FACTORS INFLUENCING IMPLEMENTATION OF KENYA INTEGRATED EDUCATION PROGRAMME FOR PRIMARY SCHOOL PUPILS WITH VISUAL IMPAIRMENTS IN KITUI AND NAIROBI COUNTIES

BY

GLADYS AMBIYO OGOMBE
E55/13152/09

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April, 2013
DECLARATION

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

Signature:……………………………… Date:…………………………
Gladys Ambiyo Ogombe
E55/13152/09

This thesis has been submitted for review with our approval as the University Supervisors.

Signature:……………………………… Date:…………………………
Dr. Joel Chomba
Department of Special Needs Education
Kenyatta University

Signature:……………………………… Date:…………………………
Prof. Geoffrey Karugu
Department of Special Needs Education
Kenyatta University
DEDICATION

To Almighty God, my beloved husband David Ambuli. Our children; Collins, Brian, Moureen, Kenneth, Dorcas and Sophia for their support and encouragement.
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# ABBREVIATIONS AND ACRONYMS

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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>CBM</td>
<td>Christoffel Blinden Mission</td>
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<tr>
<td>EFA</td>
<td>Education For All</td>
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<td>ICEVI</td>
<td>International Council for Education of the Visually Impaired</td>
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<td>IDEA</td>
<td>Individual with Disability Education Act</td>
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<td>KCPE</td>
<td>Kenya Certificate of Primary Education</td>
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<td>KIEP</td>
<td>Kenya Integrated Education Programme</td>
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<td>KSB</td>
<td>Kenya Society for the Blind</td>
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<tr>
<td>MoE</td>
<td>Ministry of Education</td>
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<tr>
<td>SNE</td>
<td>Special Needs Education</td>
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<tr>
<td>SSI</td>
<td>Sight Savers International</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization.</td>
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<tr>
<td>VI</td>
<td>Visual Impairment</td>
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<td>ZPD</td>
<td>Zone of Proximal Development</td>
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ABSTRACT

The purpose of the study was to investigate factors that influence implementation of KIEP programmes for primary school pupils with visual impairments. Two schools were selected out of the five schools implementing integrated programmes in Nairobi and Kitui counties due to large population of pupils with visual impairments in these schools from which a sample was drawn. These schools were Kilimani primary school in Nairobi County and Muslim primary school in Kitui County. The study utilized a descriptive survey research design. The target population was 503 respondents while the sample population was 139 respondents. The respondents comprised pupils with visual impairment, sighted pupils, teachers, head teachers and ministry of education officers. Sampling techniques employed included purposive sampling and random sampling by lottery. Questionnaires, interview schedules and observation schedules were used in the study. For reliability purposes, the research used split-half technique for assessing reliability. Validity was ensured through construct and content validity. Data collected was coded and analyzed using statistical package for social science programme. The study established that specialist curriculum for the VI in the area of training in use of low vision devices, orientation and mobility was not receiving due recognition, as it was not time-tabled in the school master time-table. Further, the study indicated that lack of adequate braille materials adversely affected the programme. However, community participation at various levels, as well as acceptance of students with visual impairment by their sighted peers positively influenced KIEP programs. The study recommended the establishment of more resource centers by the ministry of education where these programmes exist and NGOs intervention in complementing the government’s efforts especially in organizing for transport services for these children.
CHAPTER ONE
INTRODUCTION

1.1 Background to the Study
Individuals with Disabilities Education Acts (IDEA) refer to visual impairment (VI) as loss of vision which even with correction adversely affects a person’s educational performance (Gargiulo, 2006). Friend (2008) categorizes pupils with visual impairments into four groups. The first group consists of pupils with mild visual impairments who may function visually with little impact on their daily lives. The second group includes pupils with moderate to severe visual impairments (low vision). They experience greater impact in performing daily tasks and need to use large print for reading, strong magnifying devices and other adaptations. Some pupils in this group may also learn to read braille and use tactile and auditory channels to complete tasks.

The third group consists of pupils who have profound visual impairments (blindness). They complete most or all tasks primarily using touch and hearing. They learn to read and write in braille and use adaptive techniques to do their day-to-day activities such as folding money to note various denominations and labeling clothes to facilitate proper matching. The fourth group comprises pupils who have multiple disabilities such as deaf blindness, blindness and mental retardation as well as those with low vision and epilepsy. This study focused on
the first, the second and the third groups thus the low vision and the blind. Since they can learn alongside sighted peers with little modification and adaptation.

Hegarty and Alur (2002) report that it is commonly accepted by researchers that children with special needs in education, be educated alongside their sighted peers within the same curriculum framework. Randiki (2002) refers to integration as the provision of educational services to children with special needs within the regular school systems. It involves the movement of children with disabilities from special school to regular schools and from special classes to regular classes. Integration is a policy that is being implemented in many developing countries such as Kenya. Programmes have been set up that emphasize integration as a policy (GoK, 1988). Warnock Report (1978) on inquiry into education of handicapped children and young people identified three forms of integration which include social, locational and functional integration. Social and location integration are the most widely used in Kenya. It was for this reason that the present study was undertaken to determine how functional and social integration had enhanced integration of pupils with VI regular schools.

Many countries such as Sweden, Italy, France, Denmark and United Kingdom have enacted legislations seeking integration (Hegarty & Alur, 2002).). International Council for Education of the Visually Impaired (ICEVI, 2010) cites the Japanese government which does not support integrated education in mainstream settings. Despite the government stand, schools in Japan have decided
to adopt ‘outreach’ role in supporting pupils with VI in mainstream schools. Outreach in Japan refers to cases where special education teachers visit mainstream schools to support the pupils with VI and where pupils with VI come to special schools to receive support. During outreach, disability related skills such as orientation, mobility, daily living skills and braille are taught. Outreach programmes in Japan are similar to itinerant services offered in Kenya.

African countries such as Botswana, Algeria, Congo, Nigeria and Ghana encourage integration for those pupils who are physical handicapped and visual impairments by setting units within the regular schools and adopting the curriculum to facilitate direct integration (UNESCO, 1998). One of the most difficult challenges facing African education service for pupil with VI is educational inclusion of a child who is blind in a regular school. ICEVI, (2010) argues that children who are blind in Africa are particularly educationally vulnerable, they are more likely to begin school late, repeat years and drop out early. This is because of factors such as lack of sufficient regular support from specialist braille teachers; lack of access to appropriate learning materials and effective systems of identification and monitoring, (ICEVI, 2010).

Kenya through the Ministry of Education (MoE), Sight Savers International (SSI) and Kenya Society for the Blind (KSB) initiated Kenya Integrated Education programme (KIEP) in 1989. KIEP operates in 19 programmes and focuses on promoting the education of pupils with VI in mainstream schools where they learn
alongside sighted peers. KIEP also aims at raising awareness amongst parents and teachers on the rights of children with VI and specifically on the rights to education and protection. Moreover, KIEP provides technical support and distribute learning and teaching materials to pupils with VI in integrated programmes. Similarly, KIEP facilitates medical intervention to children referred to Kikuyu, Sabatia, provincial and other district hospitals (KSB, 2009).

KSB, (2009) report indicates that in 2008, 53 students out of 69 students with VI were admitted to secondary schools after completing Kenya Certificate of Primary Education (KCPE). In 2009, 82 students from KIEP completed KCPE and of these 16 students were totally blind and 66 students with low vision. A boy who was a braille user from Nairobi programme scored 373 points while a girl, from Bungoma programme scored 392 out of the 500 points. These results show pupils with VI can learn and excel academically in integrated model.

KIEP Annual project report (2010) indicates that there is lack of appropriate documentation at the programme level that hinders proper establishment of a database at national office. Accurate database for pupils with VI, KIEP inventory on equipment, contact and itinerant teachers at school, district and national level is necessary since data is key to effective programme planning. This study therefore interacted with real life situation on the ground and analyzed factors influencing implementation of KIEP in primary schools in Nairobi and Kitui Counties.
1.2 Statement of the Problem

KSB (2009) annual report indicates that the caseload of pupils with VI in the 19 programmes increased from 1699 in 2008 to 1718 in 2009. This was a dismal increase compared to the number of learners with visual impairment in Kenya. The projection of Kenya Census, 2009 indicated that there were 331,594 persons with VI in Kenya WHO estimated the number of persons with VI in Kenya to be 620,000 in 2011. This number is distributed across all the 47 counties. (GoK, 2010; KSB, 2011). 20 counties are successfully trying to implement initiatives to mainstream visual impairment while not much has been done in the majority of the counties.

KSB, (2009) report further revealed that scrutiny on inventory of learning materials supplied to the programmes, indicate that meeting minimum standard requirement has not been achieved. Minimum standard requirements needed to educate pupils with VI include white canes for mobility, braille writers, slate, stylus, braille papers, and low vision devices. A special curriculum to teach these learners orientation and mobility, braille skills and activities of daily living as well as specially trained teachers conversant in braille and low vision skills (Task Force on special needs education, 2003). Moreover, ICEVI (2010) postulated that most of these material resources required for teaching and learning of pupils with VI were not locally available and were quite expensive. Certainly, KIEP was deemed important because it was developing strategies to increase the number of pupils with VI accessing quality education in regular schools in Kenya. However,
unless the minimum standard requirements are met, then the education opportunities for pupils with VI would be limited and educational standards compromised.

While the KSB (2010) annual report indicates that the programmes have been monitored, this monitoring was done in Baringo, Bungoma, Trans-Nzoia, Embu, Narok, Turkana and Samburu out of 19 programmes in Kenya. However, lack of appropriate documentation at the programme level hindered proper establishment of a data base at national level (KIEP annual report 2010). Comprehensive information about the degree to which KIEP is enhancing the education of pupils with VI was very necessary. It was in this context that the researcher sought to explore with a view of establishing the factors that influence the implementation of KIEP in two programmes that were not part of the KSB (2010) report that is Nairobi and Kitui.

1.2.1 Purpose of the Study

The purpose of the study was to establish factors which influence the implementation of the Kenya Integrated Educational Programme for pupils with VI.

1.3 Research Objectives

The study addressed the following objectives:

i. To identify the school factors that affect integration of pupils with visual impairments in KIEP.
ii. To identify types of special services offered to pupils with VI in KIEP.

iii. To identify the effects of special services offered to pupils with VI in KIEP.

iv. To determine the availability of special educational resources needed by pupils with VI in KIEP.

v. To establish the nature of community participation in provision of education to pupils with VI in KIEP.

vi. To find out strategies that have been put in place to improve the educational integration of pupils with VI in KIEP.

1.4 Research Questions

This study sought to answer the following questions:

i. What school factors affect the integration of pupils with VI in KIEP?

ii. What are the types of special services offered to pupils with VI in KIEP?

iii. What are the effects of special services offered to pupils with VI in KIEP?

iv. What special educational resources are available in KIEP?

v. What is the nature of community participation in education provision of pupils with VI in KIEP?

vi. What strategies have been put in place to improve educational integration of pupils with VI in KIEP?
1.5 Significance of the Study

It is hoped that the results of this study may guide the Ministry of Education in reforming and restructuring programmes for pupils with VI so as to improve service delivery. It was also hoped that the study would give insights to problems experienced by teachers and pupils in KIEP, and come up with suggestion for the possible solutions to the problems. This may form a basis for directing KIEP not only in Nairobi and Kitui Counties but Kenya in general. Furthermore, lessons learnt from it were to be used to implement the inclusive education policy. Kenya Institute of Special Education, being the only MoE institution that trains teachers nationally in special needs education may identify areas to emphasize while training teachers to make them competent. It was hoped that, the findings of the study would improve the conditions of implementing KIEP and enhance enrolment of pupils with VI in regular schools particularly in counties without the programme.

1.6 Scope and Limitation of the Study

1.6.1 Delimitations

The study sought to establish factors which influence the implementation of Kenya Integrated Educational Programme for pupils with VI. The study was confined to Nairobi and Kitui counties, each of which has a programme out of the 19 that are found countrywide. Kilimani primary school in Nairobi County was selected because it represented an urban setting. Moreover, pupils with VI learning in this programme live with their parents and on daily basis come to the
school to learn alongside their sighted peers in the same classrooms. Muslim primary school in Kitui County was selected because it represented a rural setting. At Muslim primary school, the pupils with VI live in hostels and those in lower primary learn in special classes while those in upper classes from class 4-8 learn alongside their sighted peers in regular classrooms. This scenario was rich enough to give insight as to what is taking place in KIEP. The practices can be replicated in other counties in need of such programmes.

1.6.2 Limitation of the Study
The study focused only on pupils with VI hence the findings were not to be generalized to pupils with other categories of disabilities. The distance between the two schools under study was quite overwhelming. Other programmes were left out due to financial and time constraints.

1.7 Assumptions of the Study
The basic assumptions of the study were:

   i. The integrated schools had a resource room where the special curriculum was implemented such as braille, daily living skills, orientation and mobility.

   ii. Pupils with VI were integrated in the regular classrooms where their special education needs were met.

   iii. Training of regular teachers in special education played a role in enhancing integration of pupils with VI.
1.8 Theoretical and Conceptual Framework

1.8.1 Theoretical Framework

The theoretical framework of the study was based on Vygosky theory of social/cultural learning. The theory states that cognitive development of a child is enhanced when they work in the Zone of Proximal Development (ZPD). ZPD is the range of tasks that a child cannot perform independently but can be accomplished by the help of a more competent person. Vygotsky explains that more competent persons provide assistance to the children as they learn new skills and fade assistance as learners become proficient. Vygotsky defines ZPD as the distance between actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under guidance or in collaboration with more capable peers, teachers and other educators.

