientation and mobility in the curriculum a majority of them felt that it was very important skill for the children who were visually impaired especially after school.

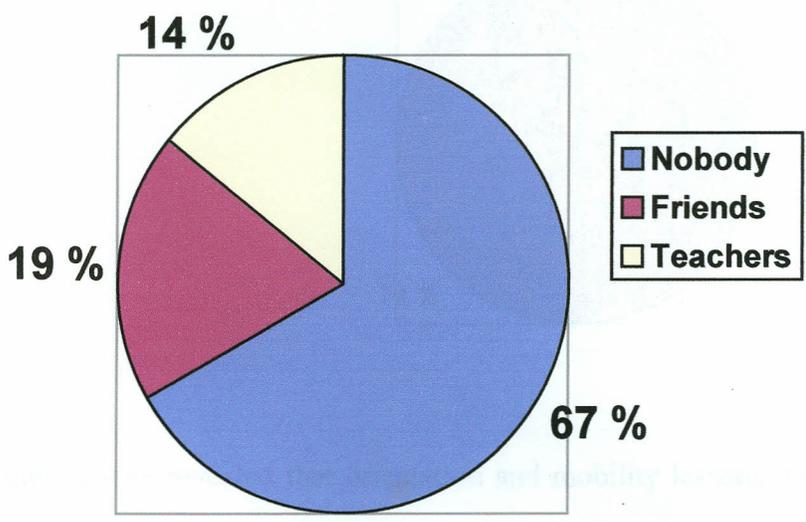
**Table 4:10 Areas where students who were visually impaired should be trained to move independently.**

Place	No. of students(N=42)	Percentage (%)
School compound	28	67
Public transport	2	5
Rural	1	2
Community	2	5
Shopping centres	1	2
All of the above	8	19
Total	42	100



**Table 4:11 Assistance given to students in the school compound**

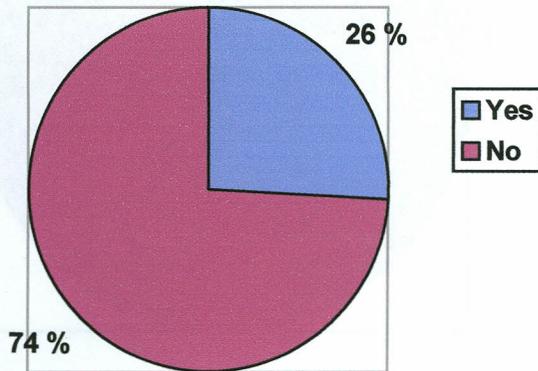
Person	No. of students (42)	Percentage (%)
Nobody	28	67
Friends	8	19
Teachers	6	14
Total	42	100



From the deduction of Table 4:8 and 4:9 they indicate that most students were taught orientation and mobility in the school which had demarcation of pavements to specific places i.e. dinning hall. The information collected from the students concerning going home with white canes, 67% students declared no due to lack of confidence and have no skills of orientation and mobility, while the 19% depended on sighted guide.

**Table 4:12 Lessons assigned to teachers of orientation and mobility**

Lessons of orientation and mobility on the timetable	No of Teachers (N=27)	Percentage (%)
Yes	7	26
No	20	74



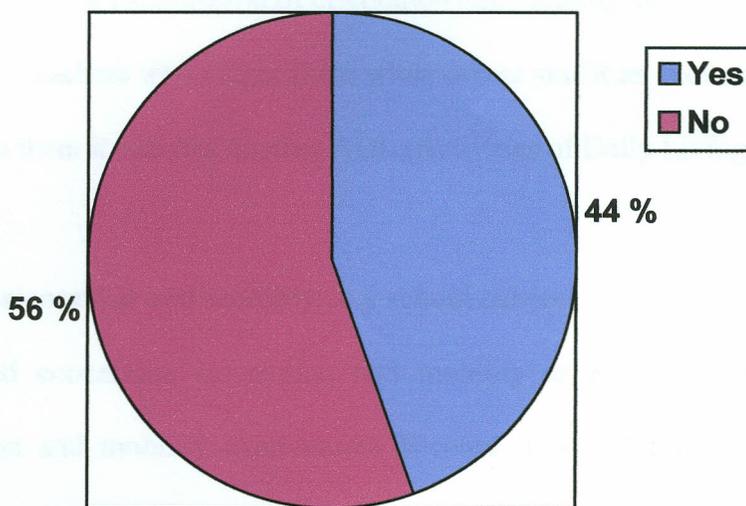
The table above revealed that orientation and mobility lessons were not included in the school timetable since the teachers who said no were 74% while those who said yes were 26%. That showed clearly that orientation and mobility was not taken seriously as a subject to be taught to students who were visually impaired.

#### **4.3 Enough mobility canes for training students who were visually impaired**

Objective three of the study was to find out if there were enough mobility canes for training the students who were visually impaired. Teachers' responses were analyzed as presented below;

**Table 4:13** Number of mobility canes

Are there enough mobility canes?	No. of response(N=27)	Percentage (%)
Yes	12	44
No	15	56



According to Table 4:13, 56% of the teachers said the students who were visually impaired didn't have enough mobility white canes for training because they were expensive and the school could not afford them. Also orientation and mobility was not given great attention and most learners' shied away from the white canes. 44% percent of the teachers said yes because white canes were donated free and provided to the students by the school as free primary education tools. Table 4:11 showed clearly that even if the white canes were given freely, they were not enough to be given to each student permanently. Provision of white canes to students by the school was not possible. 30 students denied having access to white canes because the school was not in a position to provide every student with a white cane. That was because they were expensive and there was no budget allocation for purchase of such mobility canes.

Most students had neglected the use of white canes in the school compound because of stigmatization and self ego while others had not been trained and given skills in orientation and mobility. Thus, there was need for learning orientation and mobility skills before leaving standard eight. That was due to the fact that some might not continue with their education after leaving class eight and the skills were vital for independence in the community later on in life. However some students needed examination of orientation and mobility as a language subject to ensure seriousness by the teachers who taught them while others saw it as another heavy load to what they already had, to them it was just another ADL (Activities of Daily Living).

#### 4.4 Importance of orientation and mobility as a school subject

From the data collected concerning orientation and mobility as a subject, many teachers supported the orientation and mobility examination because it would create awareness and emphasize the need for it. That would also provide avenues for their advancement as instructors in orientation and mobility. It would also make learners to be aware of the environment that they live in. However, some of the teachers (41%) were not for the idea, since it was a skill they only required for free movement and independence while in school and after school.

**Table 4:14: Students assigned to each teacher for orientation and mobility**

No of Teachers	No of Pupils	Percentage
11	11	26%
3	3	7%
3	3	7%
None	25	60%
Total	42	100%

From table 4:14 it was clear that 40% of teacher were for 2 students to be assigned for each teacher for better and efficient instructions. In general from the overview of teachers concerning curriculum developers it had not given adequate mechanism to teach orientation and mobility as a subject. That was because very little had been done concerning orientation and mobility. There were no guidelines on how orientation and mobility could be carried out and most teachers were not trained. There was more need for seminars and workshops to update instructors on modern orientation and mobility skills. The head teacher's responses were discussed below.

