

**AN EXAMINATION OF LIBRARY SERVICES
FOR STUDENTS WITH VISUAL
IMPAIRMENTS AT KENYATTA
UNIVERSITY**

By

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DECLARATION

This thesis is my original work, and has not been presented for a degree or any other award in any other University.

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DEDICATION

This work is dedicated to almighty God who amidst all odds, has seen me this far. Special dedication goes to my husband Phinius Muriungi and our children Edwin Mutuma and Joy Nkatha for their prayers, patience and encouragement throughout my study towards this degree.

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Abbreviations and Acronyms

A.D.L	Activities of Daily Living
CD	Compact Disk
CCTV	Closed Circuit Television
DVD	Digital Versatile Disk
HIV	Human Immunodeficiency Virus
KIE	Kenya Institute of Education
K.U.D.S.A	Kenyatta University Disabled Students Association
S.N.E	Special Needs Education
TIQET	Totally Integrated Quality Education and Training
UNESCO	United Nation Scientific and Cultural Organization

ABSTRACT

Though Kenyatta university library is concerned with the provision of books, magazines, periodicals and other information materials, individuals with visual impairments are unable to benefit fully from these facilities due to the fact that its design, services, information and materials available are not friendly and accessible. This study attempted to investigate how the educational and other information needs of students with visual impairments are met at Kenyatta University and in particular paid attention to the library services offered. The study investigated the library resources necessary for an effective library for students with visual impairments; established the range of services available for these students and how the students responded to them. The study also assessed the staffing level and the workload of library staff who offer library services to students with visual impairments. The study adopted a descriptive survey design. The target population was students with visual impairments at Kenyatta University. Key participants included the technicians in the audio visual room of the library, the librarian in charge for these students and the university librarian. Stratified random sampling was adopted to select respondents. The strata included year of study and gender from which sixteen respondents were equitably selected from a total population of 44. Data were collected using brailled questionnaires, interview guides and observation guide and was analyzed using descriptive statistics such as means, frequencies and mode. Pearson correlation coefficient was also used to make inferences regarding the relationship between variables measured. The study found out that the library layout was not convenient for students who are visually challenged. The reading materials were inadequate and the equipment did not satisfy the students' needs. The greatest challenge to Kenyatta University library service providers is how to improve access to reading and provision information material to students with visual impairments in the form it would be most accessible and useful to them. The greatest part of responsibility of coping with education processes however rests with the students themselves and they should be encouraged to meet this challenge with innovativeness and independence.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Kenyatta University, located 20km from Nairobi along the Nairobi-Thika Highway, is a fully-fledged University. Moi Library is located near the University gate in a two-storeyed building. The building has wide entrances, low profile catalogue cabinets and an elevator to the second floor.

According to Ngang'a (1982), Kenyatta University's involvement with students who are visually impaired goes back to 1969 when the first graduates of Thika High School for the Blind were transferred to the then Kenyatta College for post – secondary college courses. Since then, the number of these students in the University has gradually increased. These students needed an alternative format to access curricular material and in 1988, according to Thiele (1988), United Nations Scientific and Cultural Organisation (UNESCO) at the request of the government of Kenya carried out a mission at Kenyatta University with the following objectives: to produce audio and braille materials for these students with visual impairments, to give advice on equipment for braille production, particularly in the use of computers and to provide staff training.

UNESCO and the administration of Kenyatta University sought advice on the expansion of the present library and transcription services for students who required alternatives to print. General recommendations were raised, all aimed at providing this unique service and making it a repository of information on other collections of special materials in Kenya. In the area of staff development,

UNESCO recommended an in-service training arrangement for the designated manager of the programme in a university that had an established library service for persons who are blind. Training in computerized braille transcription and production was recommended at a highly developed special library service outside Kenya.

As regard equipment and technological development, UNESCO found out that there was too much emphasis on production of braille materials. In a major departure from this, UNESCO recommended that materials for graduates be produced in recorded talking books. This was meant to reduce the amount of Braille materials required because talking books are less bulky. Further, UNESCO recommended the creation of an audio-visual room in the Moi Library. This room was meant to handle all transcriptions and library services for persons who are visually challenged.

Currently, one section of the main floor of Moi Library is devoted to materials for visually challenged students. Nearby is an audiovisual room which houses a collection of recorded talking books on cassettes as well as recording equipment. The recorded books are made primarily through the efforts of volunteers and occupy an important place in the audio visual room. Presently, however, this room has been occupied by computers for sighted students. This has reduced the recording time to only two hours per day since the other sighted students also need to use the room. The collection of recorded talking books and actual recording is under the library's audio-visual technician.

Currently, there are few universities in Africa which offer library services to students who are visually impaired according to Kittagawa (1999), and leading in the list is Kenyatta University. The Kenya library service opened its doors to individuals with visual impairments in 1996 as recorded by Sharpe (2006). When the Kenya library service opened the Braille section, people who are visually challenged felt like somebody had finally remembered them.

1.2. Statement of the problem

The main role of Kenyatta University library is to support teaching and research activities by gathering all forms of recorded information and then conserving and disseminating it to the users. Apart from educational purposes, individuals need reading for guidance, relaxation, stimulation and satisfaction.

Whereas Kenyatta University library service providers have endeavoured to meet the academic needs of the visually challenged students, a close observation seems to indicate that the bulk of information is still not accessible to them and seemingly they have not been given a fair chance to read outside the classroom. Information society is rapidly developing and while information on different media and network is readily available for the sighted, the majority of students with visual impairments are still left behind on the information highway.

There has not been a comprehensive study investigating library services to visually challenged students. Therefore, the study sought to find out the library services available to visually challenged students in Kenyatta University.

1.3. Purpose of the study

The purpose of this study was to examine the library services provided to visually challenged students in Kenyatta University. The study specifically intended to determine the library resources necessary for an effective library for students with visual impairments. The study investigated the quality of books and audio materials available in terms of audibility and how current they are, respectively. The study sought to find out the students response to the services available and whether their information needs were met.

1.4. Objectives of the study

The objectives of the proposed study were:

- i. To determine the library resources necessary for an effective library for students with visual impairments at Kenyatta University.
- ii. To find out the range of services available.
- iii. To find out how students with visual impairments respond to the services available and whether their information needs are met.
- iv. To find out the quality of books and audio materials available in terms of audibility and how current they are, respectively.
- v. To find out the staffing level and load of library staff who offer library services to students with visual impairments.

1.5. Research questions

By undertaking the proposed study, the researcher will endeavour to answer the following questions;

- i. Are the available library resources and materials effective for an ideal library for students with visual impairments at Kenyatta University?
- ii. What ranges of services are available for students with visual impairments and how do students with visual impairments respond to these services?
- iii. What is the staffing level and workload of staff offering library services to students with visual impairments?
- iv. Are the books and audio materials available of good quality?

1.6. Significance of the study

The findings of the study will raise awareness on the current information needs of students who are visually impaired in the University. The information generated from the study, if adopted, will sensitise the university administration to acquire the more recent electronic and computerized equipment. The study findings also will help the library staff to make adjustments in providing library services to students with visual impairments and finally, the information generated will assist Kenyatta University's stakeholders like funders, sponsors and educationists.

1.7. Assumptions

The researcher assumed that the visually impaired students have an inner drive to seek information just as sighted students. The second assumption was that visually impaired learners are active information seekers. There was further assumption that the respondents would participate freely and effectively without fear. Finally, the researcher assumed that the library staff would give the situation as it was and not as it was occurring.

1.8. Limitations

The study was conducted in only one public university library. The low prevalence rate of learners with visual impairments may not adequately represent all the characteristics of the sampled population to an acceptable degree and this increase the degree of error in the variables measured. The study is also limited to only one specific category of disability and its applicability to persons with other categories of disability may be limited.

1.9. Delimitations

The study covered public University level. It focused mainly on the visually challenged students and was only concerned with the library services.

1.10. Theoretical Framework

The study was guided by Fanonian theory of revolution, as discussed by Jinadu (1986), which states that revolution is a continuing process through which man's potentialities are continuously enlarged. He argues that it is a process that spans time giving direction to social and political life. The theory further states that the alienation that was rampant in the colonial context was evident in that what parcelled out the world was the fact of belonging to a given race, a given species. Jinadu further elaborates this theory by pointing out that by revolution, Fanon is speaking against separation and isolation.