This theory is relevant to the study in that integration refers to educating pupils with VI in the regular school with support. At the inception of the integration programme, regular schools were not prepared both physically and socially for the pupils with VI who were meant to fit in the programme. This is because the teachers did not know how to teach these pupils with VI due to lack of skills. The sighted pupils were not prepared to receive the pupils with VI because they lacked the skills of interaction. The parents of the sighted pupils thought that the pupils with VI would lower the standard of education for their sighted children. This is because they did not understand the potential of the pupils with VI. The pupils
with VI experienced difficulties in integration due to extensive demand, rigid and inflexible curriculum, inaccessible school environment and lack of essential resources and services.

KIEP supports the school community and initiates intervention measure that removes barriers to integration by doing the following: First, adaptation of educational materials such as changing print books to braille to allow the pupils who are blind to read. Moreover, equipment such as slates, stylus and braille machines are bought to allow the pupil with VI to write. Second physical environmental modification is done to allow the pupils with VI to move independently in the environment. Third, provide services of itinerant /resource teacher allow pupils with VI to access the specialist curriculum such as orientation and mobility, activities of daily living and visual efficiency skills. These interventions are made to allow the school to move through the ZPD to acquire skills and abilities in integration. The schools will then have teachers who are flexible, competent and have high expectations for pupils with VI. This will enable sighted pupils to accept and freely interact with pupils with VI. Hence, the pupils with VI who have acquired skills, knowledge and positive attitudes will participate in social, economic and political affairs of the school and community.

1.8.2 Conceptual Framework

Figure 1.1 shows three variables and how they interact. At the initial development level there were the Independent variables which include community factors
where the community does not participate in provision of special resources and services. Inadequate special resources and services impede successful integration of pupils with VI in regular schools. There were also school factors that include the use of special curriculum, modified environment and peer acceptance and interactions. Their presence or absence determined whether or not successful integration of pupils with VI could be achieved. There was also an intervening variable, KIEP support, which came in to influence positively the achievement of integration of pupils with VI. Accordingly, the successful integration of pupils with VI was the dependent variable since its achievement was dependent on both the community provision of special resources and services as well as the highlighted school factors.
Figure 1.1: Factors influencing implementation of integration programme for pupils with VI

**Community does not participate in provision of special resource and services such as**
- Equipment
- Materials
- Facilities
- Medical
- Orientation and mobility

**School Factors**
- Lack of special curriculum
- No peer acceptance and interactions
- Lack of teacher trained in SNE
- Non-modified environment
- Lack of special services/resources

**KIEP Support**
- Training teachers
- Provide appropriate special services and resources
- Modifying environment

**Integration of pupils with VI**

**Expected outcome**

**Pupils with VI who**
- Have acquired skills, attitude and knowledge for integration in the school and society

Source: Ideas adapted from Vygotsky’s Social Cultural Theory
1.9 Definition of Terms

**A Resource Room:** This is a classroom with special materials, equipment and specially trained teachers. Students come to the room to receive instructions individually or in small groups.

**Blindness:** The term used to refer to those students who have only light perception or have no vision and must learn through Braille and related media without the use of vision.

**Braille:** A system in which raised dots allow people who are blind to read with finger tips; each quadrangular cell contains from one to six dots, the arrangement which denotes different letters and symbols.

**Functional Integration:** Where pupils with special needs share the same classroom and are taught alongside their non disabled counterparts. In some cases, the learner is taken out to the resource room to be given modified instructions by the resource teacher in the area of special needs.

**Implement:** To plan and carry out or put in practice new ideas, concepts, theories and policies with an intended observable impact.

**Integration/Mainstreaming:** It is the process of putting together students with disabilities in a class or regular school to learn alongside their non-handicapped peers.

**Itinerant Teacher:** This is a teacher who is trained to teach pupils with VI and travels from one school to the other providing specialized instruction to learners in mainstream schools.
**Locational Integration:** Refers to children with disabilities learn in the same locality such as regular schools but within different classrooms. They have different time tables and other than shared compound they have nothing in common with children without disabilities.

**Low Vision Devices:** These are special facilities/equipment which enhance visual functioning of an individual with low vision.

**Low Vision:** A condition where a person has significant vision loss even after treatment and/or standard refractive correction, and has a visual acuity of less than 6/18 to light perception or visual field of less than 10° from the point of fixation but who uses or is potentially able to use vision for planning or execution of a task.

**Ordinary Schools:** These include pre-school, primary and secondary schools. As a group, they are also referred to as mainstream or regular schools to distinguish them from special schools.

**Pupils with Visual Impairment:** Refers to individuals who cannot see well even with correction and this adversely affects their educational performance.

**Social Integration:** This is where children with special needs, attending a special class or unit, eat, play and consult with other children and possibly share organized out of classroom activities with them. In this form of integration, different teachers teach pupils with special needs and children without disabilities separately in different classes.
Support Services: Refers to extra system provided to parents and schools in helping children with special needs in education adjust to the environment and activities in order to overcome barriers to learning and development.

Visual Impairment: This is a term used to describe problems in the structure and/or functioning of the eye which may range from partial loss of sight to total
CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

Related literature in this chapter begins with background information on Kenya Integrated Education Programme. Also reviewed are the factors influencing the implementation of KIEP which include school factors such as a sense of social acceptance within the school, classroom, curriculum, and teacher factors. Other factors include: types of special services offered to pupils with VI; effects of special services offered to Pupils with VI; special educational resources available for Pupils with VI in KIEP; community participation in provision of education to pupils with VI in KIEP; strategies put in place to improve the education of pupils with VI and finally Summary

2.1 Background Information on Kenya Integrated Education Programme

Kenya Integrated Education Programme (KIEP) is an ongoing project in partnership with Kenya Society for Blind, Sight-savers International and Ministry of Education under the special needs education programme (KSB, 2009). KIEP has made Education for All a reality in 20 out of 47 counties in Kenya (KSB, 2011). The programme operates in 19 projects areas covering 82 districts that are doing exceptionally well in mainstreaming the visually impaired. The projects include Embu, Narok, Nakuru, Baringo, Turkana, Trans-Nzoia, Samburu,

KIEP annual report (2010) indicates that the main focus of the programme is to promote the education of pupils with VI in regular schools where they learn alongside their sighted peers. At the district level, activities are implemented through the District Educational Assessment Centers managed by a visual impairment officer. Itinerant/contact teachers are identified from the regular integrating schools and equipped with relevant Braille and low vision skills to support pupils with VI in regular schools. Itinerant and contact teachers take lead in training pupils with VI on how to use Braille, low vision devices and activities of daily living (KIEP annual report, 2010).

KIEP is therefore part of education activities coordinated through the District Education Office supported by Ministry of Education to undertake assessment and placement of pupils with VI identified during screening sessions. Other actors in the district are also engaged in identification and referral of pupils with VI in the programme. To facilitate this process, awareness creation sessions are held with various stakeholders in different sectors to sensitize them about visual impairment and how to promote inclusion (KIEP annual report, 2010). The activities of KIEP are carried out to meet the objectives which include: To improve the quality of education for pupils with VI in 19 counties by 2015; To promote access, retention and transition of pupils with VI by 25% in 2015; To entrench education
programmes for pupils with VI into ministry of education structures by 2015; To establish a reliable monitoring and management information systems at all levels.

2.2 Factors Influencing the Implementation of Kenya Integrated Education Programmes

Adaptation and modification is a way of welcoming pupils with VI in the curriculum, environment, social interaction and concept of the school. The factors discussed below are likely to affect the integration of pupils with VI either positively or negatively limiting their participation in the education programme.

2.2.1 School Factors

School factors include aspects such as a sense of peer acceptance and interactions within the school, classroom and curriculum factors, teacher factors among others that may create barriers towards effective learning of pupils with VI. Removal of such barriers allows successful integration of pupils with VI in regular schools where they learn alongside their sighted peers.

Butod (2009) conducted a survey study to learn more about the attitudes and training Greek teachers undergo to prepare themselves towards inclusion. Systematic random sampling was done to select 149 teachers who were administered to questionnaires. The results of the questionnaire were totaled and analyzed using frequencies, percentages, mean scores and standard deviations. Significant variables were also correlated. The study identified training, curriculum modifications as well as collaboration of relevant parties as essential
for inclusion to be successful. This study only looked at the training and attitude of teachers towards inclusion and did not look at the same for pupils and school administrators. This study was done in Kenya, Africa, and focused on factors influencing implementation of integration from the perspective of teachers, sighted pupils, pupils with VI and the school administrators.

Another study was conducted by Mutisya (2010) on factors influencing inclusion of learners with Special Needs in regular primary schools in Rachuonyo district, Kenya. The researcher administered questionnaires to a sample of 88 persons: 69 pupils, 15 teachers, and 4 head teachers. Purposive, random and stratified samplings were used to select the sample. The study revealed that sensitization had effectively been done, hence the teachers, pupils and the community in general had positive attitudes towards persons with disabilities. Trained teachers, adapted environment and appropriate resources were available hence this attracted enrolment of children with disabilities. However, it was noted that schools needed funding to sustain their resources. The researcher in this study looked at the prevailing status of Inclusive Education in a pilot project in Rachuonyo district. This study sought to establish factors influencing implementation of KIEP in Kitui and Nairobi counties.

2.2.2 Peer Acceptance and Interaction

Kiyimba (1997) notes that peer acceptance is essential to the learning process of a child with disability. Butod, (2009) observes that for successful inclusion of
students with severe disabilities, first, classroom and learning environment should be age appropriate. Second, pupils need accurate information about specific differences that a child with disability possesses and the effects of these differences on their classmates. Third, procedures should be implemented that encourage interaction between students with disabilities and non-disabled students. Fourth, no more than ten percent of students in any school should have severe disabilities and other needs and finally support should be considered and provided to the students with disabilities.

Kiyimba (1997) interviewed lecturers and students on Mass Communication programme at Makerere University, Uganda. The researcher found out that interaction among sighted and students with VI were limited. The limitation was due to sighted students’ inability to offer friendship out of fear that students with VI would waste their time requiring them to assist with reading tasks. This study will find out whether such scenario exists in the schools and strategies teachers have put in place to curb it.

2. 2.3 Classroom and Curriculum Factors

Pupils with VI need lighting depending on individual learner’s needs, classroom design and arrangement that provide adequate space for movement and storage facilities for Braille writers and other materials (Ngugi, 2002). Kimani (2003) said that some pupils with VI require more light to see clearly, while those who are light sensitive require less light. Surfaces should have distinct color contrast to
allow pupils with low vision to see clearly. Facilities should be adapted to ensure comfortable postures for pupils with VI.

WHO (1992) observes that pupils with VI in the integrated programmes follow the regular curriculum that is designed for fully sighted pupils and is delivered through sight related tasks. Jha (2002) notes that the curriculum in any education system is one of the major barriers or tools to facilitate the implementation or development of a more inclusive system. Wang (2009) explains that certain dilemmas and difficulties are encountered in designing a common curriculum that will meet all students’ needs. Wang gives examples that students with disabilities may require special methods of instruction to compensate for disability or they may need special equipment or communication technology to enable them to learn from unmodified curriculum. Pupils with VI require a specialist curriculum to support the implementation of the regular curriculum which includes orientation and mobility, activities of daily living, braille and in some cases physiotherapy (WHO, 1992).

This study was therefore to find out dilemmas and difficulties curriculum implementers experience in the integrated programme. It was also establish whether the inability of pupils with VI to perform certain activities breeds certain negative attitudes among teachers and sighted pupils.
2.2.4 Teacher Factors

Teachers play a critical role in creating a positive classroom environment. Smith, Polloway, Patton and Dowdy (2001) enlist three qualities essential to establish a successful inclusion. These include teacher attitude, teacher expectations and teacher competence. The authors explain that teachers must have a positive attitude about students with special needs being in their classrooms. This is because if the teachers are not supportive of inclusion of students with special needs, other students will detect the attitude and be less likely to accept them. Second, teachers have to expect students with special needs to perform at a high level than is expected of them. If teachers expect less, they get less. Finally, teachers need to have skills necessary to meet instructional needs of students with special needs. Teaching all students the same way will not be effective for the students with special needs.

A study by CEC (2003) in Eastern Europe indicates that most teachers agreed that one of the key areas in ensuring education for children with disabilities was catered for was to equip the teachers with the basic knowledge and skills on handling the children with special needs. This could be done through training of teachers in special needs education. Wang (2009) on the other hand adds that professional training is not the only necessary and essential quality educators should possess. Experience, passion, ability and patience for the children with difficulties are also important. Therefore, this study was to establish strategies used in the programme that are directed at proving the needed competencies to the
teachers for more effective work with pupils with VI. It was also to identify challenges that teachers face when they are teaching pupils with VI and the sighted together.

2.3 Types of Special Services Offered to Pupils with VI

Heward (2006) explains that for inclusion to be successful, a full programme of appropriate educational and related services must be provided. ICEVI (2010) argues that effective inclusion is a group effort that involves establishing community-based collaboration among educators, other professionals such as ophthalmologists, students’ families and community agencies. In addition, the writer explains that people must work cooperatively and reflectively by establishing communities and sharing resources, skills, and advocacy to the benefit of all pupils with VI. In Kenya, Ministry of Education, Ministry of Health, for example, brings in doctors, nurses and physiotherapists among others: Ministry of Home Affairs, Sports and Heritage has the social workers (Randiki, 2002). However, the writer observes that bringing all these people together to support the current residential system is a challenge. It is uncertain whether the integrated programmes have such arrangements in the schools. This study was meant to identify the services available in the programmes, who offers them and how often?