#### **4.5 Head teacher**

The head teacher was above 51 years and male. It indicated that he had worked with students who were visually impaired for above 20 years. He was experienced and old enough to handle special children. His highest academic qualifications were East Africa Certificate of Education (E.A.C.E) and Diploma in Special Education. It implied that the teacher was knowledgeable to understand the need for orientation and mobility in a special school.

According to the teacher about 37% of teachers were well informed concerning orientation and mobility which they taught to the representative students. The teacher emphasized the need of including orientation and mobility in the curriculum because it could be vital to the students who were visually impaired to make them well versed with the environment they lived in. The data collected from the head teacher indicated that 6 lessons were for orientation and mobility. That meant that there must be attention and importance to those subject to raise self-esteem among some of the students who had self-denial concerning their status.

The head teacher felt that the students who were visually impaired should be trained all around (i.e. classroom, shopping centres, rural settings) to ensure independence in orientation and mobility. In primary education the students should master orientation and mobility which would facilitate their advancement in other institutions and world environments. The head teacher viewed orientation and mobility to be examined to enable the students and teachers to be serious in order to ensure maximum concentration in orientation and mobility as a subject.

The records from the head teacher indicated that totally blind students to date were 42 as shown in the table below.

**Table 4:15: Records of the blind students.**

Class	No. of girls	No. of boys	Total
4	4	2	6
5	5	4	9
6	4	6	10
7	6	2	8
8	3	6	9
Total	22	20	42

From the table 4:15 girls are more than boys. For the implementation of orientation and mobility to be successful, more white canes were to be purchased so as to facilitate the teaching of orientation and mobility to the students with visual impairments.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.0 Introduction

The chapter discusses the main issues that came up from the study in a bid to meet the objectives of the study and answer specific research questions. The main findings were summarized in the first section. Implications, conclusion and recommendations based on the finding formed the last section of the chapter.

#### 5.1 Summary

The study aimed at finding out the factors that hindered teaching of orientation and mobility to students who were visually impaired in Thika Primary School for the Visually Impaired. It sought views from 42 students in classes 4-8, 27 teachers and the head teacher.

Objectives of the study were to find out the teachers qualifications in orientation and mobility in the school by their sex, age, academic background and teaching experience in orientation and mobility to students who were visually impaired. The analysis of their responses revealed that 59% of the teachers were female while 41% of the teachers were male. The study findings (table 4:1) on the teachers' ages revealed that 44% of the teachers were between thirty and forty years of age, while 30% of the teachers were between forty and fifty years of age. The study established that sex and age had no influence on the teaching of orientation and mobility. From the data collected on pupils' age (table 4:2) it showed that 73% of the pupils were between 14 – 19 years of age which meant that by that age they were capable of using the white cane.

From collected data in (table 4:3) on professional qualifications it revealed that 33% of the teachers were professionally trained at Diploma, 15% were university graduates and 22% were P1's. The findings clearly revealed that most teachers were professionally qualified. Training in orientation and mobility took about three months and above but only 5 teachers were trained at Kenya Institute of special education while the others were generally trained in Special Education.

The findings of the study on the teaching experience (table 4:4) established that 56% of the teachers had teaching experience of less than ten years. While 30% had a teaching experience of between eleven and twenty years and 14% above twenty years. The teaching experience of a teacher was instrumental in the teaching of orientation and mobility to the students who were visually impaired. The study established that the teaching experience had a lot of impact on teaching orientation and mobility. Since the teacher had worked for long with student who were visually impaired and could be able to establish their weak areas in orientation and mobility.

The study findings on class representations in (table 4:5) revealed that 24% of students who were visually impaired were in class six. It showed that the students needed orientation and mobility at this stage before reaching class eight since they had enough class time. The study findings on the causes of visual impairment (table 4: 6) established that 62% of the students' main cause of visual impairments were diseases, which meant that they had acquired it and there was need for orientation and mobility for them to cope up with the new life style.

In (table 4: 7) about the year of joining school most students joined the school in the year 1996 and 1997, which gave 21% of the students. Trained mobility teachers were supposed to be many so as to cope up with the number of students who needed training in orientation and mobility.

### **5.1.1 Time allocated for orientation and mobility on the school timetable**

According to objective two, the study was to establish the time allocated for teaching orientation and mobility on the school timetable also about presence of trained mobility instructors. Data collected and presented in (table 4:8) revealed that 81% of the teachers were not trained as mobility instructors only 19% of the teachers were trained. It showed clearly that most of the teachers in Thika Primary School for the Visually Impaired were not specially trained to give mobility and orientation instructions.

Data collected in table 4:9 indicated that 67% of the teachers were positive in favour of orientation and mobility to be included in the curriculum for the students who were visually impaired, while 33% of the teachers refused which meant that it was very necessary that orientation and mobility to be included in the curriculum for the students with visual impairment supported by the following reasons: it was for better movement in different environments, for safe travel and it added more interest to the usage of the white cane.

According to Tooze, (1981) the importance of orientation and mobility training was to create self-confidence and made a person who was visually impaired of whatever age to be self-reliant.

Data collected in (table 4: 10 and 4:11) independent students and assistance in the school compound revealed that 67% of the students couldn't travel alone using the white cane due to

lack of confidence and had no skills of orientation and mobility while 23% depended on sighted guides. The data in (table 4:12) on lessons for orientation and mobility revealed that orientation and mobility lessons were not included in the school timetable since 74% of the teachers said no while only 26% said yes. It showed clearly that orientation and mobility was not taken seriously as a subject to be taught to students who were visually impaired.

### **5.1.2 Enough mobility canes for training**

According to objective three, the finding of the study (table 4:13) established that 56% of the teachers said that the students who were visually impaired didn't have enough mobility white canes for training because they were expensive and the school could not afford to purchase or acquire them. While 44% of the teachers said yes because white canes were donated free. It showed clearly that even if the white canes were not enough to be given to each student permanently the use of white canes in the school compound had been neglected by most students because it stigmatized them. There was need for orientation and mobility skills before leaving standard eight, since some students never continued with secondary education.

However some students had desired for examinations of orientation and mobility as a subject to ensure seriousness by the teachers who taught them while others saw it as another heavy load to add what they were handling. Most experts and clients agreed that the long cane was the most efficient, convenient, affordable and almost universally available mobility device so far developed which was said to be one of the only proven widely acceptable primary modes of independent travel (Uslan, 1990). Although the orientation and mobility aids are rather expensive for the average visually impaired Kenyan and therefore need to be provided for in the national or

programme budgets. It was observed by a committee set up by the Kenyan government in 1976 to draw educational objectives and policies in Kenya that the students with visual impairments required specialized and expensive equipment (Republic of Kenya government report, 1976) so the government should be in a position to provide more funds in free primary education for more white canes to be purchased.

### **5.1.3 Importance of orientation and mobility as school subject**

As far as objective four of the study was concerned, the findings of the study (table 4:8) established that 59% of the teachers supported the orientation and mobility examinations because it would create awareness and emphasized on the subject. However, some of the teachers represented by 41% were not for the idea since that was a skill they only required for free movement and independence.