Several important issues arise out of this theory. One, when one can not see, according to Kitagawa (1999), he is isolated from the world of the printed word and this becomes the graver handicap. To ensure that these learners are not

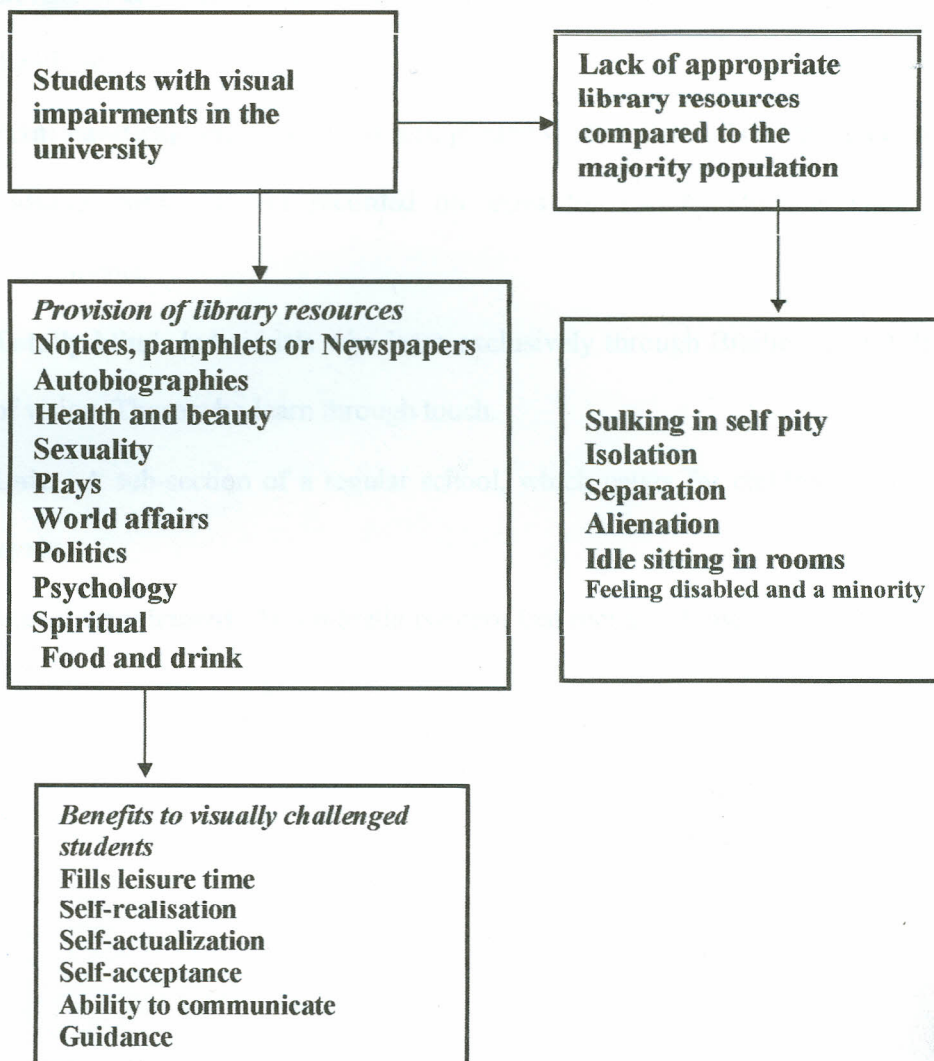
isolated, the university has endeavoured to face the challenge of securing reading materials for them. When visually impaired students experience the problem of not getting enough materials they are subjected to psychological torment that makes them feel disabled and a minority, a different species as it were. University education is the apex of all academic pursuit and students with visual impairments who qualify for admission form the cream of this minority group. Ogenga (1986), continues to argue that the national consciousness can drift into an empty shell instead of all embracing crystallization of the innermost hopes of the entire nation. This can happen if the nation is passed over for race and the tribe preferred to the state. These cracks only serve to show the process of retrogression that is harmful and prejudicial to national effort and national unity. To safeguard against these cracks in our case, it is important to secure enough reading materials for the students who have visual impairments. Information has become an important resource in the day to day lives of individuals, operations of organizations and the advancement of society and denying them this, can lead to retrogression.

The major purpose of university admission is basically to seek information and later apply this information to lead a full life. If this information is not accessible, it can lead to frustration and even failure – not to mention the isolation that can arise as a result. University education and acquisition of knowledge and vocational skills are the highest forms of self realization and actualization.

1.11. Conceptual framework

The conceptual model is based on Fanon's theory of Revolution as discussed by Jinadu (1986), which speaks against segregation of the minority group. The theory maintains that alienation was rampant in the colonial context and the world was parcelled out by the fact of belonging to a given race or a given species. In this theory, Fanon is clearly speaking out against separation and isolation. The conceptual framework for this study could be represented diagrammatically in Figure 2.1.

Fig. 2.1 Conceptual framework for provision of library services to students with visual impairments.



1.12 Operational definition of terms.

Audio visual room: A sound proof room in the Kenyatta University's Moi Library that houses a collection of talking books and recording equipment.

Curriculum: A course of study followed in the process of acquiring education.

Library: A building or part of a building, which contains books and/or other information media that may be borrowed by the public or by members of a special group.

Library services for visually impaired: Provision of reading materials in Braille, on tape or any other media accessible to students with visual impairment through the library.

Print handicapped: Inability to read printed written material due to visual loss.

Talking books: Books recorded on tapes for use by students with visual impairments.

Totally blind: Individuals who learn exclusively through Braille without the use of vision. Those who learn through touch.

Unit: A sub-section of a regular school, which caters for children with special needs.

Visual impairment: An umbrella concept that includes blindness and low vision.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The assumption that of all the knowledge that man needs for his development, more than 80% is said to be through the eyes implies that the biggest communication barrier faced by students with visual impairments is that of gaining access to the written word and visual observation (Best, 1995). Information is a basic commodity in everyone's life and reading is the most fundamental way through which knowledge is acquired. Timely provisions and subscriptions of other reading materials, other than approved curriculum texts is important for students with visual impairments.

This chapter is devoted to the review of literature related to the library services for visually impaired students. Literature review is done on the following subtopics: the impact of blindness, education and training of learners with special needs, reading modes for students with visual impairments, assistive technology and visual impairments, standards for library for students with visual impairments and other related researches.

2.1. The Impact of Blindness

Blindness is traumatic both to the visually impaired person and to others, particularly family members. Blindness is a dynamic process, which brings in problems of physiological, personal and social nature – which are likely to change with time and with the experience of blindness. According to Cradock (1985),

blindness changes the social structure of the family, introducing different roles and dependency according to the position of the individual who is blind.

The state of the individual with a visual impairment will depend upon the reaction of those around him as well as his personal reaction to blindness. There may be a tendency to be overprotective and to encourage passivity, particularly with children.

Despite the prominence given to the subject of disabilities by the media, there is still a general ignorance on the nature of blindness, a lack of knowledge on how to react to blind people; the stigma of blindness and the tendency to react to the impairment rather than the person. This makes people with visual impairments behave in the way expected of them by the society. However, the relationship between these individuals and their social environments is not only due to personal and social reactions. There are the more obvious physiological characteristics of their condition, which inter-relate. Problems of communication and mobility form a major part of the difficulties faced by people with visual impairments attempting to live in what is primarily a visually oriented world. One of the ironies of blindness is that it limits not only the use of indirect channels of communication of books and other media but also direct social contact because of the restriction placed on mobility.

According to Clark (1984), blindness imposes two great burdens on an individual, the first is the difficulty of navigating even in familiar environments and the second is the inability to access printed page. Reading assumes a major role in maintaining contact with the world and it can fill many empty hours. Although

educational material is great for a student, recreational reading is equally important. This type of reading may comprise of daily newspapers and popular magazines. It is worth noting that the effort required to access information is greater for students with visual impairments than for sighted students.

On cognitive and intellectual development, lack of vision can hamper development by restricting the range and variety of experiences. Visual impairment does not however impair the brain's ability to process information but the brain has less information to act upon due to its limited input. Vision is thus a continuous source of information and lack of it greatly impacts on the cognitive and intellectual development of a visually impaired learner. However the principles and issues related to the social and emotional development of people with visual impairments are the same as those related to the social and emotional development of people who are sighted.

2.2. Education and training of learners with Special needs

In any society, disability provokes passion which makes people upset whenever it emerges that certain individuals can be hindered to pursue their desired goals because of a handicap. In an attempt to provide quality education to learners with special needs, the Koech commission of 1999, discussed ways to put structures in place to propel the intellectual capacities of the handicapped onto greater heights. Learners with visual impairment form part of this group of learners with special needs.

According to the Commission, special education is a programme of instruction designed to meet the unique needs of a child with special educational needs. The learners receiving special education have educational impairments such as physical, hearing, visual, mental, emotional, language, learning disabilities and multiple handicaps. These impairments interfere with regular education unless modifications and related services, equipment and specially trained teachers are provided. Gifted and talented children are also included among the children with special needs.

The goal of education is to provide equal opportunities for all children including those with special needs. However, the quality of service for children with special needs in Kenya is adversely affected by an acute shortage of specialized equipment and aids.

The objectives of Special Needs Education (SNE) in Kenya were highlighted in Koech Report of 1999. This type of education was meant to facilitate the development of children with special educational needs. It was geared towards the development of their potential and productive abilities to enable them excel in learning and in their future careers. Special needs education would assist children to acquire a suitable basic foundation for the world of work in the context economic and manpower needs. It would serve to develop in these children a positive self concept and proper attitudes towards life based on moral and religious values. These children need skills of coping and independent living by learning Activities of Daily Living (ADL).

The Commission noted that there was need to put mechanisms in place to identify, assess, place children and provide for early intervention. There was need to

educate the public on the needs and potential of children with special needs and integrate them in the society. Some of the children with special needs are mildly and moderately impaired and can successfully be integrated in regular schools with appropriate services. The Commission realised that there was need to provide comprehensive educational facilities, materials, equipment and trained teachers. These objectives were important in order to improve the education of these children because societal attitudes are negative and encourage the education of the 'normal' children before that of children with impairment.