KIEP annual project report (2011) indicates that a clinical assessment was undertaken in Nairobi, Narok, Samburu, Turkana and Trans-Nzoia programmes
by Kenya Medical Training College. The assessment reviewed 628 cases of pupils with VI, which 444 were verified as genuine cases and 184 recommended to be weaned off from the programme after medical intervention. 93 pupils with VI were prescribed low vision devices and while 97 required glasses. This study sought to establish whether these pupils with VI who had been prescribed for low vision devices and those who required glasses had received them in Nairobi and Kitui programmes.

2.4 Effects of Special Services Offered to Pupils with VI
Gargiulo (2006) explains that in the 1950s and the 1960s, vision professionals restricted pupils with low vision not to use their sight for learning to read print. However, Natalie Baraga in 1973 discovered through research that children could learn to use vision that is left and that this would get better with practice. The training of residual vision is known as visual efficiency. The child is taught to use spectacles, magnifiers and any assistive devices to improve the use of vision (Hallahan, Kauffman and Pullen, 2009). Hallahan, et al 2009 further explain that pupils who have low vision should be made efficient readers with optical devices to enable them access print independently thus enabling them to develop solid and meaningful academic literacy skills.

2.5 Special Educational Resources Available for Pupils with VI in KIEP
Heward (2006) observes that no category of handicap requires greater coordination and provision of resources than in the area of the persons who are
blind and visually impaired. UNESCO (2004) notes that the learners must be provided with learning materials in formats that meet their individual needs. Randiki (2002) advises that the resources can be pooled at the start so that several schools in a zone can have such group resources kept in a resource centre and shared. Again, the writer notes that local artisans should be incorporated so that they are able to make and repair some of these devices.

Task Force on special needs education (2003) notes that learners with SNE need provision of the following materials and facilities in the regular school: assistive/functional devices such as white canes; learning resources such as braille machines, low vision devices, audio and audio visual equipment; support services such as occupational therapy, physiotherapy and counseling; mandatory medication such as drugs for the epileptic, hyperactive and autistic children. Environmental adaptation such as construction of ramps, adapted toilets, and pavements is also essential.

To enhance learning in KIEP, KSB Annual Report (2010) reported that, 10 braille machines, 85 PEP kits, 600 reams of Braille paper, 40 white canes, 10 scientific calculators and 400 low vision devices were procured and distributed to the programmes. This study sought to establish whether all pupils with VI had access to the available resources and verified whether they were adequate or not.
2.6 Community Participation in Provision of Education to Pupils with VI in KIEP

Ogot (2005) encourages the schools to sensitize the communities to help eliminate negative attitudes by creating awareness about the nature, causes, prevention and intervention of conditions that create special needs. When the community’s attitude is positive, they will be involved in school’s inclusive activities such as training and supporting the families of children with special needs.

KIEP Annual Project Report (2011) indicates that there exist collaboration between the KIEP and Kenya Medical Training College. Other government institutions involved include Kenya Institute of Special Education, Kenya National Examination Council, and Teachers’ Service Commission who address policy, curriculum and examination issues affecting pupils with VI in the KIEP programmes (KIEP Annual Project Report, 2011) This collaboration is at the national level however the extent to which the community was participating in KIEP at school level was not known.

2.7 Strategies Put in Place to Improve the Education of Pupils with VI

The growing feeling that pupils with special needs should be educated alongside their peers in mainstream schools raised many questions on how to make the necessary additional resources available in those schools. Different countries have adopted different solutions to this problem. A study done by Pijl and Dyson (1998) reveals that Germany, England and Australia have a particular financing
system, the pupil bound budget. Pupil-bound budget devolves resources or funding entirely to the school. The school then has more or less discretion as to how to choose to use those resources or funds to meet the child’s assessed needs. The study also indicates that it was common for those resources to be provided in kind such as teaching staff, specialist equipment and so on.

The government of Kenya in 2003 declared Free Primary Education (FPE) to all school-going children. FPE implies that the government would train, recruit and pay teachers and support staffs’ salaries. It will also provide teaching learning materials (MoEST, 2004). The Task Force on special needs education (2003) moreover notes that, the government has allocated approximately Ksh.1020 for every child per year in regular schools. An additional Ksh. 2000 has been provided to every child with SNE in a unit or special school. In conclusion, the Task Force on Special Needs Education (2003) estimated the cost of educating a child with SNE in day school/unit is Ksh. 17,000 per year, while that in a boarding school is 32,000. The government allocation for FPE is inadequate. Wang (2009) observes that funding should support provision for enough facilities, teaching materials, appropriate curriculum and learning activities. Unfortunately lack of funds is often an obstacle for development. This study sought establishes what machineries had been put in place in covering the funding gap in KIEP.
2.8 Summary

It is important to integrate pupils with VI in regular schools with sighted peers. This will enable them to compete, socialize and learn from one another. Their performance will also improve and dissolve idleness in school. Various studies have been conducted on visual impairment in Kenya but not on how Kenya integrated education programmes have affected pupils with visual impairment. Several factors have been noted as influencing the implementation of educational integration of pupils with VI. These are school factors, provision of related services, material resources and equipment. An observation from the above studies indicate that a sense of social acceptance, classroom factors, curriculum factors, availability of related support services, special materials, influence implementation of integrated educational programmes. However, the studies are limited in that they target teachers as major respondents and ignore pupils. Pupils’ responses are also important since they are directly affected by the integration programme. Another limitation is that many researchers have concentrated on establishing barriers and teachers attitudes towards children with disabilities. It is also important to find out which factors contributing to such outcomes. Hence, this study sought to investigate factors influencing implementation of KIEP.
CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter discusses the methodology that was followed in data collection. It covers the research design, variables, location of the study, target population, sampling techniques and sample size. Also covered are research instruments, questionnaire, observation schedules, interview schedule, pilot study, validity, reliability, data collection procedures, data analysis procedure, logistical and ethical considerations.

3.1 Research Design

The study employed a descriptive survey design utilizing qualitative and quantitative techniques in data collection. Kothari (2005) refers to the descriptive survey design as a rigid design that makes provisions for protection against bias and maximizes reliability as it aims to obtain complete and accurate data. This research design was preferred because the researcher administered a survey to a sample of regular teachers, pupils with VI and sighted pupils to describe their attitudes, opinions, behaviours and characteristics in the integrated schools.

3.1.1 Variables

This study had independent, intervening and dependent variables.
3.1.2 Independent Variables

The independent variables included factors, positive or negative, affecting the implementation of the integrated program such as availability of special services and resources, and school factors for example special curriculum and trained teachers in SNE. These conditions predicted the amount of variation that occurred in the integrated programme thus leading to the educational outcome of pupils with VI in the programme (Crewell, 2003).

3.1.3 Intervening Variable

The intervening variable was KIEP support that influenced positively by providing medical intervention and distributing special resources and services to facilitate integration of pupils with VI.

3.1.4 Dependent Variables

The dependent variable was the integration of pupils with VI since its achievement depended on the adequacy of special resources and services as provided by the community. It also depended on school factors such as use of special curriculum, teacher training in SNE, modified environment peer acceptance and interactions.

3.2 Location of the Study

The study was conducted in Kitui and Nairobi counties. Kitui County is located in the Southern part of Kenya. It borders Machakos and Makueni counties to the
West, Mwingi County to the North, Tana River County to the East and Taita Taveta County to the South. On the other hand, Nairobi County borders the former Eastern Province to the East, former Rift Valley Province to the West and Central Province to the North. The two counties were selected because of convenience and accessibility to the researcher. The schools that practice integration in the two counties are in urban setup with very good transport and communication network.

3.3 Target Population

The Nairobi programme had 3 primary schools while the Kitui programme had 2 primary schools. The Nairobi programme had a population of 180 sighted pupils, 28 pupils with VI, 35 teachers, 1 MoE officers and 1 head teachers. On the other hand, the Kitui programme had a population of 200 sighted pupils, 21 pupils with VI, 33 teachers, 1 MoE officer and 1 head teachers. The total target population is 503. The Nairobi and Kitui programmes were selected because the population of pupils with VI in their integrated schools was more than that from other programmes, from which a sample could be drawn.

3.4 Sampling Techniques and Sample Size

3.4.1 Sampling Techniques

Two sampling techniques were used to get respondents from different categories and the expected sample derived from each category. Purposive sampling was used to select the two programmes, Kitui and Nairobi. It was also used to select
the head teachers, Ministry of Education officers and the classes in upper primary with pupils with VI to participate in the study. The Ministry of Education officers was purposively selected based on the assumption that they were the policy-makers and they were informed of support that comes to the school. The headteachers were purposively selected because they were actively involved in managing and teaching learners in integrated schools. The upper primary classes with pupils with VI were selected because this is where full integration takes place in the two programmes. Purposive sampling was preferred because the researcher deliberately picked on the respondents who have rich information about integration.

The pilot school, sighted pupils and teachers were randomly sampled by lottery to participate in the study. Lottery technique was used because it gives each respondent an opportunity to participate in the study and hence eliminates biasness. It was done by writing the yes or no on pieces of paper, which were then folded, placed in a basket and shuffled. Those respondents who picked yes participated in the study.

3.4.2 Sample Size

Gay (1992) suggests that 10 per cent of accessible population is adequate to serve as a sample. The sample of this study consisted of 2 head teachers, 40 regular teachers, 45 pupils with VI, 50 sighted pupils and 2 education officers who
participated in the study. This comprised of 27.6 per cent of the total population.

Below is the target and sample population grid.

### Table 3.1: Target and Sample Population

<table>
<thead>
<tr>
<th>Subject</th>
<th>Muslim primary</th>
<th>Kilimani primary</th>
<th>Total sample population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target</td>
<td>Sample</td>
<td>Target</td>
</tr>
<tr>
<td>Head teacher</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Regular teachers</td>
<td>33</td>
<td>20</td>
<td>35</td>
</tr>
<tr>
<td>Pupils with VI</td>
<td>21</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Sighted pupil</td>
<td>200</td>
<td>25</td>
<td>180</td>
</tr>
<tr>
<td>Ministry of education</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>256</strong></td>
<td><strong>67</strong></td>
<td><strong>247</strong></td>
</tr>
</tbody>
</table>

#### 3.5 Research Instruments

The research objectives formed the basis from which the research instruments were constructed. In data collection, the researcher used two sets of questionnaires; the first set was for teachers and the second for sighted pupils in the two schools. To supplement questionnaires, there were two sets of interview schedules to gather more in-depth information from head teachers, pupils with VI and Ministry of Education officers. Observation schedules were also used. A combination of data collection methods was used to avoid response and information bias, ensure validity, reliability and accuracy of information derived (Oppenhein, 1992).
3.5.1 Questionnaire for Teachers and Sighted Pupils

The questionnaire consisted of both open and closed-ended questions. They were administered to sighted pupils and teachers. The questionnaire was preferred because it helps the researcher reach a large sample within a limited time, and confidentiality is upheld (Creswell, 2003). The questionnaire was in two parts. Part one was aimed at collecting demographic information and part two consisted of open and closed ended questions. The questionnaires for sighted pupils had a series of classroom and school practices where the individuals’ respondents ticked the practices being implemented in their school. This was important to determine the various views of sighted pupils on integration. The questionnaires for the teachers required them to tick responses that were relevant to their schools on factors influencing implementation of KIEP or filled in the required details.

3.5.2 Observation Schedules for Availability of Special Services and Resources

Structured observation was used to provide information on the condition of physical facilities in the school such as, availability of materials, facilities and equipment and environmental adaptations. The observation schedule was preferred as it verified the truth of the statement made by informants in the context of questionnaires and interview schedule. In addition, the information obtained by this method related to what is currently happening on the ground. (Cohen Mahion & Marison, 2000).
3.5.3 Interview Schedule

The interview schedule was used to gather information from the pupils with VI, headteachers and Ministry of Education officers. The reasons were that some of the pupils were not able to read print and the researcher needed to interact with them closely. The questions were read to each one of them and responses were recorded. This method of data collection was preferred because the researcher made extensive enquiries and lead to fairly reliable results. Moreover, the researcher was able to remove ambiguities and probe for more information.

3.6 Pilot Study

The research instruments were pre-tested at Muthaiga Primary School in Nairobi County. Muthaiga Primary School was chosen for piloting because it is also supported by KIEP and is a mixed school like the study schools. Learners in this programme were subjected to the same curriculum and were taught by teachers who have the same professional qualifications. Piloting thus served the following; to check clarity of the questionnaire items, instructions and layout; to validate the instruments by cross checking their validity and reliability; to eliminate ambiguities or difficulties in wording among others (Cohen et al., 2000). The procedure used in piloting was same as those that were used during the actual data collection; however, this school was not included in the main study.
3.6.1 Validity

To determine validity, the researcher carefully sampled the questionnaire items based on the research objectives to ensure their representativeness. The elements chosen by the research sample were addressed in depth and breadth. To ascertain whether the items in the instruments were suitable for the task, pre-test was done during pilot study to the population similar to the one of the main study. The pre-tested instruments were analyzed to check for appropriateness of language used. Items such as performance and the category of pupils with VI that pose a challenge to teach on the questionnaire for teachers were deleted. The questionnaire for headteachers was changed to an interview guide.