Collected data from the head teacher established that his age was 51 years. He was experienced and old enough to handle special children although he had a diploma in Special Education. According to him, about 37% of the teachers were well informed on orientation and mobility. The collected data from the head teacher indicated that 6 lessons were for orientation and mobility. It showed that the attention must be given to the importance of the subject. He felt that the students who were visually impaired should be trained all round (i.e. classroom, shopping centres, rural settings) to ensure independence in orientation and mobility. The records from the head teacher indicated that students who were visually impaired were 42 and from the table girls were more compared to boys, which needed to emphasize by the teachers on orientation and

mobility. For the implementation of orientation and mobility to be successful, more white canes were to be purchased so as to facilitate the teaching of orientation and mobility.

According to Blasch and Welsh, (1980) orientation and mobility was a key discipline in the rehabilitation and education of people with visual impairments. When talking of orientation and mobility as a subject, we do not mean teaching children two or three familiar routes. It was teaching the principles required to enable the child to be actively mobile and be capable of deriving enjoyment in overcoming difficulties in the environment by applying those principles in a wide range of settings.

**5.2 Conclusion**

The research which was done was not meant to criticize any particular school, individual or administrator. Instead, it aimed at suggesting ways of orientation and mobility instruction in schools for the visually impaired. In relating the researchers findings, it was quite clear that there was need for the subject to be taught to students who were visually impaired before leaving primary education because most of them end their education at primary school level, hence they ended up in communities which had many places to interact with. The provision of mobility canes after class eight were vital in their daily living; they needed them permanently for individual use.

The researcher also hypothesized that the teaching of orientation and mobility was not extensive enough to provide the required level of independent travel. If the teachers were not willing to be identified with orientation and mobility because it was not an examinable subject, it thus

followed that they did not implement effective orientation and mobility programmes. Therefore there might be attention and importance to the subject to raise self esteem among some of the students who had self-denial concerning their status.

orientation

On the other hand, the inspectors of schools should be in a position to monitor and assess the performance of orientation and mobility as a subject in schools for visually impaired after implementation so as to enhance effectiveness in its teaching. The skills involved in orientation and mobility required a lot of time to ensure thorough learning and practice by the pupils, on the timetable 2-3 periods should be allotted to orientation and mobility to make students become competent. In order for that to be effected, orientation and mobility was recommended by the curriculum developers but did not appear on the school timetable of the visually impaired. From the research it was confirmed that the teaching of orientation and mobility was not effective in the schools for the visually impaired due to a shortage of instructors and enough mobility canes.

orientation and mobility

### **5.3 Recommendations**

working persons had independent orientation

The study looked at the factors that hindered teaching of orientation and mobility to students who were visually impaired in Thika Primary School for the Visually Impaired. Those included:

- a) Teachers should give importance to training on orientation and mobility and as much attention as to the other academic subjects to instill interest and reduce handicap condition.
- b) Students should be encouraged to practice orientation and mobility skills intensively while at school and in the community to ensure efficiency in independent travel.

- c) Head teachers should ensure that orientation and mobility teachers were assigned fulltime orientation and mobility teaching duties to enforce the teaching of orientation and mobility.
- d) The school personnel at the headquarters level should follow up to ensure that orientation and mobility was taught effectively.
- e) The Ministry of Education should provide more funds for free primary education especially in schools of visually impaired to purchase enough white canes.
- f) The curriculum developers should ensure that orientation and mobility was included in the syllabus for students who were visually impaired.
- g) White canes should be manufactured locally even for young ones from nursery to class three.

#### **5.4 Further research**

The researcher would recommend the following areas of study:

- To find out whether working persons had independent orientation and mobility skills.
- To find out whether orientation and mobility skills were continued to be taught in high school and institutions of higher learning.

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## Appendix A

### QUESTIONNAIRE FOR HEAD TEACHER

#### Section A

Please complete this section about your self by placing a tick (✓) or by writing out your answers in the provided space.

1. State your gender            (a) Male             (b) Female
2. Age in years                20 – 30 years             31 – 40             41-50
- 51 and above
3. What is your highest academic qualification?
- (a) K.J.S.E             (b) E.A.C.E / K.C.E
- (c) E.A.A.C.E / KACE             (d) GRADUATE
- (e) DIPLOMA

#### Objective 1

4. What is your highest professional qualification?
- (a) P2             (b) P1             (c) Diploma (Spec.)
- (d) Ordinary Diploma             (e) B.ED (Spec.)             (f) M.ED (Spec.)

#### Objective 1

5. State the number of years you have worked as a teacher of students with visually impairment.
- (a) 1 – 10 years             (b) 11 – 20 years             (c) 21- 30 years
- (d) 31 and above

## Section B

6. How many teachers in your school are fully trained in orientation and mobility instructions?

Write specific numbers \_\_\_\_\_

7. Do you believe that orientation and mobility should be included in the curriculum of schools for students who are visually impaired? Yes  No

(Explain your answer) \_\_\_\_\_

8. Within the 45 lessons of the school week, how many orientation and mobility lessons are taught – start with class four by the mobility teachers \_\_\_\_\_?

9. Do you believe that orientation and mobility training should be given the same importance and attention in schools for the visually impaired as academic subjects? Yes  No

(Give reasons for your answer) \_\_\_\_\_

10. In which of the following environments do you believe that students who are visually impaired should be trained to move around independently?

(i) Classroom

(ii) School compound

(iii) Community around the school

(iv) Public transport

(v) Shopping canters

(vi) Rural settings (paths, roads etc)

(vii) All of the above

11. Do you believe that students who are visually impaired should be provided with orientation and mobility training before completing their primary school education? Yes  No

(Give reasons for your answer) \_\_\_\_\_

12. At present orientation and mobility is not an examinable subject in standard eight's National Examinations. Do you believe it should be an examinable subject?

Yes  No  give reasons for your answer \_\_\_\_\_

13. How many students are totally blind from class four to eight in your school?

Totally blind students.

Classes	No of girls	No of boys	Total per Class
4			
5			
6			
7			
8			
TOTAL			

14. Do you have enough mobility canes for training the students who are visually impaired in orientation and mobility? Yes  No  (Give reasons for you answer)

15. Should students who are totally visually impaired be presented with a permanent orientation and mobility cane that they should possess for life by the school or by the Ministry of Education?

## Appendix B

### QUESTIONNAIRE FOR TEACHERS

#### Section A

Please complete this section about yourself by placing a tick or by writing out your answers in the space provided.

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

2. What is your age bracket in years?

20 – 30 years  31-40 years  41-50 years  51- and above

3. What is your highest academic qualification?

(a) K.J.S.E  (b) EACE/KCE  (c) EAACE/KACE

(d) Graduate

4. What is your highest professional qualification?

(a) P2  (b) P1  (c) S1  (d) Diploma (Spec.)  (e) B. Ed (Spec.)

(f) M. ED (Spec.)