As far as visually impaired learners are concerned, the Koech Commission learned that their primary method of learning is braille. There was also a great inadequacy of reading materials. It was also learned that production of material in a form usable by the learners with visual impairments is a slow and tedious business. Learners also rely on audio and video taped books but even these are completely inadequate and when they are available they are extremely of poor quality. Apart from Kenyatta University, no other university in Kenya has a production service for students with visual impairments. The Commission also learned of the importance of compensatory skills for visually impaired learners. These include tactile skills, listening skills, orientation and mobility and social skills. Though curriculum adoption for the visually impaired learners is tedious, it was recommended that the Kenya Institute of Education (KIE) develops a curriculum to fit the individual needs of the learners. The Commission was further informed that the inspectorate in quality assurance and standards rarely inspect special schools and this has resulted in deterioration.

The regular examinations are also not responsive to the needs of children with special needs. This has led to calls for examination papers to be analyzed and adapted. There was also a dire need to establish a Department of Special

Education at the Kenya National Examinations Council. It came out clearly that visually impaired learners have problems manipulating some subjects that are not within their power such as identification of colours and also practical subjects such as the physical sciences.

The standard Newspaper of January 17, 2007 proposes that current education reforms in Kenya would greatly influence the accessibility of education to students with special needs. The taskforce headed by Kamunge (1988) proposes free and compulsory secondary education which might in turn cause a proportional increase in the numbers of these students with visual impairments in the university.

Kenya has a duty to prepare her Citizens to compete favourably with other nations in terms of educational and career development. In line with this, the Persons with Disabilities Act – 2003 became an act of parliament. According to this Act, Article number 18 is on the education for persons with disabilities and states the following:

- No person or learning institution shall deny admission to a person with a disability to any course of study by reason only of such disability, if the person has the ability to acquire substantial learning in that course.
- Learning institutions shall take into account the special needs of persons with disabilities with respect to the entry requirements, pass marks, curriculum, examinations, auxiliary services, use of school facilities, class schedules, physical education requirements and other similar considerations.

- Special schools and institutions, especially for the deaf, the blind and the mentally retarded, shall be established to cater for formal education, skills development and self reliance.
- The council shall work in consultation with the relevant agencies of government to make provisions in all districts for all integrated system of special and non – formal education for persons with all forms of disabilities and the establishment where possible of Braille and recorded libraries for persons with visual disabilities.

The Act further states in Article 21 that persons with disabilities are entitled to a barrier free and disability friendly environment to enable them to have access to buildings, roads and other social amenities and assistive devices and other equipment to promote their mobility.

2.2.1. Reading modes for students with visual impairment

Blind and partially sighted individuals can have access to printed materials if they are presented in a tactile, audio or improved typographical form (Bruce, 1982). In this case, special optical aids such as appropriate spectacles, magnifying glasses, closed circuit television or special electronic equipment are used. Three main media used to give students with visual impairments access to the printed word are; braille books, talking books and books in large print.

2.2.2. Books in Braille

Any text in any written language can be made accessible by putting the text character by character into braille. The Braille Code consists of shapes made out

of a combination of six dots. The dots are arranged in a cell consisting of two vertical rows of three dots. The cell is of a standard size. The shapes formed by these combinations represent each letter of the alphabet and punctuation signs. Braille is much more cumbersome to read than print because the finger can only feel one shape or letter at a time. In order to overcome this problem Grade 2 Braille involving contractions is used. It saves space and makes reading and writing quicker. Transcribing can be a slow and tedious process and Huebner et al(2004), advocated for a collaborative effort of educators, braille production personnel and access technology specialists in order to quicken the process of Braille transcription.

2.2.3. Talking books

Every library is essentially a talking book library with the potential of serving non-print readers by matching a book, a sighted reader and a visually impaired student. It is the cheapest and greatly utilized method at Kenyatta University of recruiting volunteer readers. The major drawback is that it takes two people to do the same thing at the same time which makes it not efficient for the reading of longer materials, such as textbooks. The other drawback is that due to the volunteer aspect, readers cannot be selected according to the quality of their voice and eloquence and this makes it extremely difficult to shape the programme.

2.2.4. Large print books

These are used by low vision individuals who find it difficult to read material in ordinary print when the characters are not sufficiently large and bold making the text to appear insufficiently clear or contrasted.

2.2.5. Assistive Technology and Visual Impairments

Brennan (1985), defined curriculum as a course of study followed in the process of acquiring education. The core curriculum for the students with visual impairments consists of knowledge and skills related to academic subjects. However, these students need additional skills to help them overcome the disability. For these students to access the enormous information available to their sighted counterparts, training in adaptive technology is a must. Adaptive technology is a broad term used to describe both the products and services of people with special needs (Marshall and Hunt, 2002). It enhances the vocation, recreation, education and independence of the user. Kirk et al (2003) maintained that adaptive technology can provide equality between visually impaired learners and their sighted peers within the emerging information society. Visually impaired persons can independently access, process, store and transmit the same information handled by sighted people as both can use computers to manipulate information. It is important to note that the mission of any education for students with visual impairments is to provide them with whatever reading materials they require to allow them to achieve full participation in the lives of their community.

Massis (1982), asserted that through the use of the 21st century technology combined with true professional expertise, a door has been unlocked releasing a tidal wave of information to this segment of society who had not previously even been possessed the key. Kenyatta University library service providers are faced with a major challenge to keep up with the 21st century technology. There is need

to develop an efficient system of disseminating the right information in the right format. This is because availability of information greatly influences the rehabilitation and integration of people who are visually impaired in the society. Much of the progress of the world's knowledge has been possible because of the existence of libraries. Over the ages, societies have depended on their collections of recorded materials for the purpose of access to contemporary information. Today, however, the preservation of knowledge is no longer confined to print and books as in the traditional form but has been supplemented by technology. According to Clark (1984), adaptive technology offers a wide range of opportunities for visually impaired learners among them, are the following:

- Cursor controlled synthetic voice read out character by character and line-by-line.
- Text control and editing word by word.
- Storage of information in concise format.
- Retrieval of information by simple commands and search techniques
- Ability to download information for storage and use.
- Ability to access information at a distance.

All these suggest existing possibilities in a wide variety of areas related to personal, educational and occupational activities of visually impaired learners. Muema (2004), in his unpublished thesis, argued that the library can take specific steps to ensure that all learners whether disabled or not enjoy full access to electronic resources. He further stated that internet-based options remove all barriers of time, distance and physical disabilities.

Visually impaired students need information on socially appropriate behaviour, daily living skills and development of positive attitudes towards the community, among others. There has to be a calculated effort to offer specialized opportunities for visually impaired students in the university. This would increase their skill and personal independence, failure of which can place them in a difficult situation in trying to balance between under and over dependence on sighted colleagues for day-to-day information, transport and interpretation of materials in lectures and classes. Chapman (1978), proposed that it can be particularly helpful for students with visual impairments to have embossed maps of their campus before they begin their studies and explore lecture rooms and the library at quiet times so that staff can help in tracking down reference books before these areas become thronged with students. He recommended that these maps be provided to students with visual challenges on admission to the University which poses a great challenge to the Kenyatta University administration.

This way students are likely to gain self-respect and independence and Magee (1995), pointed out that it can help them achieve autonomy and self – respect which in the long run may have a lasting effect. New discoveries about the development and learning of students with visual impairments are developing rapidly. Barraga (1976), observed that these discoveries should be accompanied by a definite trend towards expanded educational programming and greater use of technology.

2.3. Ideal Library for Students with Visual Impairments

Any institution that enrolls a student with visual impairments thereby assumes responsibility for the library and support services required by that student. The South African Library for the Blind concerns itself with library services for blind readers. It encourages research and development in all areas, thus improving access of information for readers who are visually impaired. It concerns itself with implementation of service goals, standardization of material and other activities for readers who are visually impaired.

The South African Library for the Blind houses books under the following titles; non-fiction, animals, autobiographies, biographies, crimes, foods, sport, war, women, children fiction, women, drinks, health and beauty, history, language, plays, T.V and media, politics and world affairs. It has a reputation of providing top-quality service and consequently user expectations have continued to increase over the years. The library maintains strong partnerships with the Royal National Institute for the Blind in United Kingdom. It encompasses a talking book section, a student tape library and the student library for braille materials.

As students often need materials at short notice and as production of braille materials takes much longer than spoken word cassettes, the student tape library provides cassettes as a stopgap measure until the equivalent braille production is available. It has expanded to include talking newspapers to allow people with visual impairments to remain in touch with the world around them.

2.4. Review of related researches

Kimani (1990), states that the role of a university's library is to provide information, resources and services. These are crucial in supporting the teaching, learning and research activities of the parent institution. The library plays a major role in helping the university to meet its objectives. Without effective acquisition of relevant information resources, storage and subsequent retrieval of the same, then the library would fail in playing the required role. The writer points out that there is great emphasis today on learners' active participation in the learning process through interaction with resources.

Nzioka (1995), in his work entitled, "Quest for Information by the Employed Visually Handicapped Readers in Nairobi" contends that planners can make relevant interventions if they were made aware of the problems faced by people with visual impairments. According to him, it is difficult for such persons to use high shelves, narrow and crowded corridors, toilets and user based catalogues. Due to these, persons with visual impairments may be unwilling to go to the library. He asserts that people like reading for relaxation and the visually impaired are no exception. If the library is not well stocked with books in braille, which they may read for pleasure, then they feel deprived of their right to read and may prefer sitting idle in their homes. He is of the opinion that with a wide range of reading, the world of persons with visual impairments would open up.

However this study targeted the employed population of visually challenged individuals. This population is relatively settled compared to the visually challenged students. Whereas the employed individuals may seek information

only for leisure the visually challenged students seek information to increase their chances of employment. The scope of the study was the employed visually challenged people in Nairobi. These are people with good jobs that can afford them a good life in Nairobi. This study targets the students who are basically dependants.