3.6.2 Reliability

The reliability of the instruments for the study was measured by use of Pearson’s product moment formula. Split-half method was used to determine the reliability of the research instruments. According to Cohen et al., (2000), the method involves splitting the test items into two by assigning all the even numbered items to one group and all the odd numbered items to another. This would move towards the two halves being matched in terms of content and cumulative degree of difficulty. Each half was marked separately and then the marks obtained on each half was correlated with the other. The marks on the one half were matched with the marks of the other half of the respondents. This was calculated using Spearman-Brown formula. The correlation coefficient using Pearson moment
correlation was established. A correlation coefficient of 0.8 was obtained and which implies that the instruments were reliable.

3.7 Data Collection Procedure

The researcher visited the selected schools then briefed the head teachers on the purpose of the study. The head teacher in turn organized on how the researcher would meet with the teachers and pupils. The questionnaires were then issued to the teachers and sighted pupils who had been sampled. The participants were given a week to fill in the questionnaires. The researcher made arrangements with the administrators on appropriate time to carry out the interview with pupils with VI and the Ministry of Education officer. On the observation, the researcher arranged with the teachers concerned on appropriate time to carry out observation especially in the classroom/resource room. Once appropriate time was established, the researcher carried out the observation under the guidance of an observation guide.

3.8 Data Analysis

Once data was collected, it was first edited. Editing of data was a process of examining the collected raw data to detect errors and omissions so as to correct them when possible. It involved a careful scrutiny of the completed questionnaires and observation schedules to ensure that data was accurate, consistent with other facts gathered, uniformly entered as complete as possibly and had been well arranged to facilitate coding and tabulation (Kothari, 2005).
Data was analyzed qualitatively and quantitatively using descriptive statistics methods. Responses from closed ended questions were assigned numbers, for instance one for yes and two for no. On the other hand, the open-ended questions were numbered according to themes. Each theme was assigned a code. Frequency tally was then used to assign each expected response the theme to which it closely corresponded. Numerical values were then assigned to the themes and tallied accordingly. These numerical values were then fed into the computer and analyzed using Statistical Package for Social Sciences (SPSS). To obtain case processing summary, data were converted into percentages and presented in tabular form and charts. The findings were presented using tables, pie charts and graphs for the purpose of making interpretations clearer.

3.9 Logistical and Ethical Considerations

The researcher got authorization to carry out the research from the Ministry of Higher Education, Science and Technology through National Council for Science and Technology through Graduate School, Kenyatta University. After the permit was obtained, the researcher then informed the District Education Officers of Kitui central and Westlands Districts as well as the schools of the intention to carry out the study. According to Kothari (2005), subjects must be informed of the nature of the research in a clear and understandable language. Informed consent must also be documented and the researcher’s need to guarantee anonymity and confidentiality. In the study, the researcher put all the above into consideration in
addition to respecting the teachers’ and pupils’ wish to participate. The researcher then proceeded on to the headteacher of the two schools to discuss on the appropriate time to meet with the teachers and pupils for data collection.
CHAPTER FOUR  
DATA PRESENTATION, ANALYSIS OF RESULTS AND DISCUSSION  

4.0 Introduction  
This chapter presents an analysis and interpretation of data that were collected during fieldwork. The analysis and interpretation have been done within the framework of the core objectives that the study sought to address. The core objective of the study was to establish the factors influencing the implementation of the Kenya Integrated Education Programme for pupils with visual impairment in Kitui and Nairobi counties in Kenya. The data is presented in the form of frequencies and percentages using pie charts, graphs and tables and organized into six themes based on the key research questions that guided fieldwork for the study.  

These are:  
1. What school factors affect the integration of pupils with VI in KIEP?  
2. What are the types of special services offered to pupils with VI in KIEP?  
3. What are the effects of the special services offered to pupils with VI in KIEP?  
4. What special educational resources are available in KIEP?  
5. What is the nature of community participation in education provision of pupils with VI in KIEP?
6. What strategies have been put in place to improve educational integration of pupils with VI in KIEP?

4.1 Data Analysis, Results and Discussions

4.1.1 Response Rate

The study used questionnaires for sighted pupils, pupils with VI and teachers. 50 questionnaires were administered to sighted pupils, 49 questionnaires were returned giving a response rate 98%, 45 questionnaires were administered to pupils with VI, 41 questionnaires were returned giving a response rate of 91%, whereas 40 questionnaires were administered to teachers, 36 were returned giving a response rate of 90%. There was a 100% response rate for interview guide since all the four targeted ministry of education officers and head teachers were interviewed. The information is shown in Table 4.1.

<table>
<thead>
<tr>
<th>Response Rate</th>
<th>Sighted pupils</th>
<th>Pupils with VI</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
<td>Frequency</td>
</tr>
<tr>
<td>Responded</td>
<td>49</td>
<td>98%</td>
<td>41</td>
</tr>
<tr>
<td>Non-responded</td>
<td>1</td>
<td>2%</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100.0</td>
<td>45</td>
</tr>
</tbody>
</table>

4.1.2 Demographic Characteristics of the Sample

The data collection phase first sought to establish the demographic and social characteristics of the respondents. The main demographic features of the
respondents featured in this report included: highest professional qualifications, teaching experience, age and gender among others. The respondents were in five categories: teachers, sighted pupils, the Pupils with VI, headteachers and MoE officers.

4.1.3 Distribution of Teachers by Highest Professional Qualifications
The researcher sought information about the highest professional qualifications of the teachers. Data from the field were analyzed and the findings are shown in Table 4.2.

Table 4.2: Teachers’ Highest Professional Qualification (N = 36)

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>1</td>
<td>2.8</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>7</td>
<td>19.4</td>
</tr>
<tr>
<td>Diploma</td>
<td>10</td>
<td>27.8</td>
</tr>
<tr>
<td>P1</td>
<td>14</td>
<td>37.8</td>
</tr>
<tr>
<td>Non-committal</td>
<td>4</td>
<td>11.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The data presented in Table 4.2 indicate that the teachers’ professional qualifications were so varied, the majority of the teachers 14 (37.8%) were P1 holders. Diploma holders constituted 10 (27.8%) bachelor’s degree holders constituted 7(19.4%). Only 1 (2.8%) of the teachers indicated having a masters’ degree. However, of the teachers, 4 (11.1%) were non-committal, having failed to indicate any highest professional qualification attained.
Accordingly, the teaching staff comprised individuals with different levels of qualifications. However, one encouraging observation is that all these teachers have adequate qualifications relative to the level at which they are providing their services. Although Primary Teacher Education did not have much of Special Needs Education component, the experience most of those teachers had made them well placed to work with pupils who had visual impairment.

4.1.4 Distribution of Teachers by Teaching Experience

Since the teaching experience of the sampled teachers was one of the demographic characteristics that the study sought to establish, teachers were asked to state the length of time for which they had worked as teachers. This distribution of teachers’ experience is shown in Figure 4.1.

![Teachers' Teaching Experience](image)

**Figure 4.1: Teacher’s Teaching Experience (N = 36)**
The findings indicated that 18 (50%) of the teachers had an experience of over 15 years in teaching. This was a very important finding especially because of the perceived wide experiences that the respondents would possess regarding the issues sought in the study. Further, the findings indicated that a relatively high number of the teachers 8 (22.2%) had a five year and below teaching experience. Another 6 (16.7%) had taught for a period between 11-15 years. A further 4 (11.1%) had an experience of 6-10 years. Experience was important particularly for teachers of pupils with VI due to uniqueness of individual learners. Without training in special Needs most teachers were left to try and find out by themselves what was best, and thus with time, it was expected that they improved on their methodology and also in other areas. It was important that those teachers attend seminars and workshops to be equipped with Braille and low vision skills that are essential.

4.1.5 Distribution of Sighted and Pupils with VI by Age (respondents were from class 4-8)

The study further sought to establish the age of pupils. The age of the pupils was deemed important to the study since it shows duration of the pupils in the school. Data on the same were collected and analyzed and findings are as shown in Table 4.3.
Table 4.3: Sighted and Pupils’ with VI by Age  (N =90)

<table>
<thead>
<tr>
<th>Age group</th>
<th>Sighted pupils</th>
<th>Pupils with VI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>8-13 years</td>
<td>28</td>
<td>57.1</td>
</tr>
<tr>
<td>14-19 years</td>
<td>21</td>
<td>42.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>49</td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 4.3 indicates that majority of the pupils with VI 30 (73.3%) were aged between 8-13 years. According to the study, this was the correct age recommended by the MoE. A few pupils with VI 21 (26.7%) were aged 14-19. For the sighted pupils 28 (57.1%) were aged 8-13 years whereas 21 (42.9%) were aged 14 years and above. The study findings indicate that both sighted and pupils with VI were equally affected by time of completion of learning. This is in agreement with Butod, (2009) who observed that for successful inclusion of students with severe disabilities, the classroom and the school environment should be age appropriate.

4.1.6 Distribution of Pupils with VI and Sighted by Gender

The study sought information on gender of pupils with VI and the sighted in order to bring out their participation in the study. Table 4.4 shows their distribution.
Table 4.4: Pupils with VI and Sighted by Gender  \((N = 90)\)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Sighted pupils</th>
<th>Pupils with VI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Girl</td>
<td>34</td>
<td>69.4</td>
</tr>
<tr>
<td>Boy</td>
<td>15</td>
<td>30.6</td>
</tr>
<tr>
<td>Non-committal</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>49</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 4.4 indicates that for the sighted pupils, the girls in the sample were more than boys with the girls constituting 34 (69.4%) and boys 15 (30.6%). The boys who were visually impaired were more than the girls with a distribution of 21 (51.3%) for boys and 19 (46.3%) for girls. The boys who are VI were more than girls due to cultural belief that boys should be given first priority in education. One respondent with visual impairment did not indicate his/her gender.

4.1.7 Distribution of Pupils with VI in Terms of Vision Status

The pupils with visual impairment were also asked to indicate the status of their vision. The findings to this question are indicated in Table 4.5.

Table 4.5: Vision Status of VI Respondents  \((N = 41)\)

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low vision</td>
<td>26</td>
<td>63.4</td>
</tr>
<tr>
<td>Blind</td>
<td>13</td>
<td>31.7</td>
</tr>
<tr>
<td>Non-committal</td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
As presented in Table 4.5, 26 (63.4%) of pupils with VI had low vision. The remaining 13 (32.7%) were totally blind. 2 (4.9%) did not indicate their vision status. The findings on vision status were deemed important in this study as it was the determinant of the types of special resources and services to be provided to individual pupils with VI in the schools of study.

### 4.2 School Factors Affecting Integration of Pupils with VI in KIEP

The first study question was to identify the school factors that affected integration of pupils with VI in KIEP. This question was pursued in a number of instruments administered to the various respondents involved in the study. The teachers were asked to indicate the effectiveness of school factors that affected integration of pupils with VI in their schools. Their responses were noted in Table 4.6.
Table 4.6: Factors Affecting the Integration of Pupils with VI in KIEP (N = 36)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Very effective</th>
<th>Effective</th>
<th>Satisfactorily effective</th>
<th>Fairly Effective</th>
<th>Ineffective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provision of adequate special educational materials</td>
<td>5 14.3</td>
<td>10 28.6</td>
<td>16 44.4</td>
<td>2 5.7</td>
<td>2 5.7</td>
</tr>
<tr>
<td>2. Provision of adequate special educational equipment</td>
<td>5 14.3</td>
<td>10 28.6</td>
<td>16 44.4</td>
<td>2 5.7</td>
<td>2 5.7</td>
</tr>
<tr>
<td>3. Modification of school environment</td>
<td>1 2.9</td>
<td>12 35.3</td>
<td>10 29.4</td>
<td>8 23.5</td>
<td>3 8.8</td>
</tr>
<tr>
<td>4. Modification of classroom environment</td>
<td>8 22.9</td>
<td>8 22.9</td>
<td>11 30.5</td>
<td>5 14.3</td>
<td>3 8.6</td>
</tr>
<tr>
<td>5. Provision of appropriate support services from resource room teachers</td>
<td>7 19.4</td>
<td>8 22.2</td>
<td>8 22.2</td>
<td>11 30.5</td>
<td>2 5.6</td>
</tr>
<tr>
<td>6. Provision of appropriate support services from baille transcriber</td>
<td>10 27.8</td>
<td>16 44.4</td>
<td>3 8.3</td>
<td>1 2.8</td>
<td>6 16.7</td>
</tr>
<tr>
<td>7. Availability of trained teachers in SNE</td>
<td>8 25.0</td>
<td>13 40.6</td>
<td>4 12.5</td>
<td>5 15.6</td>
<td>2 6.3</td>
</tr>
<tr>
<td>8. Acceptance of pupils with VI by sighted pupils</td>
<td>13 36.1</td>
<td>10 28.6</td>
<td>8 22.9</td>
<td>5 15.6</td>
<td>2 6.3</td>
</tr>
<tr>
<td>9. Acceptance of pupils with VI by regular teachers</td>
<td>13 36.1</td>
<td>10 28.6</td>
<td>8 22.9</td>
<td>3 8.6</td>
<td>1 2.9</td>
</tr>
<tr>
<td>10. Involvement of the community</td>
<td>3 8.6</td>
<td>11 40.0</td>
<td>6 17.1</td>
<td>12 34.3</td>
<td>3 8.6</td>
</tr>
<tr>
<td>11. Availability of specialist curriculum</td>
<td>6 16.7</td>
<td>9 25.0</td>
<td>9 25.0</td>
<td>4 11.1</td>
<td>8 22.2</td>
</tr>
<tr>
<td>Average Totals</td>
<td>11 30.5</td>
<td>11 30.5</td>
<td>9 25.0</td>
<td>5 13.9</td>
<td>3 8.3</td>
</tr>
</tbody>
</table>

Table 4.6 shows that the majority of teachers 16 (44.4%) said that provision of proper and adequate educational materials and equipment was satisfactorily effective in integration of pupils with VI respectively. A number of the teachers 13 (40.6%) indicated that availability of trained teachers in SNE was effective in integration of pupils with VI. A good number of teachers 11 (36.1%) said that involvement of the community in integration of pupils with VI was effective. 13 (36.1%) of these teachers indicated that acceptance of pupils with VI by teachers
and sighted pupils was very effective in integration. However a few teachers 8 (22.2%) felt that availability of specialist curriculum was ineffective. These findings concur with a similar study by Mutisya (2010) whose study indicated that trained teachers, adapted environment and appropriate resources were available hence this attracted enrolment of those with disabilities.