5. State the bracket in number of years you have worked as a teacher for students who are visually impaired?

(a) 1-10 years  (b) 11-20 years  (c) 21-30 years  (d) 31 and above

6. Have you trained as a full orientation and mobility instructor?

Yes  No  if yes which college? \_\_\_\_\_

7. Have you trained as a Special Education teacher? Yes  No

If yes which college? \_\_\_\_\_

## Section B

8. Do you believe that orientation and mobility should be included in the curriculum of schools for the students who are visually impaired? Yes  No

(Explain your answer) \_\_\_\_\_  
\_\_\_\_\_

9. Within 45 lessons of the school in a week, how many orientation and mobility lessons are taught by orientation and mobility teachers? \_\_\_\_\_

10. Do you believe that orientation and mobility should be given the same importance and attention as academic subjects in schools for the visually impaired? Yes  No

(Give reasons) \_\_\_\_\_  
\_\_\_\_\_

In which of the following situations do you believe the students who are visually impaired should be trained to move independently?

- (i) Classroom
- (ii) School compound
- (iii) Community around the school
- (iv) Public transport
- (v) Shopping centers
- (vi) Rural settings (paths, roads etc)
- (vii) All of the above

11. Do you believe that students who were visually impaired should achieve some minimum level of mobility before completing their primary school education?

Yes  No  (Give reasons for your answer) \_\_\_\_\_

---

12. At present orientation and mobility training is not an examined subject in standard eight National Examinations. Do you believe orientation and mobility should be an examined subject?

Yes  No  (Give reasons for your answer) \_\_\_\_\_

---

13. How many students were assigned to each teacher for mobility instructions

\_\_\_\_\_?

14. Do you have enough mobility canes for training the students who are visually impaired in orientation and mobility? Yes  No  (Give reasons for you answer)

---

15. Please give other suggestions on how the implementation of orientation and mobility to students with visual impairments could be improved in your school

---

---

16. In your opinion, do you think the curriculum developers have provided you with adequate mechanism to teach orientation and mobility to students who were visually impaired?

Yes  No  Give reasons your answer)

---

---

## Appendix C

### QUESTIONNAIRE FOR STUDENTS

#### Section A

Please complete the section about yourself by placing a tick (✓) or by writing out your answers in the spaces provided.

1. Sex: Male  Female

2. How old are you? (a) 8 – 10  (b) 11-13  (c) 14-16

(d) 17-19  (e) 20 and above

3. In which class are you?

(a) Class 4  (b) Class 5  (c) Class 6  (d) Class 7  (e) Class 8

4. Which category of visual impairment do you belong to/fall under?

(a) Totally blind

(b) Low Vision

(c) Sighted

5. What was the cause of your vision loss?

(a) Accident

(b) Disease

(c) Others (please specify) \_\_\_\_\_

6. What year did you join the school? \_\_\_\_\_

## Section B

Tick the correct answer or explain more when asked.

7. Is there a trained and qualified mobility teacher in your school or class?

Yes  No

8. In which of the following situations were you trained to move independently?

(i) Classroom

(ii) School compound

(iii) Community around the school

(iv) Public transport

(v) Shopping centre

(vi) Rural settings

(vii) All of the above

9. Who assisted you to move around in the school compound? \_\_\_\_\_

10. Were you allowed to go home alone using a white cane?

Yes  No  (Give reasons) \_\_\_\_\_

11. Were there enough white canes for students who were visually impaired in your school?

Yes  No  (Give reasons) \_\_\_\_\_

12. Do you like using a white cane while in the school compound?

Yes  No  (Give reasons) \_\_\_\_\_

13. Do you believe that students who are visually impaired should achieve some minimum level of mobility training before completing primary education?

Yes  No  (Give reasons) \_\_\_\_\_

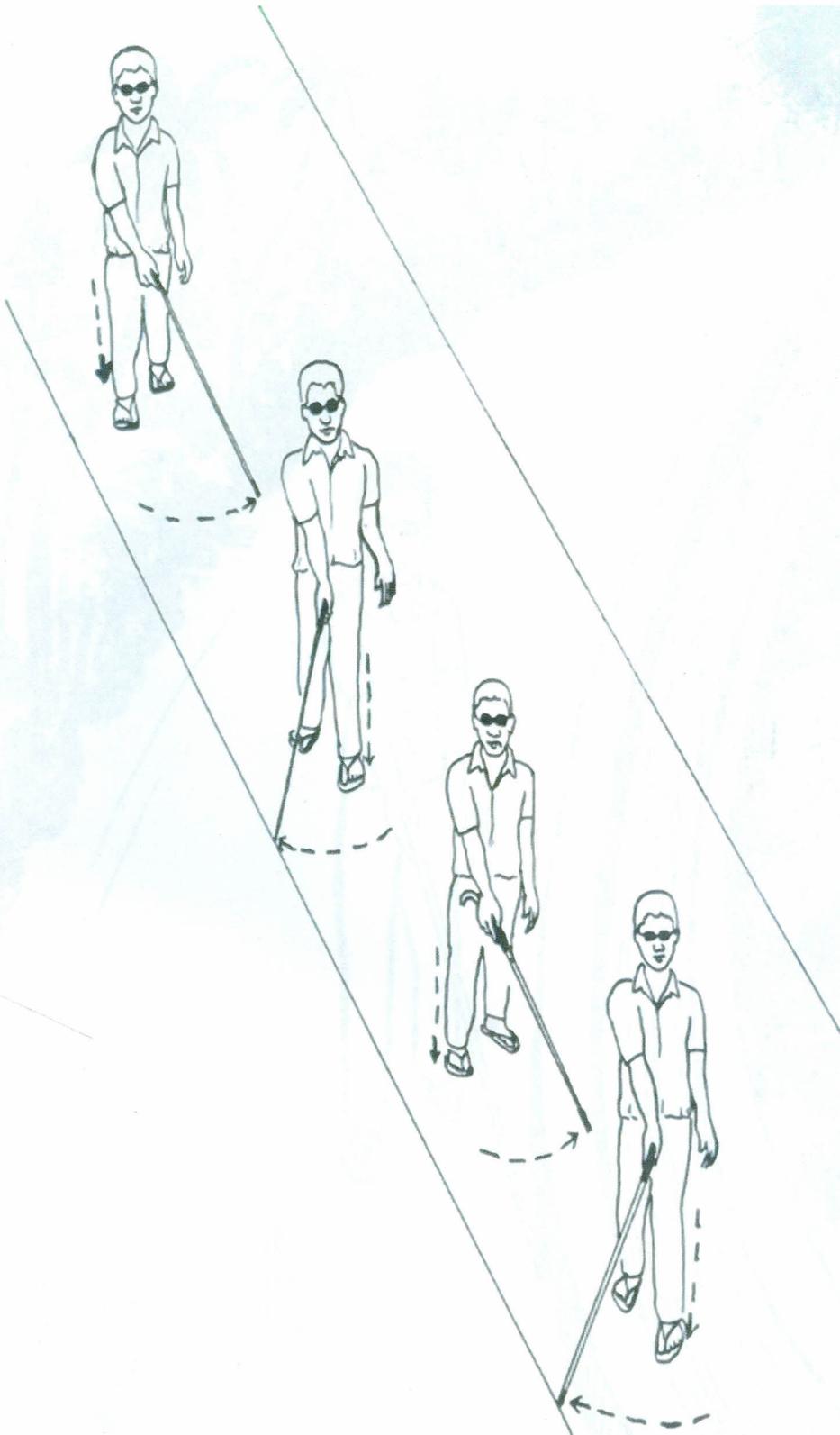
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14. At present mobility is not an examinable subject at standard eight KCPE National Examinations. Do you believe it should be an examinable subject?