Muema (2004), maintains that the library can take specific steps to ensure that all learners whether disabled or not enjoy full access to electronic resources. He points out that internet based options remove all barriers of time, distance and physical disabilities. He feels that there is need for international cooperation in building good library services.

Wall et al (2004), suggested that further research is needed to investigate the extent to which braille and large print materials are available at the local level for day to day and school based reading. These findings were made after research carried out in the United States of America.

2.5. Conclusion

From the literature reviewed it emerges clearly that education is no longer limited to what occurs in a school day within the walls of a classroom. Slade (2005), contended that the traditional teacher centred lectures are getting superseded by student centred self paced learning environments. The review revealed that various stakeholders are concerned with the delivery of educational services to

students with visual impairments. Their reading modes are different from those of the sighted and they therefore need reading materials in alternative format.

Introduction

The purpose of this book is to provide a comprehensive overview of the current state of research on reading for visually impaired students. It begins by outlining the challenges faced by these students and the need for alternative reading materials. The book then discusses various methods for creating accessible reading materials, including Braille, large print, and audio formats. It also explores the role of assistive technologies in enhancing reading experiences for visually impaired students. The book concludes with a discussion on the future of reading research and the importance of ongoing support and resources for visually impaired students.

1.1. Background

Visual impairment is a significant barrier to learning and reading for many students.

According to the World Health Organization (WHO), visual impairment affects approximately 285 million people worldwide.

Visual impairment can be caused by a variety of factors, including congenital conditions, eye disease, and injury.

Reading is a fundamental skill for academic and professional success, and it is essential for visually impaired students to have access to reading materials.

However, traditional reading materials are often inaccessible to visually impaired students, making it difficult for them to learn and succeed in school.

Therefore, it is crucial to develop alternative reading materials that are accessible and effective for visually impaired students.

This book explores the current state of research on reading for visually impaired students and discusses various methods for creating accessible reading materials.

The book begins by outlining the challenges faced by visually impaired students and the need for alternative reading materials.

It then discusses various methods for creating accessible reading materials, including Braille, large print, and audio formats.

The book also explores the role of assistive technologies in enhancing reading experiences for visually impaired students.

Finally, the book concludes with a discussion on the future of reading research and the importance of ongoing support and resources for visually impaired students.

To achieve this, the book is organized into several chapters that explore different aspects of reading for visually impaired students.

The first chapter, "Introduction," provides an overview of the book's purpose and structure.

The second chapter, "Background," discusses the prevalence of visual impairment and the challenges it poses for reading.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter describes the design and methodology that was adopted in investigating the problem. The focus was on research design, location of the study, target population, sampling techniques and sample size, research instruments, reliability and validity of the instruments, data collection techniques and data analysis procedures.

3.1. Research design

The main purpose of this study was to examine the library services for students who are visually challenged in Kenyatta University. The study adopted a descriptive survey and qualitative design. It utilized quantitative techniques in gathering data. Lokesh (1984), states that descriptive research studies are designed to obtain pertinent and precise information concerning the current status of a phenomena. It is a useful method for collecting information on a variety of educational and social issues. According to Mugenda and Mugenda (2003), a survey research is an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variables. It seeks to obtain information that describes the existing phenomena by asking individuals about their perceptions, opinions and or values.

To achieve these, the researcher used questionnaires, interview guides and participant observation. The questionnaire catered for quantitative aspects while interviews formed the main thrust of the qualitative aspects of the study. A

combination of these three methods was the best way for the researcher to get in-depth data which was unlikely to be obtained using other methods (Kane, 1995).

Organisation of the Study

The study was in four phases. Phase one will involved proposal preparation and the development of research instruments. Phase two involved the piloting of research instruments in order to test and refine them, phase three was the actual data collection and phase four was data analysis presentation and discussion. The of the study final step involved making recommendations based on the findings from the study.

3.2. Locale

The study was conducted in Kenyatta University which is located 20 km from Nairobi along the Nairobi-Thick Highway. Singleton (1993), has observed that the ideal setting for any study is one that is directly related to the researcher's interest. Kenyatta University offers a wide range of curriculum and admits students from all over Kenya. It is also involved in exchange programmes with international Universities. It was at the time of the study the only university in the country that offered library services to visually impaired readers and this was basically the researcher's interest.

3.3. Target population

The study targeted students with visual impairments in Kenyatta University, the technicians in the audio-visual room who were responsible for the production of audio material for the students, the librarian in charge of the library services for

those students and the chief librarian. The total population of students with visual impairments in the university was 44 with 1 technician in the audio visual room, 1 librarian in charge of students with visual impairments and 1 university librarian making a total of 47. the accessible sample consisted of 16 students.

3.4. Sampling procedure

Sampling is the process of selecting individuals for a study. Kenyatta University was purposively selected because it is the only public university in Kenya offering library services to visually impaired in Kenya.. The researcher sampled 16 students out of a total of 44 students. According to Gay (1981), ten per cent of the accessible population is enough for descriptive studies.

Mugenda and Mugenda (1999), argue that with a large sample, the researcher is confident that if another sample of the same size was to be selected, findings from the two samples would be similar to a high degree. The researcher sampled 16 students who represented an equivalent of 36%.

Stratified random sampling was used with the year of study, gender and the school/department as the categories of stratification. All the visually challenged students belonged to the school of education. Stratification was done according to the year of study as shown in Table 3.1.

Table 3.1 Stratification of Sampled Population by Year of Study

	1st Years	2nd Years	3rd Years	4th Years	Total
Total number of students	14	6	11	13	44
Sampled students	5	2	4	5	16

The researcher calculated the sampling fraction to get the number of students per year who would take part in the study as shown in the table above. After obtaining the list of the names of students in each year simple random sampling was then used to get the actual students who would take part in the study.

The technician in the audio visual room and librarian were purposively selected. Since there was only one technician in charge of audiovisual materials in the library, one librarian in charge of library services to the blind and one university librarian, these were purposively selected.

3.5. Data collection instruments

Three instruments were used by the researcher. These are questionnaires, interview guides and participant observation guides

3.5.1 Questionnaire

The questionnaire for the visually challenged students were brailled since they cannot read prints. The questionnaire administered to these students Consisted of two sections, A and B. Section A sought demographic information of the respondents while section B sought information on their opportunity to access the library services. The questionnaire contained both closed and open ended questions. The open ended questions gave the respondents greater freedom of expressing their own ideas and opinions and give suggestions where necessary. The closed ended items enabled the researcher to obtain specific responses from the respondents. The researcher chose to use questionnaires because according to Mugenda and Mugenda (1999), the questionnaire provides the investigation with an easy accumulation of data and makes anonymity possible. The questionnaire for students is presented in appendix A.

3.5.2 Interview Guides

According to Orodho (2005), an interview guide is a set of questions that an interviewer asks when interviewing respondents. The interview guides were administered to the University librarian, the librarian in charge of library services to the students with visual impairment and the technician in charge of the audio-visual room. Structured questions for the interview were prepared in advance and since their duties were different, each had a separate set of questions for the interview. This enabled the researcher to obtain data required to meet specific objectives of the study. Interviews were also advantageous in that they provided in-depth data, which was not possible to get using a questionnaire (Mugenda and

Mugenda, 2003). The interview guide for the University librarian is presented in appendix B while that of the librarian in charge of visually challenged students and the audio visual technician are presented in appendix C and D respectively.

3.5.3 Observation Guide

An observation guide is utilized to record what a researcher anticipates observing during data collection (Orodho, 2005). An observation guide was used by the researcher who was a participant observer in the audio visual room. The researcher offered to be a volunteer reader for students with visual impairments. The exercise took place in the audio visual room. An observation guide was utilise to record what the researcher observed during data collection. The observation guide is presented in appendix A.

3.6 Reliability of Instruments

According to Mugenda and Mugenda (1999), reliability refers to to the degree to which a particular measuring procedure gives equivalent results after repeated trials. To estimate reliability of the questionnaire, the researcher carried out a pilot study of the questionnaire. The researcher conducted a pilot study at Maseno University. This involved 5 students with low vision. The researcher opted to pilot the instruments in Maseno University since it admitted students with visual impairments. The purpose of piloting was to discover any weakness in the instruments and also to check the clarity of the questions. Test – retest method was used to estimate the reliability. By using this method, the researcher aimed at determining the co –efficient of internal consistency whose value vary between 0.00 (indicating no reliability) and +1.00 (indicating perfect reliability).

The questionnaire was administered to 5 students in Maseno University and who were not included in the study sample. The completed questionnaires were analysed. The researcher waited for a period of two weeks and the same questionnaire was administered to the same students. The completed questionnaires were analysed. From the two answers got after analysing spearman rank order correlation was used to compute the correlation co-efficient. This helped in establishing the extent to which the contents were consistent in producing similar responses. The reliability index was 0.78 which the researcher considered high enough to judge the reliability of the instruments.

3.7 Validity

This refers to the ability of an instrument to measure what is supposed to measure. According to Orodho (2005), face validity is the subjective judgement that the test appears to cover relevant content. Content validity is concerned with whether the whole content area is well represented or covered well by the test items. To determine the validity of the instruments, the researcher subjected it to peer review, research experts and sought the opinion of the supervisors. Pilot study also helped in the validation of the instruments. The researcher discarded baseless and irrelevant items from the questionnaire and replaced them with more useful, relevant and logical ones which elicited the required responses.