The average rating on effectiveness of factors affecting integration of pupils with VI shows that more than a half of the teachers 22(61%) indicated that these factors were effective. The remaining teachers were of the view that these factors were either satisfactorily effective as mentioned by 9 (25%), fairly effective as mentioned by 5(13.5%) or simply ineffective as indicated by 3 (8.3%) teachers respectively. The findings reveal that school environment, special curriculum, teacher training and acceptance of pupils with VI had pockets of ineffectiveness that would hinder the implementation of KIEP. The findings disagree with ICEVI, (2010) who argues that children who are blind in Africa are particularly educationally vulnerable, they are more likely to begin school late, repeat years and drop out early. This is because of factors such as lack of sufficient regular support from specialist braille teachers; lack of access to appropriate learning materials and effective systems of identification and monitoring. The researcher also made observations to further verify the findings. The data was collected and the findings reported in 4.3.1, 4.3.2, 4.3.3 and 4.3.4.
4.2.1 Observations Made in the School Environment

Ideally, learners with special needs require a barrier-free environment to maximize their functional potentials. The physical environment where such learners operate should be accessible and disability friendly. With this provision, the learners are able to operate in such an environment with minimum support. According to the observation schedule that was used to capture the situation of the school environment, it was noted that the classrooms tended to be overcrowded relative to the movement of the pupils with visual impairment. At the same time, in one of the schools, the pavements appeared to be rather ignored. Despite these setbacks, there were some positive observations. First, there was enough light in the classrooms since the windows were made of louvers. The desks were wide enough to accommodate the braille machines and large print materials while colour of the classrooms walls and doors contrasted appropriately relative to the pupils’ with VI needs. The study was in agreement with Ngugi (2002) who commented on the importance of lighting depending on learner’s needs, classroom design and arrangement that provides adequate space for movement and storage facilities for braille writers and other materials.

4.2.2 Observations on the Specialist Curriculum

From this study the specialist curriculum include skills in; orientation, mobility, training in the use of low vision devices, braille and in use of cubethyms. The study therefore sought to establish whether these skills are taught in the schools of study. Findings revealed that whereas these skills were taught, they were not
timetabled. The teacher therefore, had to create his/her own time outside the normal class time to teach these skills. Such time could not be adequate enough for pupils to grasp the skills and be competent. The findings were consistent with WHO (1992) who reported that pupils with VI require a specialist curriculum to support the implementation of the regular curriculum. Jha (2002) observed that the curriculum in any education system is one of the major barriers or tools that facilitates the implementation or development of more inclusive system. Thus it was important that these skills be provided for in the school timetable. In terms of KIEP implementation therefore, it is reasonable to assert that the implementation was going on fairly well.

4.2.3 Observation on Availability of Special Equipment, Facilities and Materials
The study deemed it important to find out the availability of special equipment, facilities and materials that were available and used at school level. The information was sought through observation. An observation schedule was used and the results are as shown in Table 4.7.
Table 4.7: Special Resources Available and are Used at School Level

<table>
<thead>
<tr>
<th>Special Resources</th>
<th>Number in Kilimani</th>
<th>Number in Muslim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed Circuit Television</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Computers with software</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Braille embosser</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Thermoforming Machine</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Braille Machines</td>
<td>33</td>
<td>30</td>
</tr>
<tr>
<td>Adjustable desk Stands</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Victor reader</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Talking books</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>Resource Room</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The observation schedule indicates that the study schools have basic resources essential for integrating pupils with VI. These findings concur with the sentiments made by Task Force on special needs education (2003) which state that learners with SNE, need provision of materials and facilities in the regular school that include assistive devices such as white canes; braille machines, low vision devices, audio and audio visual equipment.

4.2.4 Observations on the Special Support Service

According to the observations made, pupils with VI relied on their sighted peers as readers and sighted guides. Further observation revealed that each school had one Braille transcriber who offered transcription services to pupils with VI. Observation also revealed that resource room teachers trained pupils with VI on orientation and mobility and also offered counseling services. Medical records were also observed implying that pupils with VI received medical services. This finding is in line with sentiments made by Wang (2009) that students with
disabilities may require special methods of instruction to compensate for disability or they may need special equipment or communication technology to enable them to learn from unmodified curriculum.

### 4.2.5 Teachers with Training in Special Needs

The study sought information from teachers on whether they were trained in Special Needs Education. It was deemed important to establish the percentage of teachers who had undergone training on how to handle learners with special needs. Data were collected and analyzed. The findings were presented in Figure 4.2.

![Pie chart showing training in SNE](image)

**Figure 4.2: Teachers Trained in Special Needs (N = 36)**

Figure 4.2 clearly shows that the majority of teachers 24 (67%) do not have training in Special Needs Education while 12 (33%) of the teachers are trained. Children with special needs require some close care and attention from their
teachers who are in turn expected to pay close attention to the children. This close attention is a great determinant of the success in the implementation of the curriculum for these children since the requirement is that in a school where there is integration, there should be some teachers trained in SNE to work with the other regular teachers. An interview administered to the Ministry of Education Officer revealed that there were 5 trained resource room teachers in each school. These teachers were assigned pupils with VI to train on special disability related skills at the ratio of 1:6. It is reasonable to assert that the implementation of the KIEP is to some level, hampered by the apparent lack of the relevant skills or training on the part of most of the teachers. In other words, this situation of the teachers implies that the said implementation is lacking in some way.

It was, however, noted during interviews with the MoE officers that the Kenya Society for the Blind (KSB) organizes training and workshops for teacher aides such as Braille transcribers, braille repairers and computer technicians. These findings are consistent with recommendations made in a study done by CEC (2003), that teachers should be equipped with basic skills and knowledge in handling children with disabilities. In addition, Wang’ (2009), observes that apart from professional training, an educator should possess experience, passion, ability and patience for children with difficulties.
4.2.6 Acceptance of Pupils with VI

This is the basis for the development of the pupils with VI sense of security, confidence and the ability to cope with others in and out of the school. The study sought teachers and sighted pupils’ opinions on integration of pupils with VI in the schools. Teachers were asked for their views on the integration programme. Their responses are indicated in Table 4.8.

Table 4.8: Teachers’ Views on Integration (N = 36)

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not a Problem</td>
<td>13</td>
<td>36.1</td>
</tr>
<tr>
<td>Too involving</td>
<td>8</td>
<td>22.2</td>
</tr>
<tr>
<td>Normal</td>
<td>14</td>
<td>38.9</td>
</tr>
<tr>
<td>A problem</td>
<td>1</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

As indicated by the responses presented in Table 4.7, whereas 14 (38.9%) of the teachers indicated that having pupils with VI in the mainstream classroom is normal, 13 (36.1%) said that it was not a problem to them. However, 8 (22.2%) indicated that it is too involving with 1 (2.8%) clearly asserting that it is a problem. A follow-up question was posed to teachers on services they offered to pupils with VI in their school, the findings are presented in Table 4.9.
Table 4.9: Teachers’ Opinion for Services they Can Offer to Pupils with VI (N = 36)

<table>
<thead>
<tr>
<th>Opinions</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsatisfying</td>
<td>2</td>
<td>5.6</td>
</tr>
<tr>
<td>Satisfying</td>
<td>23</td>
<td>63.9</td>
</tr>
<tr>
<td>Time consuming for sighted pupils</td>
<td>7</td>
<td>19.4</td>
</tr>
<tr>
<td>Not time consuming</td>
<td>4</td>
<td>11.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 4.9 indicates that majority of teachers 23 (63.9%) said that they find services offered to pupils with VI satisfying. On the same issue, it is worth noting that 7 (19.4%) felt that the services were time consuming, with 4 (11.1%) who said they were not time consuming. A few teachers 2 (5.6%) reported that their services were unsatisfying. The findings imply that the majority of teachers had the right mind set for integration. The same pattern of acceptance of the pupils with VI into the general school was further underlined by the responses from the sighted pupils. These findings are presented in Figure 4.3.
Figure 4.3 indicates that the majority of sighted pupils when asked whether they like sharing classrooms with their visually impaired counterparts, an overwhelming majority of the sighted pupils 48 (98%) responded in the affirmative with only 1 (2%) sighted pupil asserting his/her dislike. It is possible that the like or dislike is essentially a question of attitude. And this being the case, this distribution of these attitudes or perceptions can be explained as the net effect of the instances of awareness that have been and are still in place leading to this wide acceptance of the children both by the teachers and their sighted counterparts.

Despite many of the teachers and sighted pupils being positive about the integration of the pupils with VI, they (teachers) identified a number of shortcomings or challenges they face while teaching both pupils with VI and the sighted in the same class. The challenges faced by the teachers were noted and
included as significant findings requiring considerations. Some of these challenges include the following: 12 (35.3%), teachers felt that they needed to consult with those among them who were conversant with braille skills. 9 (25%) observed that pupils with VI had difficulties reading what is written on the blackboard. 7 (19.4%), reported that pupils with VI needed extra time to complete given tasks due to the slow pace at which they worked. 6 (16.7%), complained that some brailled textbooks were unavailable. 6 (16.7%), of the teachers pointed out that they found it difficult to teach pupils with VI using diagrams that are not embossed. This implies that if these challenges are fully addressed then, the implementation of KIEP would be very effective.

4.3 Types of Special Services Offered to Pupils with Visual Impairment in KIEP

The second study question sought information on types special services offered to pupils with VI. A question on these services offered was posed to pupils with VI, sighted pupils and teachers. First sighted pupils were asked to indicate the services they offer to pupils with VI. The findings of the study are displayed in Table 4.10.
Table 4.10: Services Offered by Sighted Pupils to Pupils with VI (N = 49)

<table>
<thead>
<tr>
<th>Service offered</th>
<th>Sighted pupils</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading for the pupil with VI print books</td>
<td></td>
<td>49</td>
<td>100</td>
</tr>
<tr>
<td>Walking and guiding pupils with VI in the school</td>
<td></td>
<td>44</td>
<td>89.8</td>
</tr>
<tr>
<td>Participation In group activities where pupils with VI are</td>
<td></td>
<td>45</td>
<td>91.8</td>
</tr>
<tr>
<td>Playing games with pupils with VI</td>
<td></td>
<td>38</td>
<td>77.6</td>
</tr>
<tr>
<td>Assisting pupils with VI on difficult class work</td>
<td></td>
<td>45</td>
<td>91.8</td>
</tr>
</tbody>
</table>

As it can be seen in Table 4.10, all the sighted pupils 49 (100%) said that they read for pupils with VI print books. Majority of sighted pupils 45 (91.8) cited that they assisted pupils with VI on difficult classwork and participated in group activities where pupils with VI are respectively. A good number of sighted pupils 44 (89%) said that they guide and walked pupils with VI at school. These findings are in agreement with Butod (2009) who says that procedures should be implemented that encourage interaction between pupils with disability and nondisabled students in the school. The findings imply that there is interaction amongst pupils with VI and those who are sighted, a factor that has enhanced integration of pupils with VI.

At the same time, teachers were asked to indicate the special services available to pupils with VI. Their responses are as indicated in the Table 4.11.
Table 4.11: Teachers’ Response on Availability of Services Offered to Pupils with VI (N = 36)

<table>
<thead>
<tr>
<th>Services</th>
<th>Available</th>
<th>Rarely available</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Medical services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical examination</td>
<td>18</td>
<td>50.0</td>
<td>4</td>
</tr>
<tr>
<td>Refraction</td>
<td>12</td>
<td>33.3</td>
<td>5</td>
</tr>
<tr>
<td>Low vision assessment</td>
<td>23</td>
<td>63.9</td>
<td>7</td>
</tr>
<tr>
<td><strong>2. Resource room services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orientation and mobility</td>
<td>30</td>
<td>83.3</td>
<td>4</td>
</tr>
<tr>
<td>Braille transcribers</td>
<td>26</td>
<td>72.2</td>
<td>6</td>
</tr>
<tr>
<td>Readers</td>
<td>24</td>
<td>66.7</td>
<td>5</td>
</tr>
<tr>
<td>Low vision skills training</td>
<td>24</td>
<td>66.7</td>
<td>8</td>
</tr>
<tr>
<td>Use of cuberythms</td>
<td>20</td>
<td>55.6</td>
<td>7</td>
</tr>
<tr>
<td>Use of abacus</td>
<td>26</td>
<td>72.2</td>
<td>7</td>
</tr>
<tr>
<td><strong>3. Constant contact with and advice from specialist who are not part of the programme (counselors and social workers)</strong></td>
<td>5</td>
<td>13.9</td>
<td>19</td>
</tr>
<tr>
<td><strong>4. In-service course for teachers handling pupils with VI</strong></td>
<td>12</td>
<td>33.3</td>
<td>10</td>
</tr>
</tbody>
</table>

As presented in Table 4.11, the majority of teachers 30 (83.8%) cited orientation and mobility, while 26 (72.2%) cited use of abacus and braille transcribers respectively as the available services offered to pupils with VI. The same number of teachers 24 (66.7%) cited availability of readers and low vision skills training respectively. While the remaining teachers 23 (63.9%) cited low vision assessment, 18 (50%) cited medical examination and 12 (33.3%) cited refraction services as available. Headteachers through interview said teacher aides who offered some of these services such as braille transcribers and computer technicians are normally posted and paid by the government. Integration of pupils
with VI is complex and needs collaboration of various stake holders as pointed out by ICEVI (2010) who argues that effective inclusion is a group effort that involves establishing community-based collaboration among educators, other professionals such as ophthalmologists, students’ families and community agencies. In addition, the writer explains that people must work cooperatively and reflectively by establishing communities and sharing resources, skills, and advocacy to the benefit of all pupils with VI.