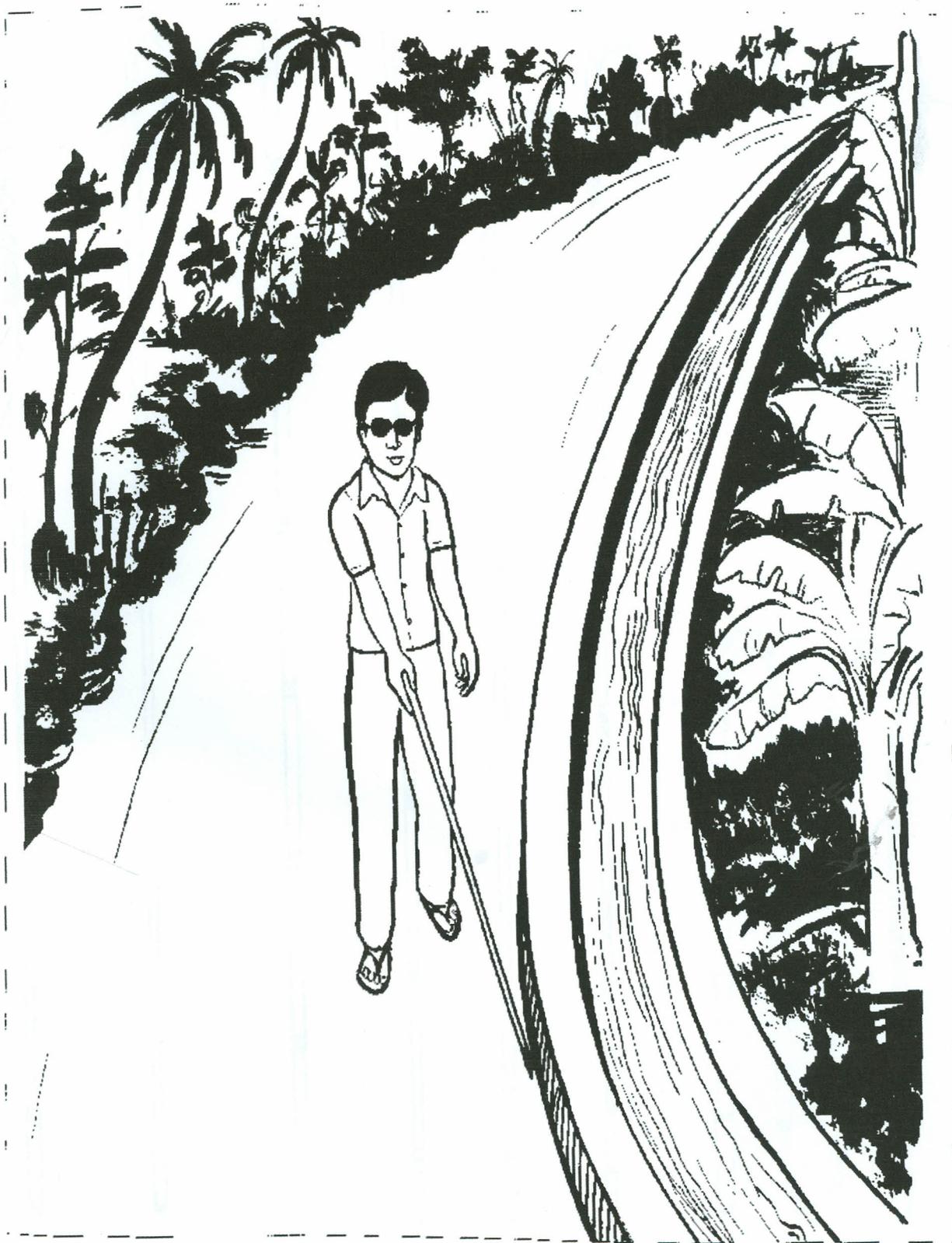
Yes  No  (Give reasons) \_\_\_\_\_

---

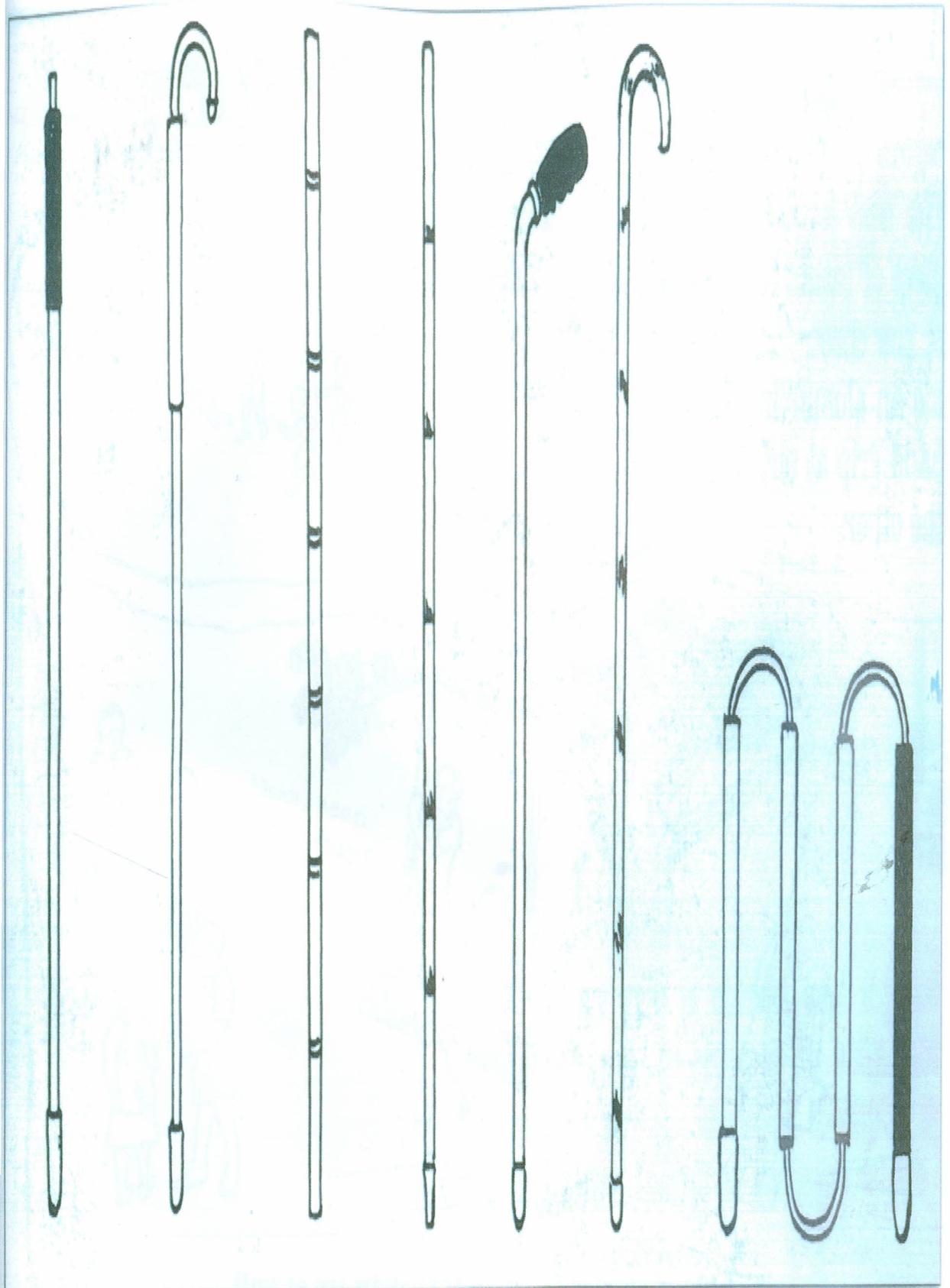
**Appendix D**  
**PICTURES OF ORIENTATION AND MOBILITY**