3.8 Logistical and Ethical Considerations

After the approval of the proposal at the school, permission was sought from the permanent secretary, ministry of education. The researcher then liaised with the office of DVC (academic) at Kenyatta University. Proper packaging of research

instruments was ensured. Ethical, legal and human relations issues were put into consideration, Respondents were instructed not to put their names on the instruments. The researcher also assured the respondents that the purpose of research was to fulfil educational requirements and not any other purpose. Confidentiality was observed throughout the study period.

3.9 Data collection

After proper packaging of the data collection instruments, the researcher sought the help of the Head of Department. The Head of Department assisted by giving out the questionnaires to the chairman of the Kenyatta University Disabled Students Association.(K.U.D.S.A). The brailled questionnaires were then administered to the students. The researcher explained and requested the respondents for assistance. The researcher collected the filled in questionnaires after two weeks. With the help of the University librarian, the researcher was filled into the programme of other workers and interviewed them. The researcher visited the respondents and agreed on the appropriate time and day to conduct the interview. In this case, the University librarian helped a lot. The researcher liaised with the technician in the audio- visual room in choosing the appropriate time to participate in the volunteer reader programme. The researcher became an active volunteer reader for one month within which time crucial observations were made and recorded.

3.10 Data Analysis

After the data was collected, the first for the researcher was to check for the instrument completeness, accuracy and uniformity. The next step was the coding

of the data and information. The purpose of coding was to classify the answers from the questionnaires into meaningful categories so as to bring out the essential pattern. The questionnaires yielded quantitative data while interviews yielded qualitative data. The researcher used the Statistical Package for Social Sciences (SPSS) for analysis. Pearson's correlation coefficient (r) was useful in making conclusions regarding relationships between the variable mentioned. Qualitative data was put under themes and trends and patterns were established with an aim of arriving at some logical conclusions.

The research findings are presented in tabular forms, frequency tables and graphs alongside with any background information, discussions and conclusions drawn from the results.

CHAPTER FOUR

DATA PRESENTATION, DISCUSSION AND ANALYSIS

Introduction

This chapter highlights the findings of the study regarding the library resources necessary for an effective library for students with visual impairments at Kenyatta University. It also explores the range of services available at the university library. The chapter also describes how students with visual impairments respond to the services available and whether their information needs are met. In addition, the chapter explores the type and quality of books and audio materials available in terms of audibility and how current they are. Finally, an analysis of the staffing level and workload of library staff who offer library services to students with visual impairments is made.

Kenyatta University started library services for students with visual impairments because it attracted an increasing number of these students owing to the fact that traditionally it is an education institution. The University had 44 visually impaired students at the time of study. Being one of the fastest growing universities in Kenya, students with visual impairments are joining in increasing numbers. The facilities at the Moi library of Kenyatta University were not designed with the needs of students with visual impairments in mind. They were brought on board as the need arose when the library was already fully operational. Consequently, the library design does not adequately cater for easy access to the library services provided for these students. The findings of the study are presented in tables of frequency and percentage distributions.

4.1 Demographic Information of the Respondents

The researcher sought to find out the personal characteristics of the respondents.

Table 4.1 Shows the gender distribution of the respondents.

Table 4.1: Gender distribution of the respondents

Gender	Frequency	Percentage
Male	8	50
Female	8	50
Total	16	100

There were half males and females in the sample. This indicates that both genders were represented by the same number ensuring that there was no numerical gender bias in the study.

When respondents were categorised according to the causes of visual impairment the results were as tabulated in Table 4.2

Table 4.2: Causes of visual Impairment

Causes	Frequency	Percentage %
Born blind	9	56.25
Disease	2	12.50
Unaware/Unknown	5	31.25
Total	16	100

56% of the respondents were born blind. Vision is a major source of information from a very early age. Blindness imposes serious restrictions and limitations on

the individual by placing him/ her in difficult situations in Activities of Daily Living (ADL). Although blindness does not impair the brain, it restricts the amount of information that the brain has to work on. This implies that these students need a lot of materials for reading in order to feed the brain with enough information if they are to compete favourably with their sighted peers.

To determine the type of school attended, the respondents were asked to indicate the findings are shown in Table 4.3

Table 4.3: Type of School Attended

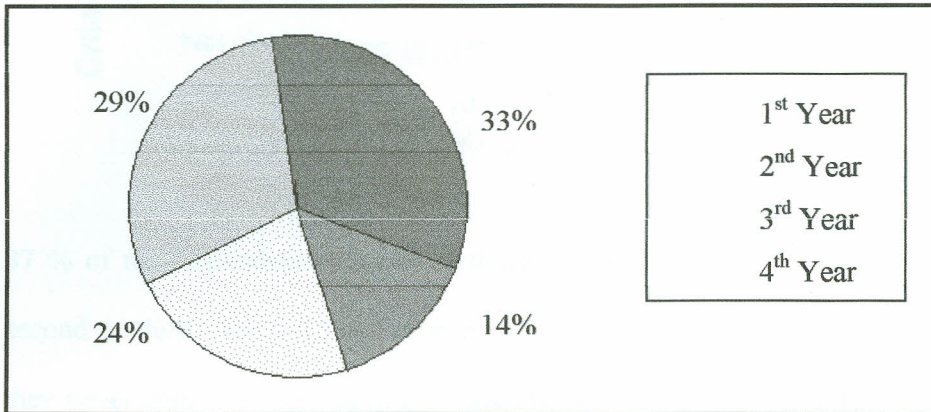
Type of school	Frequency	Percentage %
Special school	10	62.5
Integrated programme	5	31.25
Unit	1	6.25
Total	16	100

62.5 % of the students who are visually challenged in Kenyatta University attended special schools. Special schools have an advantage in that all services are provided with the needs of these students in mind. Library services, medical services and tuition among others are specially tailored to meet their specific needs. This implies that they may not find it easy to get along in the library which has no adaptations to suit them. It may be quite difficult for them to use the high shelves, narrow and often crowded corridors, user – based catalogues and toilets made for the sighted.

Year of study of the respondents

Figure 4.1 presents the distribution of the respondents among the four years of study in the University.

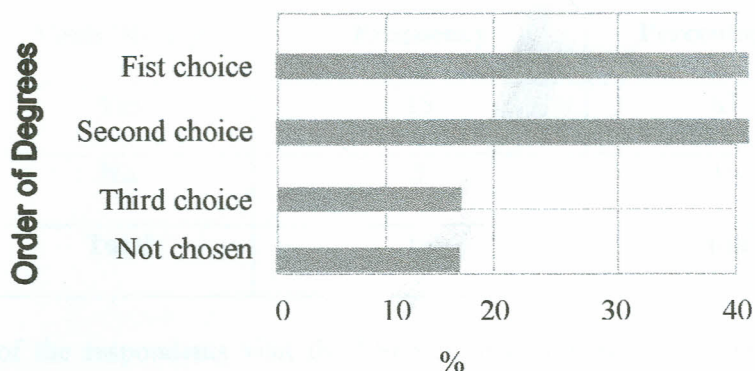
Figure 4.1: Year of Study of the Respondents



Respondents were equitably distributed among all the years giving proportionate and consequently fair representation. There was an uneven trend in enrolment over the years. First years had the highest number at 33 %. However there seemed to a relationship between the depth of information given by the students and the length of stay in campus since third years and fourth years were more than second years.

The respondents were asked to indicate the order in which they had chosen the degree courses they pursued in the University. Figure 4.2 presents the findings.

Figure 4.2: Order of Degree Courses Pursued



37 % of the respondents pursued first choice degree courses. The rest pursued second or third choice degree courses. 13% of the respondents pursued courses they never chose. When students pursue degree courses they did not prefer, they are likely not to seek assistance to access reading materials. This may compromise motivation and interest as it denies the student the freedom to build the career of their choice.

4.2 Effectiveness of library services available for Students with Visual Impairments

The researcher sought to find out the perceptions of students with visual impairments regarding the effectiveness of the library services. The findings are shown in the Tables.

Table 4.4: students' visit to the Library

Visits library	Frequency	Percentage%
Yes	13	81
No	3	19
Total	16	100

81% of the respondents visit the library. This implies that students with visual impairments have an inner drive to seek information just as their sighted counterparts. There is need to publicise the availability of library services to the 19% of the respondents.

Table 4.5 shows the students response to the library layout.

Table 4.5: Library layout

Convenience of library Layout	Frequency	Percentage
Yes	4	25
No	12	75
Total	16	100

75% of the respondents did not find the library layout convenient for their use. The high shelves and narrow corridors limited their movement. They had to make use of sighted guides and this limited their independence.

Several parts of the library posed difficulties to the respondents. Some experienced difficulties in getting books from the shelves and the circulation

counter while others found it difficult to navigate through all the sections of the library. This is shown in Table 4.6

Table 4.6: Parts of the Library posing difficulties

Part of the library	Frequency	Percentage
None	2	13
Circulation	0	0
Shelves	5	31
All of them	9	56
Total	16	100

56% of the respondents had difficulties navigating through all the sections of the library. The Kenyatta University's Moi Library was built with the needs of the sighted students in mind. Students with visual impairments were brought on board as the need arose. The circulation counter poses no difficulties at all. This implies that if only these students are able to trace the materials for reading, the library staffs at the circulation counter are ready to assist.