Interview with MoE officer revealed that medical services were provided by the government and other charitable organizations such as the Kenya Society for the Blind in conjunction with Kikuyu Hospital. On the other hand, resource room services are provided by the five resource room teachers trained in SNE even though they were not adequate. Other than the teachers, the pupils with VI were also asked to state the services offered to them. The services reported are indicated in Table 4.12.

**Table 4.12: Services Received by Pupils with VI at School  (N =41)**

<table>
<thead>
<tr>
<th>Service</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sighted guides</td>
<td>19</td>
<td>46.3</td>
</tr>
<tr>
<td>Braille transcribers</td>
<td>22</td>
<td>53.7</td>
</tr>
<tr>
<td>Counselors’</td>
<td>10</td>
<td>27.8</td>
</tr>
<tr>
<td>Medical services</td>
<td>30</td>
<td>73.2</td>
</tr>
<tr>
<td>Orientation and mobility</td>
<td>17</td>
<td>47.2</td>
</tr>
<tr>
<td>Training in the use of low vision devices</td>
<td>24</td>
<td>58.5</td>
</tr>
</tbody>
</table>
From Table 4.12, it is clear that the majority of pupils with VI represented by 30 (73.3%) said that they received medical services. Whereas 24 (58.5%) said that they were trained in the use of low vision devices, 22 (53.7%) indicated that they were served in braille transcription. Other services mentioned included orientation and mobility by 19 (47.2%), sighted guides by 17 (46.3%) and counselling by 10 (27.8%) respectively. These low percentages were taken to imply that the service provision depended on unique needs of an individual pupil. The finding was consistent with the Task Force report (2003) which says that learners with SNE need support services such as occupational therapy, physiotherapy, counselling and mandatory medication. The findings are in agreement by Hallahan, et al., (2009) who explains that a child with VI is taught to use spectacles, magnifiers and any assistive devices to improve the use of vision.

4.3.1 Effects of Special Services Offered to Pupils with VI in KIEP

The third study question sought information on effects of special services offered to pupils with VI. A question on these services offered was posed to teachers since having special services is one thing and for the services to be having an impact in the whole programme is another altogether. Accordingly, concerning the effects of the services provided to pupils with VI, the teachers were given five effects to rate their impact as indicated in appendix II. The findings on this question are presented in Table 4.13.
Table 4.1: Effects of Services Provided to Pupils with VI (N = 36)

<table>
<thead>
<tr>
<th>Effects</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of low vision has enabled pupils with VI to perform task</td>
<td>30</td>
<td>83.3</td>
</tr>
<tr>
<td>Use of cane technique has enabled pupils to move independently in the school compound</td>
<td>25</td>
<td>59.4</td>
</tr>
<tr>
<td>Pupils can read and write Braille</td>
<td>30</td>
<td>83.3</td>
</tr>
<tr>
<td>Braille and large print materials are available at the time they are needed</td>
<td>19</td>
<td>52</td>
</tr>
<tr>
<td>Motivated pupils with VI</td>
<td>21</td>
<td>58.3</td>
</tr>
</tbody>
</table>

As presented in Table 4.13, it is notable that the greatest effect of services offered to pupils with VI in the schools was that the use of low vision devices has enabled pupils with VI to perform tasks. This view was expressed by 30 (83.3%) of the teachers. This finding concurs with Hallahan, et al., 2009 who said that pupils who have low vision should be made efficient readers with optical devices to enable them access print independently thus enabling them to develop solid and meaningful academic literacy skills. It is also worth noting that an equal proportion of the teachers saw the ability of pupils to read and write in braille as an effect. In other words, many of the children have been enabled to read and write using braille. This is a positive effect worth noting, given that this is one fundamental component of the children’s learning/education. Other effects pointed out by teachers included use of cane technique has enabled pupils to move independently in the school compound represented by 25 (59.4%). Twenty-one (58.3%) of the teachers said that pupils with VI are motivated. A few teachers 19 (52%) noted that braille and large print materials are available at the time they
are needed. The findings imply that pupils with VI are able to use disability related skills in the study schools of study.

4.4 Special Resources Used by Pupils with VI

For the forth research questions the researcher wanted to establish the special educational resources available in the integrated programme. A question was posed to pupils with VI and teachers. The pupils with VI were asked to indicate the resources that they used in the classroom and their responses are as indicated in Figure 4.4.

**Figure 4.4: Resources Pupils Use in the Classroom (N= 41)**

Figure 4.4 indicates that the majority of the pupils with VI 32 (77.8%) use braille machines followed by those who use magnifiers constituting 28(69.4%). Those who use large print books were 17 (41.7%) while those using slates and stylus constituted 9 (22.2 %.). The teachers were also asked to indicate the special
resources pupils with VI use in the classrooms where they taught. Their responses are presented in Table 4.14.

Table 4.14: Specialized Resources Pupils with VI Use in the Classroom (N = 36)

<table>
<thead>
<tr>
<th>Use of Specialized resources</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Optical Devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stand magnifiers</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Spectacle mounted magnifier</td>
<td>10</td>
<td>24.4</td>
</tr>
<tr>
<td>Telescope</td>
<td>11</td>
<td>26.8</td>
</tr>
<tr>
<td>(ii) Non optical devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large print books</td>
<td>11</td>
<td>26.8</td>
</tr>
<tr>
<td>Bold line paper</td>
<td>12</td>
<td>29.3</td>
</tr>
<tr>
<td>Sunglasses</td>
<td>8</td>
<td>19.5</td>
</tr>
<tr>
<td>Caps</td>
<td>8</td>
<td>19.5</td>
</tr>
<tr>
<td>(iii) Writing devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braille machines</td>
<td>17</td>
<td>41.5</td>
</tr>
<tr>
<td>Slate and stylus</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td>Pen</td>
<td>19</td>
<td>46.3</td>
</tr>
<tr>
<td>(iv) Mobility Device</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White cane</td>
<td>7</td>
<td>17.1</td>
</tr>
</tbody>
</table>

Table 4.14 indicates that the resources used by pupils with VI were grouped as optical devices, non-optical devices, writing devices, and mobility devices. It also shows that 19 (46.3%) teachers indicated that the mostly used special resource by pupils with VI was bold tipped pens. 17 (41.5%) mentioned braille machines, 12 (29.3%) indicated bold line papers, 11 (26.8%) mentioned large print books and spectacle mounted magnifiers respectively. The least used was slates and stylus as mentioned by 4 (10%) of the teachers. These findings implied that the use of resources was varied depending on each pupil’s special needs.
A follow-up question was posed to teachers on whether there were some resources that were lacking. Data on the same were collected and analyzed as shown on Table 4.15.

Table: 4.15: Pupils with VI Lack Some Resources (N = 36)

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>20</td>
<td>55.6</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>36.1</td>
</tr>
<tr>
<td>Non-committal</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 4.15 shows that a good number of teachers 20 (55.6%) agreed that pupils with VI lacked some resources while 13 (36.1%) disagreed on this fact. Upon being asked to name the resources that the teachers found the Pupils with VI lacking, the responses are displayed in Table 4.16.

Table 4.16: Special Resources that Were Lacking in School  (N=36)

<table>
<thead>
<tr>
<th>Resources</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braille textbooks</td>
<td>8</td>
<td>22.2</td>
</tr>
<tr>
<td>Tactile Maps</td>
<td>6</td>
<td>16.7</td>
</tr>
<tr>
<td>Magnifiers</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>Adapted Mathematical instruments</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>Readers</td>
<td>2</td>
<td>5.6</td>
</tr>
<tr>
<td>Abacus</td>
<td>2</td>
<td>5.6</td>
</tr>
<tr>
<td>Non-Committal</td>
<td>12</td>
<td>33.3</td>
</tr>
</tbody>
</table>
Table 4.16 shows that 8 (22.2%) of teachers indicated braille textbooks as lacking, 6 (16.7%) mentioned tactile maps, 3 (8.3%) mentioned magnifiers and adapted Mathematical instruments respectively. The impression one gets is that whereas some of these resources are available, they still remain inadequate. That is why the teachers still mention them as lacking. It is, however, important to note since magnifiers are very fragile/delicate, the children will always need them replenished. These findings are consistent with Wang (2009) who observes that funding should support provision for enough facilities, teaching materials, appropriate curriculum and learning activities.

4.4.1 Community Participation in Provision of Education for Pupils with VI in KIEP

The fifth research question sought to determine the existence and the nature of community participation in the provision of education to pupils with visual impairment in KIEP. Information on this item was sought from the MoE officer and teachers. Table 4.17 presents findings on teachers’ responses on the nature of community participation in the provision of education for pupils with VI.
Table 4.17: Teachers Responses on Community Participation in the Education of Pupils with VI (N = 36)

<table>
<thead>
<tr>
<th>Activities</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donating special resources such as white cane, low vision devices, books</td>
<td>25</td>
<td>69.4</td>
</tr>
<tr>
<td>Adaptation of the school and classroom environment</td>
<td>10</td>
<td>27.8</td>
</tr>
<tr>
<td>Giving ideas to the teaching and learning of both and pupils with VI sighted</td>
<td>10</td>
<td>27.8</td>
</tr>
<tr>
<td>Ferrying pupils with VI to and from school</td>
<td>13</td>
<td>36.1</td>
</tr>
<tr>
<td>Raising awareness of the needs of pupils with VI in community through public barazas, religious and cultural forum</td>
<td>19</td>
<td>52.8</td>
</tr>
<tr>
<td>Raising Funds</td>
<td>9</td>
<td>25.0</td>
</tr>
</tbody>
</table>

As it can be seen from Table 4.17, most of the teachers 25 (69.4%) said that the community participates by donating special resources. A good number of teachers 19 (52.8%) said that the community raised awareness on the needs of pupils with VI. Whereas, a few teachers 10 (27.8%) said that the community participated by adapting the school and classroom environment as well as giving ideas to the teaching and learning of both pupils with VI and sighted pupils respectively, some of the information on this issue was gathered by way of interview with MoE officers and is presented qualitatively.

4.4.2 Views of MoE Officers and Headteachers on the Government Support to the Integration of Pupils with VI

Interviews held with the MoE officer and headteachers revealed that the government actively participated in integration of pupils with VI by training teachers in special needs and posting them to the programme. The interview
further revealed that the government also provided policy direction and financial support through district plans. The finding agrees with KIEP annual report, (2010) indicated that Itinerant/contact teachers are identified from the regular integrating schools and equipped with relevant Braille and low vision skills to support pupils with VI in regular schools.

4.4.3 Views of MoE Officers and Headteachers on Agencies that Support Integration of Pupils with VI

Accordingly, a close view of the interview with the MoE officer and headteachers revealed a number of players in this area. For instance, there was Christoffel Blinden Mission which was cited as the main donor to the programme whose funding has been used to put up hostel structures such as dormitories, dining hall, and subsistence for children with visual impairment in the hostels and pay salaries for support staff. There is also the Kikuyu Eye Unit where the personnel of this unit visit the schools in the programme twice in a year to screen children and refer individual children with visual impairment to Kikuyu hospital for further diagnosis, treatment and surgery in the months of March and September. Another agency mentioned was Kenya Society for the Blind (KSB) which assists in facilitating treatment for children with visual impairment by paying medical bills given as grants by sight savers International (SSI). Others include the Kenya Albino Child Support Programme which supplies sun block oil to children with
albinism as well as meeting part of the hostel fees for the children with albinism; supplying them with wide brimmed caps and the right clothing.

Closely related to this is the Albinism Foundation of East Africa which deals with pupils with albinism and provides sun block oils as well as creating awareness amongst parents and children with albinism. There is also SALUS OCULI, an organization which focuses attention on the needs of the children by paying fees for some needy children with visual impairment. Other than these, mention was made of Financial Institutions (banks) which occasionally supply food to the KIEP as part of corporate social responsibility. Finally, another form of community participation identified was partnering with schools such as Alliance high school and Sunshine Secondary School that have formed clubs to raise funds to support the programme’s endeavors. The findings are supported by Ogot (2005) who encouraged schools to sensitize communities by creating awareness about the nature, causes, prevention and intervention of conditions that create special needs. Ogot further explains that when community’s attitude is positive, then they are likely to be involved in the school’s inclusive activities such as training and supporting families of children with special needs.

4.5 Strategies for Enhancing Integration of Pupils with Visual Impairment

The sixth research question sought information from the headteachers and MoE Officers on strategies that have been put in place to improve educational integration of pupils with VI in the integrated programmes. The interview held
with the two Ministry of Education officers revealed a number of ways in which the government through the Ministry of Education supports these schools. The respondents said that the MoE posted teacher aides, computer instructors, braille transcribers and cleaners in the integrated school. The finding is in agreement with Pijl and Dyson (1998) who indicates that resources could be provided in kind such as teaching staff and specialist equipment. The study also established that the government gives Ksh. 2000 per child with VI per year. This amount was used to buy specialized material. However, the amount is inadequate owing to the prices of these resources. The two head teachers pointed out that pupils whose vision could be improved are referred for surgery to remedy some of the vision problems that can be corrected. In addition, the two MoE officers said that some agencies such as SALUS OCULI carried out sensitization campaigns both to sighted pupils and the community at large about the needs of pupils with VI. The agencies also facilitate transport of pupils with VI to the Nairobi programme.