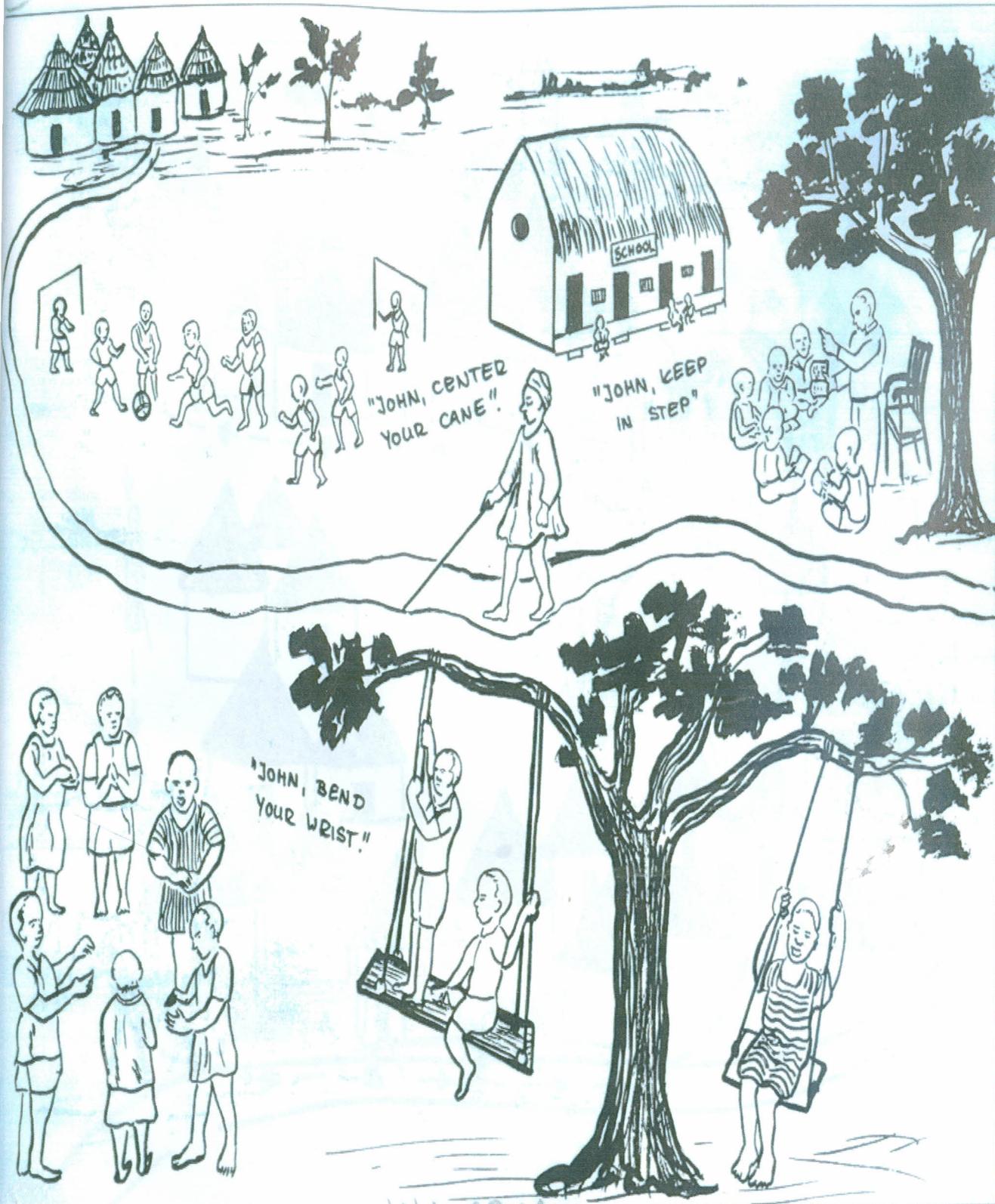
**The right way of using a white cane when moving**



**Traveling using white cane in a shopping centre and village**



**Different types of mobility white canes**



**How to use white cane at the school compound.**



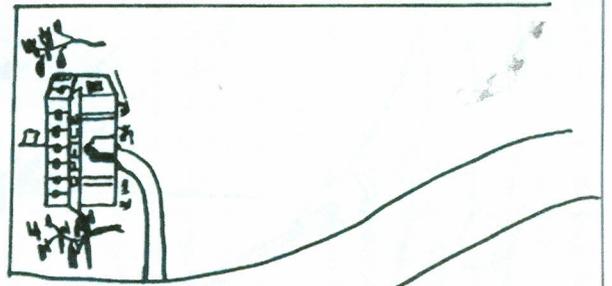
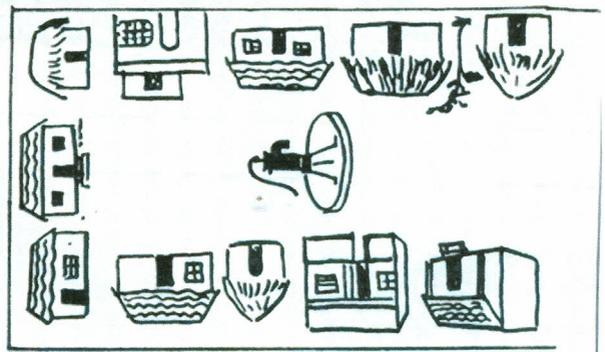
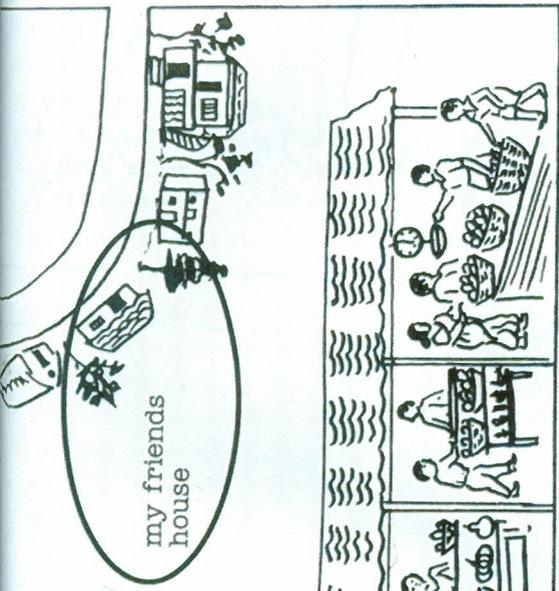
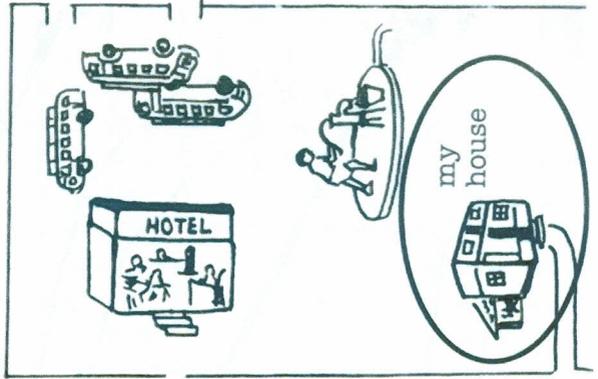
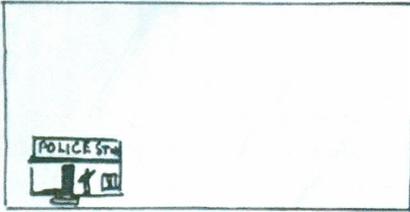
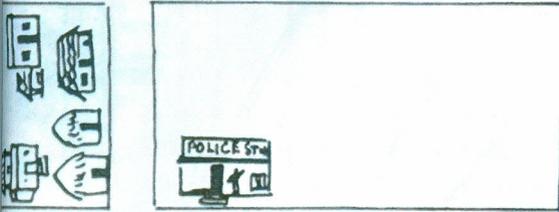
Using a white cane in the community to move about successfully.