Students with visual impairments cannot access printed material. They need reading materials in alternative format. The researcher sought to find out the students' response to the availability of reading materials in alternative format. The findings are shown in Table 4.7.

Table 4.7: Availability of Reading Materials in Alternative Format

Availability of materials	Frequency	Percentage
Yes	2	12
No	14	88
Total	16	100

88% of the respondents reported that reading materials were not readily available in alternative format. Students often needed materials at short notice and production of Braille materials takes long. Therefore, it is crucial to have materials readily available in alternative format for students with visual impairments. This is in line with Kimani (1990), who argues that there is great emphasis today on learner's active participation in the learning process through interaction with resources.

According to the technician in the audio visual room who is in charge of production, talking books in cassettes were produced by volunteer narrators. There was no specific criterion for the selection of volunteer narrators. The technician put notices on the University notice boards and those willing to assist volunteered themselves. The respondents were asked to rate the talking books produced by the volunteer narrators. The findings are shown in Table 4.8.

Table 4.8: Rating of Talking Books

Rating of the talking books	Frequency	Percentage
Excellent	0	0
Good	5	31
Poor	6	38
Very poor	4	25
No response	1	6
Total	16	100

38% of the respondents rated the talking books as poor. None of the students rated the talking books as excellent. A difficult aspect that must be faced is that not all volunteer narrators make good readers. There is need to arrange for training programmes for them.

Table 4.9 shows the ways in which the respondents choose volunteer readers.

Table 4.9: Ways of Getting Readers

Ways of getting readers	Frequency	Percentage
One chooses	2	15
Librarian chooses	13	79
No response	1	6
Total	16	100

79% of the respondents said that the librarian chose volunteer readers for them.

When readers are chosen by the librarian there is a possibility of incompatibility.

The reader may not satisfy the needs of the student who is visually challenged.

This was elicited by the responses in Table 4.10 which sought to find out whether the volunteer narrators satisfied the students needs.

Table 4.10: Satisfaction by the readers.

Satisfaction by the readers	Frequency	Percentage
Yes	2	14
No	14	86
Total	16	100

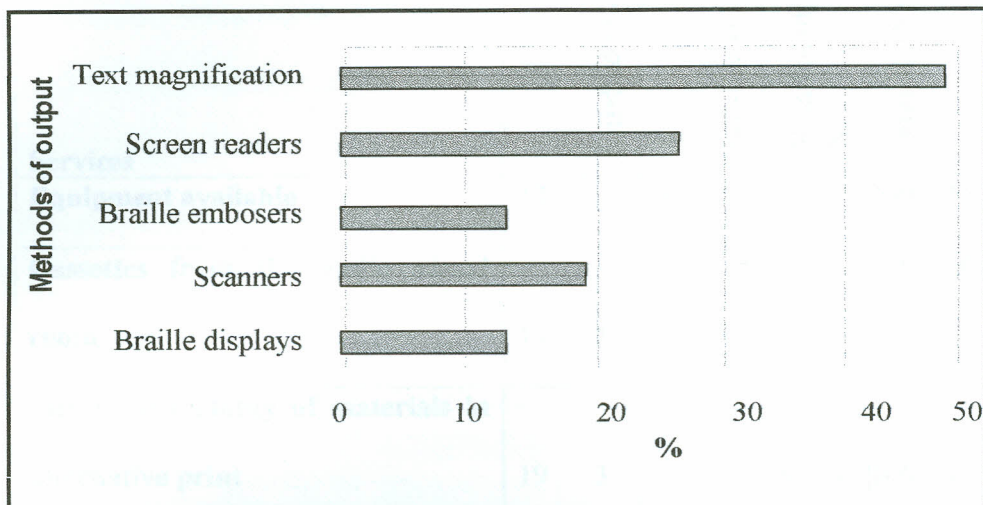
86% of the students indicated that they were not satisfied by the reading done by the volunteer narrators. The volunteer narrators needed a training programme in order to meet the needs of these students who are visually challenged.

From the findings it emerged clearly that a lot need to be done to provide effective resources. Students with visual impairments have an inner drive to seek information from the library but are frustrated because the library layout is not convenient for their movement. The talking books are not good enough since they are produced by narrators who are not trained. Although Kenyatta University library service providers have done a commendable job, a lot more need to be done.

4.3 Resources necessary for an Effective Library For Visually Challenged Students.

This section focuses on resources necessary for an effective library for students with visual challenges. The findings are shown in Figure 4.3

Figure 4.3: Resources Needed for an Effective Library



44% of the respondents reported the need for the availability of text magnification equipment while 14% reported that they needed Braille embosers. This implies that majority of students with visual impairments in Kenyatta University are not totally blind and with availability of text magnification equipment like Closed Circuit Televisions (CCTV) their information needs can be met. The researcher observed that recording tapes were available. Equipment like DVDs, digital cameras and laser recording materials was not available. According to the University librarian there was need to purchase a CD writer which would ensure the production of quality in- house materials that have a long life compared to the conventional audio cassette tapes.

4.4 Range of services available for students with visual challenges.

A wide range of services were availed to students with visual challenges at Kenyatta University. This is as shown in Table 4.11.

Table 4.11: Range and adequacy of services available

Services	Satisfied (%) (N)		Not sure (%) (N)		Dissatisfied (%) (N)		Total % (N)	
Equipment available	12	2	50	8	38	6	100	16
Cassettes from the audio visual room	19	3	38	6	43	7	100	16
Timely availability of materials in alternative print	19	3	43	7	38	6	100	16
Face to face reading by volunteers	12	2	40	6	48	8	100	16
Quality of recording	31	5	31	5	38	6	100	16
Assistance by library staff	9	11	31	5	0	0	100	16
Assistance by students	50	8	38	6	12	2	100	16
Reading carrels for the unsighted	25	4	56	9	19	3	100	16

38% of the respondents were dissatisfied with the equipment available in the library. According to the University librarian this caused students to experience major delays before they could get materials in alternative format.

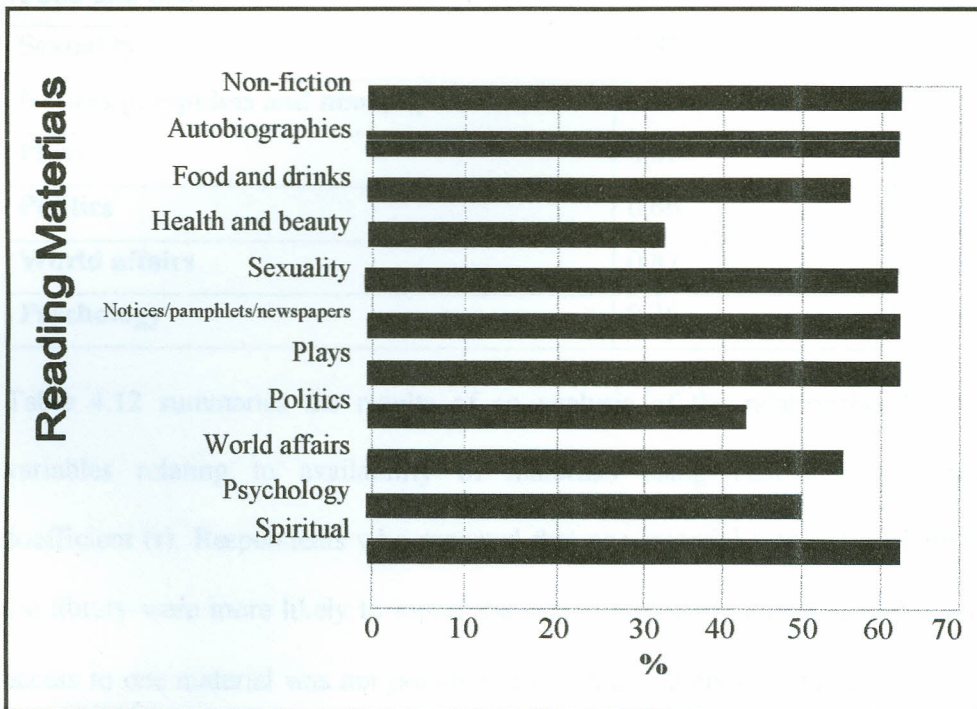
48% of the respondents were dissatisfied with the face to face reading by the volunteers. The researcher observed that there was no consistency of readers flow

in the recording room. This was because recording in the audio visual room was limited to only two hours per day between eight o'clock and ten in the morning. This calls for an increase in the recording time and where possible the audio visual room should be kept open through out the day to give the volunteer narrators ample time for recording.

4.5 Reading Materials Available in the Library

Figure 4.4 presents the reading materials reported to be available in the library by the respondents.

Figure 4.4: Reading Materials Available in the Library



61% of the respondents admitted that the University had a wide range of reading materials. The only problem was that this material was not in alternative format for use by students with visual impairment. It is important for reading materials to

be available at the right time and in the correct format in order to benefit visually challenged students.