Having presented, analyzed results and discussed the findings in the foregoing chapter, in the next chapter they summarized, concluded and recommendations made.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS OF THE STUDY

5.0 Introduction

The chapter presents the summary of results, conclusion, recommendations and suggested areas for further study. The purpose of the study was to investigate factors that influence the implementation of KIEP for primary school pupils with visual impairment. Two schools were purposively selected out of five schools implementing KIEP for pupils with VI in Nairobi and Kitui counties. One hundred and twenty-six respondents that comprised pupils with VI, teachers, head teachers, sighted pupils and Ministry of Education officers participated in the study. The questionnaire was in two parts: part one was aimed at collecting demographic information on professional qualification, teaching experience, age, and gender among others. Part two consisted of open and closed-ended questions on factors influencing implementation of KIEP. Structured observation schedule was used to provide information on the availability of materials, facilities, equipment and environmental adaptations in the school. Data was analyzed both qualitatively and quantitatively. The researcher used SPSS to analyze quantitative data while qualitative data were analyzed according to the themes of the study. The data were then triangulated to generate findings of the study. In this section, the summary of the results centred on the research questions as stipulated in chapters one and four.
5.1 Summary of Research Findings

Findings are summarized based on research questions that guided the study. The major findings are discussed in the following themes:

5.1.1 School Factors Affecting Implementation of KIEP

School factors affecting implementation of KIEP included provision of proper and adequate educational materials and equipment, availability of trained teachers in SNE, involvement of the community in integration of pupils with VI. Other factors were availability of adapted and specialist curriculum, provision of appropriate support services, modification of school and classroom environment and acceptance of pupils with VI by teachers and sighted pupils.

The average rating on effectiveness of factors affecting integration of pupils with VI shows that slightly more than a half of the teachers indicated that these factors were effective in implementation of KIEP. The remaining slightly less than a half of the teachers were of the view that these factors were satisfactorily effective, fairly effective or simply ineffective. The findings reveal that school environment, special curriculum, teacher training and acceptance of pupils with VI had pockets of ineffectiveness that would hinder the implementation of KIEP. The identified factors need special attention.

Observations made on the school environment, noted that the classrooms tended to be overcrowded relative to the movement of the pupils with visual impairment. At the same time, in one of the schools, the pavements appeared to be rather
ignored. Despite these setbacks, there were some positive observations. There was enough light in the classrooms since the windows were made of louvers. The desks were wide enough to accommodate the braille machines and large print materials. While colour of the classrooms walls and doors contrasted appropriately relative to the pupils’ with VI needs.

The specialist skills taught were orientation, mobility, training in the use of low vision devices, braille and in use of cuberthyms. The study found that the few teachers trained in SNE in the sampled schools were effectively implementing the specialist curriculum. However, the challenge was that lessons for these skills were not plotted on the main school timetable. The teachers therefore, had to create their own time either early in the morning before eight, during tea, lunch or games breaks to teach them. Such time could not be adequate for pupils to grasp the skills and be competent. In terms of KIEP implementation therefore, it is reasonable to assert that the implementation was going on fairly well.

On peer acceptance and interaction, the study indicated a relatively high level of acceptance and interaction amongst teachers, pupils with VI and sighted peers. This peer acceptance could be attributed to the activities of agencies such as KSB and Albinism Foundation of East Africa which create awareness amongst parents, teachers and pupils about persons with VI.
Qualifications of teachers, is paramount if learners have to achieve. Teachers need to have skills necessary to meet instructional needs necessary to meet special needs. In this study, the findings indicated that the majority of teachers were P1 holders. However, this level of training did not include much of special needs education component. The teachers were generally trained to work with learners without disabilities or special needs. Others were diploma holders, bachelors’ degree holders and masters’ holders. In regard to training of teachers in special needs education, a few teachers were trained, thus their ratio was very low. Since the majority of teachers were not trained in SNE to some level this would hamper implementation of the KIEP by the apparent lack of relevant skills to teach pupils with VI. This was a clear indication of the inadequacy of special needs education teachers. It was noted in the same study that there were training and workshops for teacher aides such as braille transcribers, braille repairer and computer technicians who are trained on relevant skills. Training of teachers is important for success of learners.

On professional experience, the study established that 50 percent of the teachers who participated in the study had a teaching experience of over 15 years. This was seen as a important finding as it placed the teachers in a good position to comment on factors being studied. However, it was important that these teachers attend seminars and workshops regularly to update themselves on emerging issues in relation to visual impairment such as use of alternative methods of reading (talking books).
5.1.2 Types of Special Services Offered to Pupils with VI in KIEP

It is important to remember that even as one looks at the kinds of services and their impact, the quality of personnel offering the services must be considered too. The findings indicated that the majority of teachers who teach pupils with VI in the sampled schools do not have training in SNE. This finding was found to be consistent with sentiments raised by some teachers, who said that they found integration too involving and that one of the shortcomings is that they have to depend on the services of the few others who have trained in SNE. The study established that KSB in conjunction with Kikuyu Hospital offered medical services such as medical examination, refraction and low vision assessments. The study also established that the resource room services offered included orientation and mobility, braille transcription in use of cuberyhms and abacus offered by the five resource room teachers. However, the study also established that resource room teachers were overburdened, in that apart from taking lessons in the mainstream classrooms where the pupils with VI are integrated, they were also allocated between 5 to 7 pupils with VI to train in relevant disability related skills. The study established that pupils who are VI and those who are sighted served one another in various ways. For instance sighted pupils read for, walked and guided pupils with VI in school. The two categories of pupils also participated together in games and group activities where they assisted one another on difficult tasks. On the observable effects of these services provided, the study found that pupils with VI are able to use disability related skills in the study schools.
5.1.3 Effects of Special Services Offered to Pupils with VI in KIEP

The study established that pupils with VI were able to use low vision devices to plan and perform tasks. The study further found that pupils with VI were able to read and write in braille, used cane techniques to move independently in the school compound and were generally motivated to be in the integrated schools.

5.1.4 Availability of Special Resources Needed by Pupils with VI in KIEP

The study sought to find out special resources used by pupils with VI. The study established that the resources used varied from one pupil to another depending on each pupil’s unique needs. The study found that the resources used by pupils with VI in the study schools included optical devices such as stand magnifiers, spectacles mounted magnifiers and telescopes. The study also found that pupils with VI use non-optical devices such as large print books, boldline papers and sunglasses. On writing devices, the study established that pupils with VI used braille machines, slates, stylus and pens. The study established that white cane was used by pupils for mobility. On the contrary, the study found that teachers indicated resources such as adapted maps and diagrams, some braille textbooks and adopted mathematics books were lacking. The impression one gets here is that whereas some of these resources were there with pupils, they were not adequate. That is why teachers still mentioned them as lacking.
5.1.5 Community Participation in Provision of Education for Pupils with VI in KIEP

The community participated by donating special resources, raised awareness on the needs of pupils with VI, adapted the school and classroom environment as well as giving ideas to the teaching and learning of both pupils with VI and sighted. Various agencies support integration of pupils with VI. For instance, there was Christoffel Blinden Mission which was cited as the main donor to the programme. There is also the Kikuyu Eye Unit where the personnel of this unit visit the schools in the programme twice in a year to screen children and refer individual children with visual impairment to Kikuyu Hospital for further diagnosis, treatment and surgery in the months of March and September.

The other one is the Kenya Society for the Blind (KSB) which assists in facilitating treatment for children with visual impairment by paying Medical bills given as grants by sight savers International (SSI). Others include the Kenya Albino Child Support Programme which supplies sun block oil to children with albinism as well as meeting part of the hostel fees for children with albinism; supplying them with wide brimmed caps and the right clothing. Closely related to this is the Albinism Foundation of East Africa which deals with pupils with albinism and provides sun block oils as well as creating awareness amongst parents and children with albinism. There is also SALUS OCULI, organizations which focus attention on the needs of the children by paying fees for some needy children with visual impairment. Other than these, mention was made of Financial
Institutions (banks) which occasionally supply food to the KIEPs as part of corporate social responsibility. Finally, another form of community participation identified was partnering with schools such as Alliance High School and Sunshine Secondary School that have formed clubs to raise funds to support the programme’s endeavors.

5.1.6 Strategies for Enhancing Integration of Pupils with Visual Impairment

To sustain the programme, the study established that various strategies had been put in place. First, the MoE posted teacher aides, computer instructors, braille transcribers and cleaners in the integrated schools. Second, the government gives grant of Ksh 2000 per child with VI per year. Third, pupils whose vision could be improved are referred for surgery to remedy some of the vision problems that can be corrected. Finally, agencies such as SALUS OCULI carried out sensitization campaigns both to sighted pupils and the community at large about the needs of pupils with VI and facilitated transport of pupils with VI in the Nairobi programme.

5.2 Implications of the Research Findings

The study revealed that pupils with VI learn alongside sighted peers in the mainstream schools. According to Vygotsky, social cultural theory, KIEP acts as “more knowledgeable other” and facilitates pupils with VI to move through ZPD by acquiring skills and abilities that ushers them to level of potential development from level of initial development. KIEP does this by ensuring they provide special
services, resources and mobilizing the community to participate in the education of pupils with VI. As a result, pupils with VI acquire skills, knowledge and positive attitudes in social, economic and political affairs of the school and community. In this context, the findings of the study would be used to enhance implementation of KIEP in regular primary schools.

The role of various stakeholders would also enhance implementation of KIEP. The stakeholders include pupils with VI, regular teachers, community, special education teachers, sighted pupils, teacher trainers and pupils with VI.

The study further established that pupils who are VI and those who are sighted served one another in various ways. For instance, sighted pupils read for and guided pupils with VI in the school. In addition, the two categories of pupils participated together in games and group activities where they assisted one another on difficult tasks. It is, therefore, important for sighted pupils to be provided with opportunities to better understand visual impairment. Sighted pupils should be given instructions to acquire knowledge and competency on peer assistance, advocacy and use of sighted guide techniques in the school. The sighted pupils have to be fluent readers to enable them to read for pupils with VI.

A good number of teachers said that pupils with VI lacked some resources such as braille textbook, magnifiers and tactile maps and diagrams. The educators should, therefore, ensure that all educational materials are provided in appropriate media for instance, large print, regular print with use of optical devices, braille or audio
taped materials. The pupils who have low vision should be made efficient readers with optical devices to enable them access print independently thus enabling them to develop solid and meaningful academic literacy skills. Pupils with VI must continuously receive attention of special needs education teachers either through direct instruction or through consultation depending on their individual needs.

The findings of the study indicated that the majority of teachers in the sampled schools were not trained in SNE. Therefore, the few teachers, who were trained, should collaborate with members of the educational team on methods and techniques for including pupils with VI in routine and learning experiences. These specialist teachers should ensure that the other teachers and professionals who provide direct instruction to pupils with VI understand their unique needs in the programme. Special education teachers should ensure that educational materials are provided in appropriate media such as large print, regular print with use of optical devices or recorded materials. Specialist teachers should recommend seating requirements and other environmental modifications such as lighting control and glare reduction on learning surfaces. Specialist teachers should provide support, consultation and materials to untrained teachers with pupils within their classes.

In this study, results indicated that the majority of the teachers were P1 holders. However, this level of training did not include much of the SNE component. Teachers were generally trained to work with learners without disabilities or
special needs. Teachers who are not trained in special needs in education should know that, they will be called upon to teach concepts to pupils with VI that must be acquired through vision. Therefore, teachers in the integrated programme ought to be knowledgeable, competent and creative on how to teach such concepts using other modalities of learning other than vision. Teachers must plan and carry out activities that will help pupils with VI gain as much information as possible through non-visual senses by facilitating them to participate in active practical experiences.

Since the findings indicate that special services and resources were not adequate, KIEP should ensure that provision of the technical support and distribution of adequate learning and teaching materials to pupils with VI are prioritized. Pupils with VI who need medical intervention should be referred immediately to Kikuyu Eye Unit either to replace the optical devices or for eye surgery. This is important so that pupils with VI would not lag behind the sighted peers academically due to delayed medical services.

5.3 Conclusion

The conclusions are made based on the research questions that guided the study. The conclusions are made in the following themes:

5.3.1 School Factors Affecting Implementation

In light of the findings the study concluded the following: The majority of teachers in the KIEP schools are not trained in SNE. This was likely to have
negative affects on services they offered to pupils with VI. Second, classroom environment was overcrowded which hampered movement of pupils with VI in the classroom. Third, the specialist curriculum had no provision in the main schools timetable. This laid a heavy burden on the resource room teachers who had to create time to teach the special skills especially braille, orientation and mobility. Implementation of the regular curriculum would be very effective had it been provided for. Finally, teachers and sighted pupils had accepted pupils with VI in the schools and free interaction was experienced amongst them.

5.3.2 Types of Special Services Offered to Pupils with VI
The study concluded that the special services provided to pupils with VI in KIEP schools included sighted guides, braille transcription, medical services, readers and transport services. However, some pupils with VI were not adequately provided for due to the few number of personnel who provided these services.

5.3.3 Effects of Special Services Offered to Pupils with VI
There were positive effects on special services offered to pupils with VI since most of the pupils with VI were able to use the disability related skills.