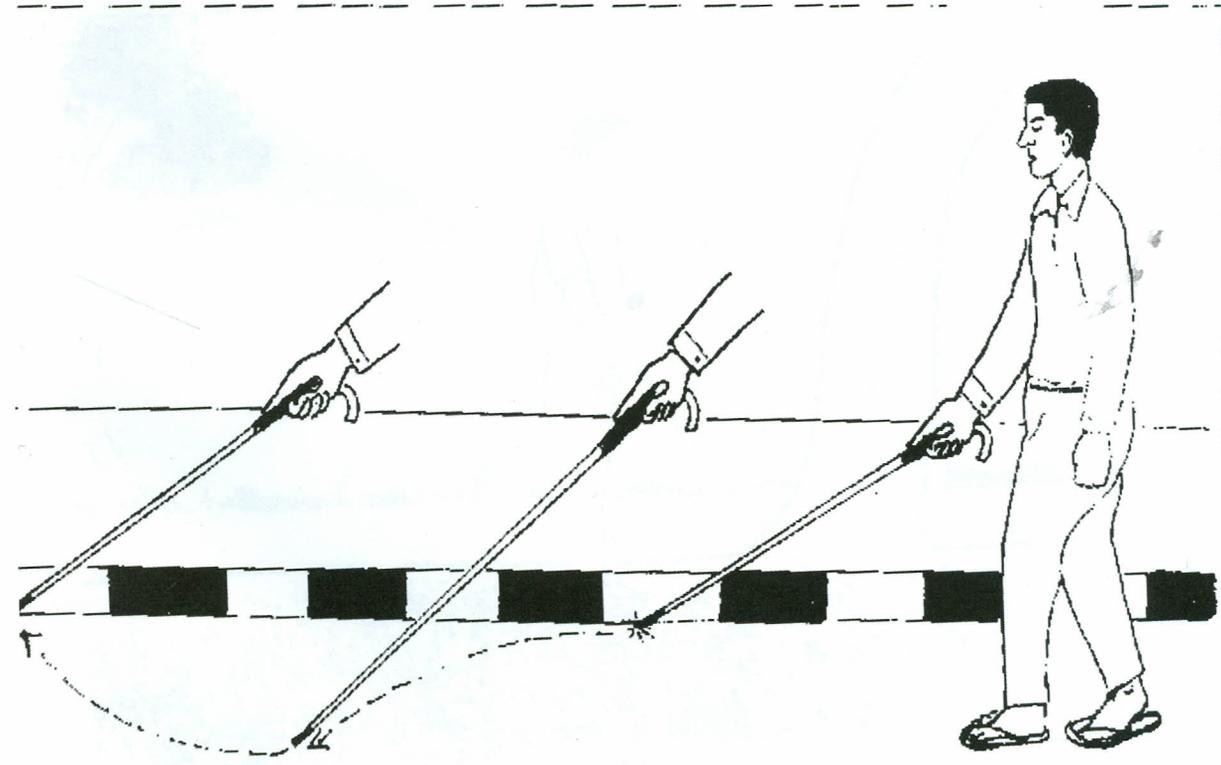
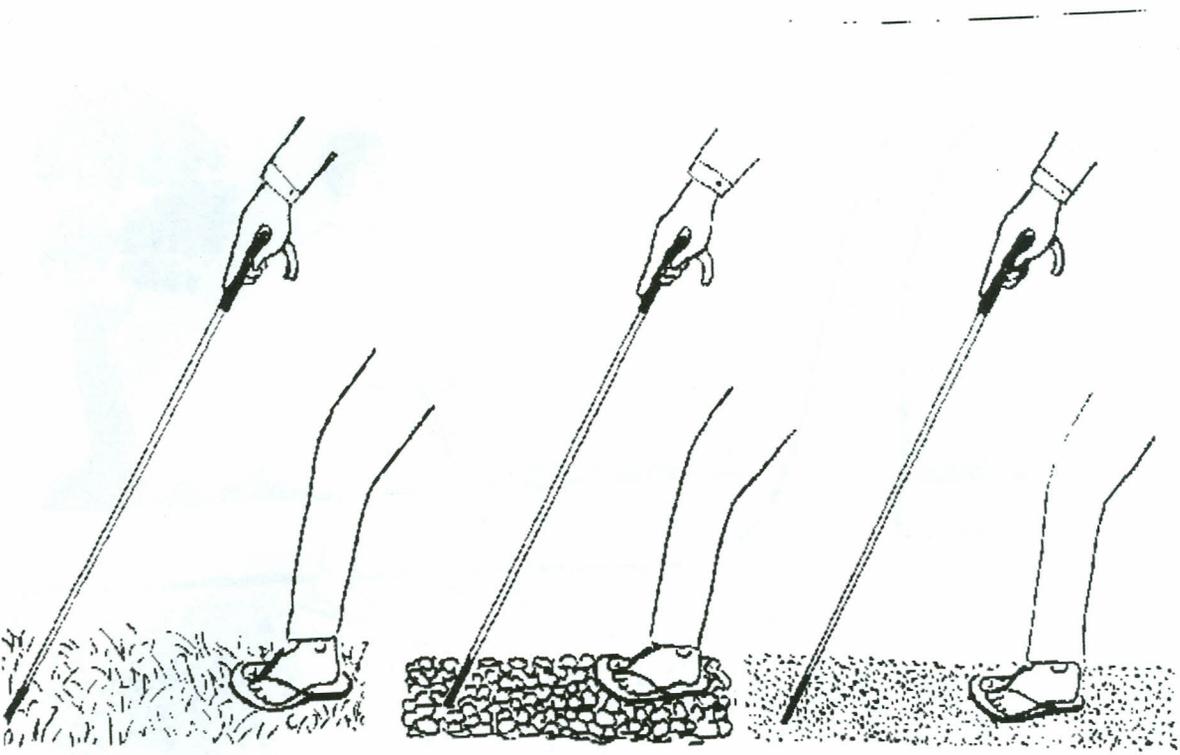
The student can also use "awareness of body movement" for successful mobility