Pearson’s correlation coefficient (r) values for availability of spiritual materials and other materials

Table 4.12: Pearson’s correlation coefficient (r) values for availability of spiritual materials and other materials

Materials	(r) where N=16
Non fiction	0.70
Autobiography	0.87
Food and drinks	0.76
Sexuality	0.87
Notices pamphlets and newspapers	0.70
Plays	0.87
Politics	0.66
World affairs	0.87
Psychology	0.76

Table 4.12 summaries the results of an analysis of the relationship between variables relating to availability of materials using Pearson’s correlation coefficient (r). Respondents who reported that one material was not available in the library were more likely to report the same of another. This means that once access to one material was not possible, it was more likely that the student could not access other material increasing isolation as far as that type of information is concerned. Respondents who could not access material related to spirituality could not access other materials also

Students with visual impairments have needs similar to those of the sighted. They need to exploit their full potential academically as citizens and voters who need to be informed. They have leisure time to fill and need guidance and stimulation and relaxation that can only be brought about by reading a wide variety of materials. They need to be informed on social, economic, political and educational developments within and without the country. They need to read the newspapers, notices and pamphlets. They need information on food, water, sexual relationships, marriage and family life, HIV/ Aids and others subjects. Some of the information required is so personal that it may be difficult for someone to read literature for them. They have to read on their own and at their convenience. However all these materials should be in a format they can be able to understand considering their state of disability The Kenyatta University library service providers have a challenge of making this information readily available in an alternative format.

4.6 Adequacy of Staffing level and load of library staff

According to the University librarian Kenyatta University has employed several professional librarians. However, none of these professionals was trained to cater for the blind or visually impaired. There was also one librarian in charge of library services to these students. Due to the increased number of students to be served by a limited number of staff, there was a tendency to give attention to outspoken students especially those with no impairments at the expense of the visually impaired who spent too much time waiting to be served.

4.7 Conclusions

The Kenyatta university library was built with the aim of catering for “normal” students in mind. Consequently the library design does not adequately cater for easy access to the services especially for students with visual impairment. There is need to redesign the library with the needs of students with visual impairments in mind. This will increase accessibility of materials and mobility within the facility. Students with visual impairments were often deprived the opportunity to attend the degree courses of their choice often taking second and third choice degrees or those they never chose at all. This worked negatively to their motivation and increased their dependency on library staff for assistance. The library was largely ill equipped in terms of materials and staff to adequately cater for the students with visual impairments. Special attention should be given to equip these facilities with resources needed by students with visual impairments.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents a summary, conclusion and recommendations from a study that sought to examine the library services to students with visual impairment in Kenyatta University.

5.1 Summary of the Findings

The study found out that library services to students with visual impairment were not effective because of the following reasons:

- i. The library layout is not convenient for these students with visual challenges. The library was constructed with the sighted students in mind. The shelves are high and narrow corridors which limit their movement.
- ii. Reading materials are not readily available in alternative format. As a result these students experience major delays.
- iii. Talking books produced by volunteer readers are of poor quality because they are not trained.
- iv. The volunteer narrators do not satisfy the information needs of students with visual challenges. Some of the information that they was too personal to have someone read for them.

The research established that the resources were not enough. The recording equipment was of very poor quality. Most students required text magnifying equipment like the CCTV, Braille embossers and screen readers. Though the

recording tapes were available the study revealed that the most current CD writers and laser recording materials were not available.

The research revealed that though the library had a wide range of services to students with visual impairment, majority were dissatisfied. In particular the face to face reading by volunteer narrators did not serve the information needs of the visually impaired students because of the following reasons:

- i. The volunteer narrators are not trained and not all of them have good voices.
- ii. The recording equipment is of poor quality.
- iii. The inconsistency of the flow of the narrators into the recording room. This is due to restriction of the recording time to only two hours per day between eight and ten o'clock which is quite limiting.

The research further established that the Kenyatta University's Moi library is well equipped with reading materials in very many disciplines. The library had enough materials on spirituality, plays, sexuality, autobiographies, non fiction, health and beauty, politics, world affairs, psychology, pamphlets and newspapers among others. Unfortunately, these materials are available in print only. They are not in a format that student with visual impairment can access.

On staffing level and workload of library staff the researcher established that though the University had employed several professional librarians, none of them had the professional expertise to handle students with visual impairment.

5.2 Conclusions

The following conclusions are made depending on the findings from the study: The University has adequate facilities and resources in the library. However, students with visual impairment encountered various challenges in their quest for information. Therefore, the library services for the visually challenged are not effective. This is due to the fact that the University's library was built with the sighted students in mind. The reading materials though many were not readily available in alternative format. The volunteer narrators were not trained and the recording equipment was of poor quality. Finally the library staff lacked the professional expertise to handle these students.

5.3 Recommendations

The following recommendations are necessary in the light of the responses from the respondents and in the views of the research findings:-

- i. The Kenyatta University administration should take such steps as are necessary to ensure that no student with disability is denied the benefits of, excluded from participation in the library or otherwise subjected to discrimination under the education programme.
- ii. It is the responsibility of the parent and the government to ensure that the student especially those with special needs are given their right to education in the best environment possible.
- iii. There is great need to improve on the production of talking books by increasing the recording time. At the time of study recording could

only be done between eight and ten o'clock in the morning within which only two narrators recorded.

- iv. Training of the volunteer narrator is necessary. Not all narrators have good voices and where possible a training programme should be put in place.
- v. Where it is possible the University should ensure the availability of locally produced titles. Users would easily identify with local material. Local production would also mean lower cost of production.
- vi. There is need for the introduction of recorded newspapers in the two major languages, that is English and Kiswahili. This will ensure that information gets to these students before it is out of date.
- vii. Great improvement is needed especially in as far as equipment is concerned. There is need for a professional recording studio instead of relying on volunteer readers.
- viii. The Kenyatta University library service providers should endeavour to computerise systems inured to be able to track and recall books. This is because by the time students with visual challenges get to the library to these books recorded for them the sighted students have already borrowed the same books.
- ix. There is need to have an exclusive area in the library for students with visual impairments. This area should act as a focal point to ensure uniform services.

- x. The Kenyatta University administration should consider employing a librarian with professional expertise to handle students with visual impairments.

The Kenyatta University service providers have done a good job and if the problems highlighted in this study are addressed, this would contribute immensely to the upgrading of library services to students with visual impairments in Kenyatta University.

5.4 Areas for Further Study

A number of issues arose from this study and were beyond the scope of the study. Thus they are recommended for further research:

- i. To assess the level of awareness of the University administrators with regard to services offered to all students with special needs.
- ii. An assessment of whether the ministry of education has the required capacity in terms of skills and facilities to handle students with visual impairments.
- iii. To assess the factors behind the negative perceptions and attitude towards the provision of reading materials to students with visual impairments.

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APPENDICES

APPENDIX A: QUESTIONNAIRE FOR STUDENT

SECTION A: Background Information

This section seeks information about you. Complete by putting a dot in the space given

1. Sex

Male

Female

2. In which year of study are you?

(a) 1st year

(b) 2nd year

(c) 3rd year

(d) 4th year

3. What type of school did you go through?

(a).Special school

(b).Integrated programme

(c).Unit

(d).Itinerant services

4. What degree course are you pursuing at the university?

5. In which order do you place the degree course you are pursuing at the university?

(a) First choice

(b) Second choice

(c) Third choice

(d) Not chosen

SECTION B

Tick the correct answer and explain as requested.

6. How many hours per week do you spend in the library?

A. 1 – 2

B. 3 – 4

C. 4 – 5

D. 5 – 6

E. None of the above

If none, give reasons

7. Do you find the layout of the library building convenient for your movement?

Yes

No

If your answer is No, what part of the library do you have difficulties in?

(a) Circulation

(b) Shelves

(c) Africana

(d) Toilets

(e) All of them

8. When course outlines are issued at the beginning of the semester, is the required material readily available in alternative format?

Yes

No

9. Does the library have adequate talking books/books in cassettes?

Yes

No

If yes, how do you rate them?

a. Excellent

b. Good

c. Poor

d. Very poor

e. No response

10. During orientation programme in first year did anybody 'show' you and explain about the existence of library services for the students with visual impairment?

Yes

No

If No, how did you find out?

11. Is there any space allocated in the library exclusively equipped with materials for students with visual impairment??

Yes

No

If your answer is either Yes or No, explain briefly _____

12. While in the library, how do you get books?

(a) With the help of a library staff

(b) With the help of a sighted guide

(c) Alone

(d) Other students help

13. How do you get readers?

(a) One chooses.

(b) The librarian chooses for you.

14. Do all readers satisfy you?

Yes

No

If No, what do you do?

15. While the sighted students have access to the internet for their information needs, is this facility available for you?

Yes

No

Briefly comment _____

16. There are essentially five methods of output that can render computers and printed materials accessible to you. Please tick if they are available in the library

(a) Screen readers

(b) Braille embossers

(c) Scanners

(d) Braille displays

(e) Text magnification

Below is a table inquiring on the library services offered at the University for students with visual impairments. Tick alongside the correct response.

17. How would you describe the library services offered at the University in terms of:

Area	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied
1. Equipment available					
2. Cassettes from the audio visual room					
3. Timely availability of materials in alternative print					
4. Face to face reading by volunteers					
5. Quality of recording					
6. Assistance by library staff					
7. Assistance by students					
8. Reading carells for the unsighted					

18. Put a tick against the reading materials listed below, if they are available in the

Library

Non-fiction

Autobiographies

Food and drink

Health and beauty

Sexuality

Notices, pamphlets and newspapers

Plays

Politics

World affairs

Psychology

Spiritual

APPENDIX B: INTERVIEW GUIDE:

RESPONDENT: UNIVERSITY LIBRARIAN

1. What prompted Kenyatta University to initiate library services for students with visual impairments?

2. What programs do you have for students with Visual Impairments on admission into the University?

3. Do you think what students with visually impairments have is enough in terms of educational and recreational materials?

4. Do students experience delays in provision of reading materials in alternative format?

5. What improvements may be taken into consideration in providing these materials?

6. Are funds available to produce books, tapes and articles for students with visual impairments?

7. What is the role of the University Librarian in maintaining facilities, equipment and services for students with Visual Impairment?

8. What are the credentials of the Library staff who offer services to students with Visual Impairments?

9. Do you consider it crucial to have space exclusively equipped with materials for students with visual impairment? _____ explain briefly _____

10. What problems do students with visual impairments in the university face in accessing library services, which do not occur to their sighted counterparts?

11. Is there any other information would you like to share with me that has not been asked for _____

12. What improvements need to be made in the library materials?

APPENDIX C: INTERVIEW GUIDE:

RESPONDENT: LIBRARIAN INCHARGE OF STUDENTS WITH VISUAL CHALLENGES

1. What prompted Kenyatta University to initiate library services for students with visual impairments?

2. What programs do you have for students with Visual Impairments on admission into the University? _____

3. Comment on the quality of talking books produced by the volunteer readers

4. Do you think what students with visually impairments have is enough in terms of educational and recreational materials? _____

5. Do students experience delays in provision of reading materials in alternative format? _____

6. What improvements may be taken into consideration in providing these materials? _____

7. How many talking books and tape-recorded materials do you have in the audiovisual room? _____

8. Are funds available to produce books, tapes and articles for students with visual impairments? _____

9. Do you consider it crucial to have space exclusively equipped with materials for students with visual impairment? _____ explain briefly

10. What problems do students with visual impairments in the university face in accessing library services, which do not occur to their sighted counterparts? _____

11. Is there any other information would you like to share with me that has not been asked for _____

APPENDIX D: INTERVIEW GUIDE:

RESPONDENT: AUDIO VISUAL TECHNICIAN

1. What prompted Kenyatta University to initiate library services for students with visual impairments? _____

2. How did you obtain the equipment you use in the audio-visual room?

3. Are you satisfied with the type of equipment available?

Yes

No

4. If No, what equipment is missing and what would be your suggestion to the university administration? _____

5. What criteria guides in selecting readers? _____

6. Comment on the quality of talking books produced by the volunteer readers

7. Do you think what students with visually impairments have is enough in terms of educational and recreational materials? _____

8. Do students experience delays in provision of reading materials in alternative format? _____

9. What improvements may be taken into consideration in providing these materials? _____

10. How many talking books and tape-recorded materials do you have?

11. Are funds available to secure books, tapes and articles for students with visual impairments? _____

12. Do you find it crucial to have space exclusively equipped with materials for students with visual impairment? _____ explain briefly

13. What problems do students with visual impairments in the university face in accessing library services, which do not occur to their sighted counterparts?

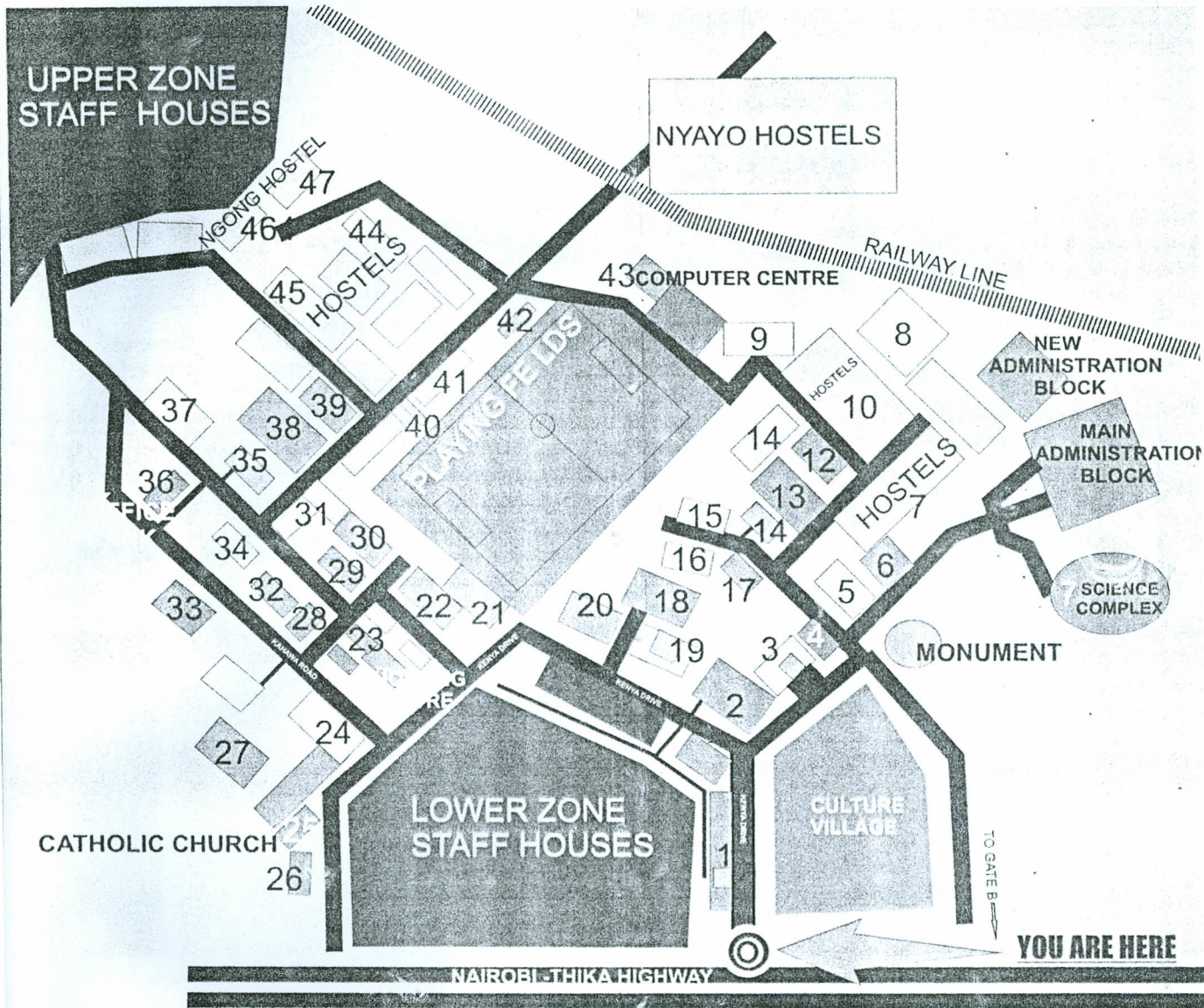
14. Is there any other information would you like to share with me that has not been asked for _____

APPENDIX E: OBSERVATION GUIDE:

Behaviour to be observed	Observation
1. Number of students with visual impairment flowing in the Audiovisual room per hour.	
2. Consistency of these students in the Audiovisual room	
3. Duration of reading by each volunteer reader	
4. Consistency of readers	
5. Availability of recording tapes.	



KENYATTA UNIVERSITY MAP



- ### HOSTELS
- 7 Old Menengai
 - 10 Nyandarua/ Mufumbiro
 - 11 Nyandarua
 - 37 Suswa
 - 40 Usambara
 - 44 Kilimambogo
 - 45 Lukenya
 - 46 Ngong
 - 47 Ruwenzori

- ### SCHOOLS
- 1 Graduate School
 - 3 School of Education
 - 14 School of Pure and Applied Science
 - 19 School of Business and Finance
 - 19 School of Health Sciences
 - 19 School of Environmental Studies and Human Sciences
 - 35 School of Humanities and Social Studies

- ### DEPARTMENTS
- 5 Dept of Maths
 - 8 Appropriate Technology
 - 9 Dept of Fine Art
 - 15 Dept of Comm Tech
 - 16 Dept of Physics
 - 24 Depts of Kiswahili, Literature, English and Foreign Languages
 - 31 Depts of Botany and Zoology
 - 34 Depts of Geography and History
 - 41 Dept of Music

- ### UTILITIES
- 2 Mol Library
 - 4 Cyber Café
 - 12 Eastern Kitchen
 - 13 Graduation Square
 - 17 Science Workshop
 - 18 8-4-4 Building
 - 21 Tennis courts
 - 22 Swimming Pool
 - 23 Cinema Hall
 - 25 Catholic Church
 - 26 Primary School
 - 28 Health Unit
 - 29 Maintenance Yard
 - 32 Gymnasium
 - 33 Snr Common Room
 - 36 Post Office
 - 38 Bishop Square
 - 42 Students Center

- ### OFFICES
- 1 Lower Zone Offices
 - 6 Central Stores
 - 7 Institute of Open Learning
 - 20 Science Zone
 - 27 Arts Zone
 - 30 Old Library
 - 39 Accommodation Board
 - 40 Dean of Students
 - 43 Computer Center

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THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss PAMELA
KARAMBO KARIBA
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has been permitted to conduct research
NAIROBI District,
NAIROBI Province,

on the topic A CRITICAL EXAMINATION
OF LIBRARY SERVICES FOR STUDENTS
WITH VISUAL IMPAIRMENTS AT KENYATTA
UNIVERSITY

for a period ending 31ST DECEMBER, 20 08.

PERMANENT SECRETARY
MINISTRY OF EDUCATION
SCIENCE AND TECHNOLOGY



Pamela
Applicant's
Signature

FOR Permanent Secretary
M, GATOBU
Ministry of
Science and Technology