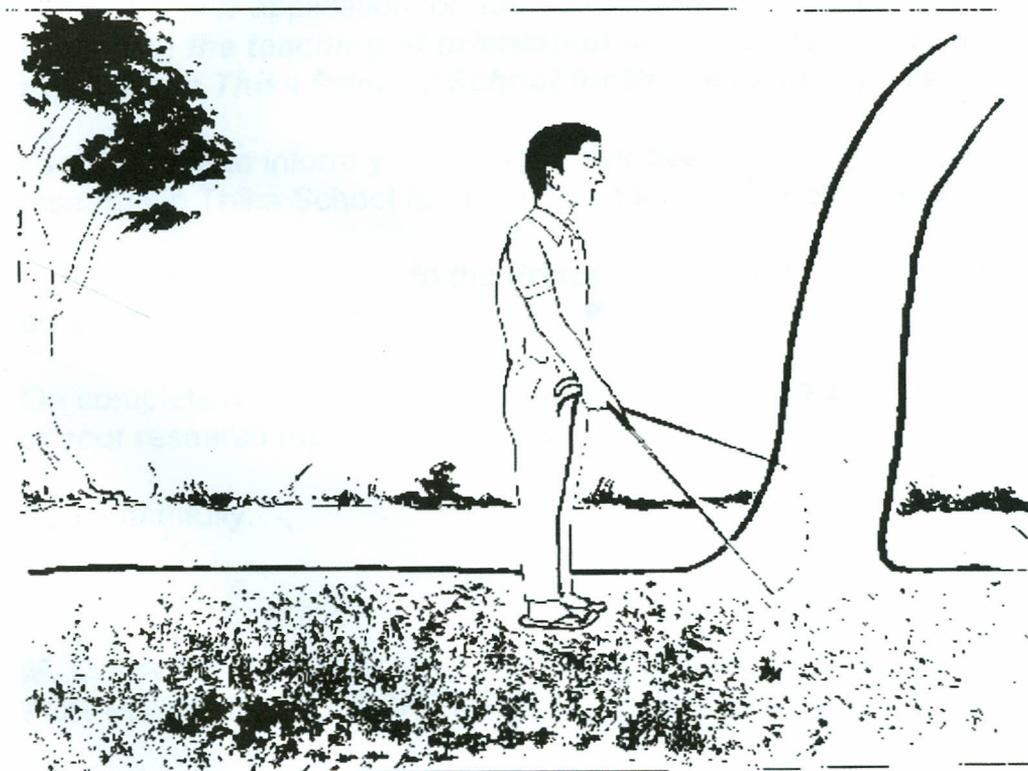
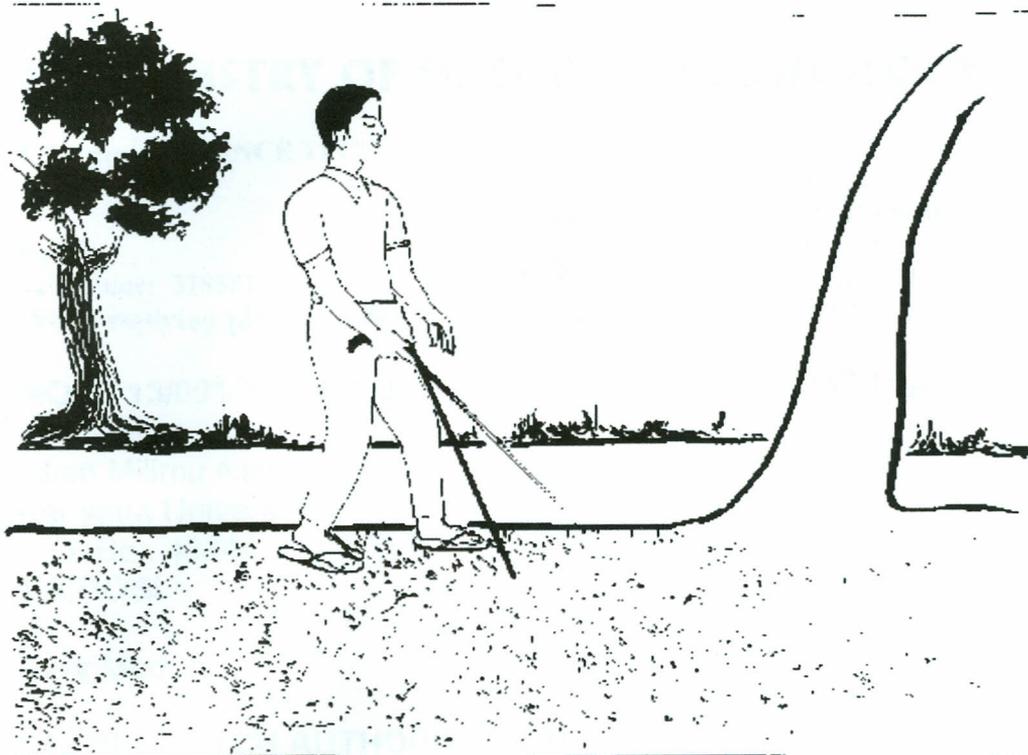
**Crossing a bridge using the white cane.**



How a student can travel from home to any place he wants using white cane without assistance



**How a white cane communicates to the visually impaired person while moving**



**How one can know a land mark using a white cane.**

# MINISTRY OF SCIENCE & TECHNOLOGY

Telegrams: SCIENCE TEC", Nairobi

Fax No.  
Telephone: 318581  
When replying please quote



JOGOO HOUSE  
HARAMBEE AVENUE  
P. O. Box 60209-00200  
NAIROBI  
KENYA

**MOST 13/001/36C 677/2**

**15<sup>th</sup> November 2006**

Lilian Milimu Nasimiyu  
Kenyatta University  
P.O. Box 43844  
**NAIROBI**

Dear Madam,

## **RE: RESEARCH AUTHORIZATION**

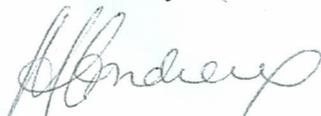
Following your application for authority to carry out research on, ***'Factors hindering the teaching of orientation and mobility to visually impaired students in Thika Primary School for the visually impaired'***

I am pleased to inform you that you have been authorized to carry out research in Thika School for a period ending 30<sup>th</sup> September 2007.

You are advised to report to the Principal Thika School before embarking on your research project.

On completion of your research, you are expected to submit two copies of your research report to this office.

Yours faithfully,



**M. O. ONDIEKI**  
**FOR PERMANENT SECRETARY**

The Principal  
Thika School for the Visually Impaired  
**THIKA**