5.3.4 Availability of Special Resources Needed by Pupils with VI
The study concluded that the special resources were not adequate since some braille textbooks, adopted mathematics books, adapted maps and diagrams were lacking. This could be because they were not provided for in the right format or resources like magnifiers are fragile and needed to be replenished.
5.3.5 Community Participation in Provision of Education for Pupils with VI
The study concluded that the community participates at various levels such as offering medical, special services and resources to the school as well as sensitization of other members of the community on the needs of the pupils with VI and this has enhanced integration of pupils with VI.

5.3.6 Strategies for Enhancing Integration of Pupils with Visual Impairment
The study concluded that the government gave support to the KIEP schools in terms of teacher aides, resource room teachers and funding through FPE. This has had positive influence on implementation of KIEP. However, the government should aim at increasing this support.

5.4 Recommendations

5.4.1 General Recommendation
Based on the findings of the study, the researcher recommends that:

i. Kenya Society for the Blind should ensure that, seminars and workshops that are organized for teacher aides are extended to teachers. This would enable the teachers to be competent, knowledgeable and creative in teaching pupils with VI.

ii. Kenya Institute of Education to ensure that specialist skills such as braille, orientation, mobility, and activities of daily living skills be included in the school’s main timetable in the integrated programmes.

iii. The MoE should increase funding, post more teacher aides and resource room teachers to ease the work load of the personnel already posted in the
schools. At the same time, the MoE should establish resource rooms in other schools so as to bring integration services closer to the pupils with VI.

iv. KIEP to ensure that special service and resources are made adequate to pupils with VI in the programmes. This could be made possible by establishing a mini braille press in the resource rooms. At the same time, pupils whose vision can be improved should be operated to remedy some of the visual problems that can be corrected without delays.

v. Schools, KSB in conjunction with MoE should continue sensitizing the communities and create awareness about the nature, causes and intervention of conditions that create visual impairments. The communities would then have positive attitudes and be involved in giving support to KIEP.

vi. The resource room teachers should ensure that all educational materials are provided in appropriate media for instance, large print, regular print with use of optical devices, braille or audio taped materials.

vii. KIEP should ensure that sighted pupils are offered orientation courses to acquire knowledge and competency on peer assistance, advocacy and use of sighted guide techniques in the school. In addition sighted pupils should be trained to be fluent readers to enable them to read for pupils with VI.
5.4.2 Recommendations for Further Research

Having looked at factors influencing implementation of KIEP for primary schools for pupils with VI, the researcher felt that it was important that studies be done in the following areas:

i. A study to be carried out on factors influencing implementation of KIEP in high schools.

ii. A study to be carried out on the other 17 remaining programmes.
REFERENCES


APPENDICES

Appendix I

Interview for Headteachers

This interview schedule is to help the researcher gather information on factors influencing the implementation of Kenya Integrated Education Programmes for primary schools in Kenya. All information given shall be treated with utmost confidentiality. Thank you very much for accepting to answer the questions.

1. How many pupils with VI are there in the school?
2. What support does the government give to pupils with VI in the school?
3. Apart from the government what other agencies support integration of pupils with VI in the school?
4. What are some of the challenges the educational integration programme face in the school?
5. What plans have the ministry put in place to overcome the problems?
6. What would you wish the government to do to improve on educational integration of pupils with VI?
Appendix II

Questionnaire for Regular Classroom Teachers

This questionnaire is to help the researcher gather information on factors influencing implementation of Kenya Integrated Education Programme in primary schools in Kenya. All information given shall be treated with utmost confidentiality. Thank you very much for accepting to answer the questions. Please respond to each question by ticking appropriate information or providing requested information.

PART 1: Demographic information.

School ____________________________________________
Division__________________________________________

1. What is your highest professional qualification? Tick appropriately.
   Masters Degree ( ) Bachelors Degree ( ) Diploma ( ) P1 ( )
   Any other specify___________________________________________

2. What is your teaching experience? Tick appropriately
   0-5 years ( ) 6-10 years ( ) 11-15 years ( ) Over 15 years ( )

   Yes ( ) No ( )
PART TWO

4. How would you rate the effectiveness of the following factors that are likely to cause challenges in integration of pupils with visual impairment in your school?

(1) Very effective  (2) Effective  (3) Satisfactorily effective  (4) Fairly effective  (5) Ineffective

<table>
<thead>
<tr>
<th>Factors</th>
<th>Responses (tick)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of adequate special educational materials</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Provision of adequate special educational equipment</td>
<td></td>
</tr>
<tr>
<td>Modification of school environment</td>
<td></td>
</tr>
<tr>
<td>Modification of classroom environment</td>
<td></td>
</tr>
<tr>
<td>Provision of appropriate support services from resource room teacher</td>
<td></td>
</tr>
<tr>
<td>Provision of appropriate support services from Braille transcriber</td>
<td></td>
</tr>
<tr>
<td>Availability of trained teachers in special needs education</td>
<td></td>
</tr>
<tr>
<td>Acceptance of pupils with VI by regular teachers</td>
<td></td>
</tr>
<tr>
<td>Acceptance of pupils with VI by sighted pupils</td>
<td></td>
</tr>
<tr>
<td>Involvement of the community</td>
<td></td>
</tr>
<tr>
<td>Availability of specialist curriculum</td>
<td></td>
</tr>
</tbody>
</table>

6. As a teacher, what is your opinion about integration:

a) I consider having pupils with VI in my classroom. Tick appropriately
   i. A problem ( ) No problem ( )
   ii. Too involving ( ) Normal ( )

b) Services I can offer to pupils with VI. Tick appropriately
   i. Unsatisfying ( ) Satisfying ( )
   ii. Time consuming for sighted pupils ( ) Not time consuming ( )
   iii. Any other specify____________________________________________________

7. What would you consider to be the observable effects of provision of special services on pupils with VI in your school? Tick appropriately what is applicable to you.
a) Use of low vision devices has enabled pupils with VI to perform tasks ( )

b) Use of cane techniques has enabled pupils with VI to move independently in the school compound ( )

c) Pupils can read and write in Braille ( )

d) Braille are available at the time they are needed ( )

e) Large print materials are available at the time they are needed ( )

f) Motivated pupils with VI ( )

g) Any other specify ________________________________

8. Some special services are needed by pupils with VI in order to enable them to achieve in an educational setting. Which ones are accessibly in your school?

<table>
<thead>
<tr>
<th>Services</th>
<th>Responses (tick)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Available</td>
</tr>
<tr>
<td>a) <strong>Medical services:</strong></td>
<td>Medical examinations</td>
</tr>
<tr>
<td></td>
<td>Refraction</td>
</tr>
<tr>
<td></td>
<td>Low vision assessments</td>
</tr>
<tr>
<td>b) <strong>Resource room services:</strong></td>
<td>Orientation and mobility</td>
</tr>
<tr>
<td></td>
<td>Braille transcribers</td>
</tr>
<tr>
<td></td>
<td>Readers</td>
</tr>
<tr>
<td></td>
<td>Low vision skills training</td>
</tr>
<tr>
<td></td>
<td>Use of cube rhythms</td>
</tr>
<tr>
<td></td>
<td>Use of Abacus</td>
</tr>
<tr>
<td>c) Constant contact with and advice from specialists who are not part of the programme (counselors and social workers).</td>
<td></td>
</tr>
<tr>
<td>d) In service courses for regular teachers handling pupils with VI.</td>
<td></td>
</tr>
<tr>
<td>e) <strong>Provision of support materials and equipment:</strong></td>
<td>Braille books</td>
</tr>
<tr>
<td></td>
<td>Maps</td>
</tr>
<tr>
<td></td>
<td>Diagrams</td>
</tr>
<tr>
<td></td>
<td>Braille machines</td>
</tr>
<tr>
<td></td>
<td>Braille papers</td>
</tr>
<tr>
<td></td>
<td>Slates and stylus</td>
</tr>
</tbody>
</table>
9. What special resources do pupils with visual impairments in your classroom use? Tick as appropriate.

- Braille machine
- Magnifiers
- Slate and Stylus
- Caps
- Large print books
- Any other (specify) ___

b). Do pupils with visual impairments lack some resources that they need to use in the classroom

Yes ☐ No ☐

c) If, Yes, name them

i). __________________________

10. In what ways do the members of the community participate in the education of pupils with visual impairments in your school? Tick what applies to your school:

a) Donating special resources: White canes ( ) Low vision devices ( )
    Books ( )

b) Adaptation of the school and classroom environment ( )

c) Give ideas to the teaching and learning of both the sighted and pupils with VI ( )

d) Ferrying pupils with VI to and from school ( )

e) Raising awareness of the needs of the pupils with VI in the community through: public barazas ( ) Religious ( ) Cultural forums ( )

f) Raising funds ( )

11. Suggest the strategies that can be put in place to enhance integration of pupils with VI in the schools ________________________________
Appendix III

Interview Schedule for Ministry of Education Officer

This interview schedule is to help the researcher gather information on factors influencing the implementation of Kenya Integrated Education Programmes for primary schools in Kenya. All information given shall be treated with utmost confidentiality. Thank you very much for accepting to answer the questions.

1. How many primary schools are there in the county that practice integration of pupils with VI?
2. How does the government support integration of pupils with VI in the county?
3. Apart from the government what are other agencies supporting integration of pupils with VI in the county?
4. What are some of the challenges the educational integration programme face?
5. What plans have the ministry put in place to overcome the problems?
6. What would you wish the government to do to improve on educational integration of pupils with VI?
Appendix IV

Questionnaire for Sighted Pupils

This questionnaire is to help the researcher gather information on factors influencing implementation of KIEP in primary schools in Kenya. All information given shall be treated with utmost confidentiality. Thank you very much for accepting to answer the questions.

1. Name of school ________________________________
2. How old are you ______________________________
3. Sex: Girl ( ) Boy ( )
4. Class ________________________________
5. Do you have pupils who are blind or low vision in your school?  
   Yes ( ) No ( )
6. Do you know problems that pupils who are blind or low vision have in learning?  
   Yes ( ) No ( )
7. If yes, from the list below tick the ways you have used to help pupils who are blind or low vision at school overcome their problems?
   a) Reading for the pupil who is blind or low vision a printed book ( )
   b) Walking and guiding the pupil who is blind or low vision during break, lunch or games times ( )
   c) Working with pupil who is blind or low vision in group work ( )
   d) Playing games with pupils who are blind or low vision ( )
   e) Helping pupils who are blind or low vision with difficult classwork ( )
   f) Any other specify_______________________________________
8. Do you like sharing classes with learners with visual impairments?  
   Yes ( ) No ( )
   If yes, why?_________________________________________________
   If no, why?_________________________________________________
9. Suggest ways that can be put in place in your school to enable you to learn better together with pupils who are low vision and blind________________________
   ___________________________________________________________________
Appendix V

Interview Schedule for Pupils with Visual Impairment

This interview schedule is to help the researcher gather information on factors influencing implementation of KIEP in primary schools in Kenya. All information given shall be treated with utmost confidentiality. Thank you very much for accepting to answer the questions.

1. Name of the school ________________________________

2. Sex: Boy ( ) Girls ( )

3. Describe your vision: Low Vision ( ) Blind ( )

4. How old are you? ________________________________

5. Class ________________________________

6. Are you aware of services pupils who are blind/low vision need in order to learn comfortably with others in the integrated programme?
   Yes ( ) No ( )
   (ii) If yes, indicate by a tick the ones you know.
   a) Sighted guides ( )
   b) Braille transcribers ( )
   c) Readers ( )
   d) Counselors ( )
   e) Medical services e.g. surgeries, eye drops ( )
   f) Orientation and mobility training ( )
   g) Training on the use of low vision devices ( )
   (ii) Is there any service which you need that is not provided for?
   Yes [ ] No [ ]
If yes, which one?

7. (What specialized equipment/device do you use?)

<table>
<thead>
<tr>
<th>Equipment/devices</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Optical devices</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand held magnifiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stand magnifier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spectacle mounted magnifier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telescope</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Non-optical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large print books</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bold line paper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lamps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun glasses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page markers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caps</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Writing devices</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braille machine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slate stylus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White cane</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Suggest ways that can be put in place in your school to enable you to learn better together in the regular school___________________________________________________________

___________________________________________________________

___________________________________________________________
Appendix VI

Observation Schedule

The purpose of the observation schedule is to establish the school facilities/equipment specialize services and environmental adaptations that support integration of pupils with visual impairments in the school.

1. Name of the school

2. Availability of Special Equipment, Facilities and Materials

<table>
<thead>
<tr>
<th>Equipment/devices</th>
<th>Adequate</th>
<th>Not adequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>magnifiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telescope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large print books</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bold line paper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun glasses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braille machine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slate stylus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White cane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermoforming machine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closed circuit television</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talking books (recorded books)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource room</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braille papers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braille embossers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braille papers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjustable desk stands</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Availability of Special support services

   a) Sighted guides ( )
   b) Transcribers ( )
   c) Readers ( )
   d) Counselors ( )
   e) Orientation and mobility trainers ( )
   f) Medical records ( )
   g) Others__________________________
4. **Effects of Special Services on pupils with VI**
   a) Use low vision devices to execute tasks ( )
   b) Move independently in the school compound using cane technique ( )
   c) Can read in braille ( )
   d) Can write in braille ( )
   e) Materials are available in the right format at the time they are needed ( )

5. **Environmental Adaptations**
   a) Lighting depending on individual learners needs ( )
   b) Classroom design and arrangement that provide adequate space for movement ( )
   c) Colour and colour contrast appropriately adjusted to suit individual needs ( )
   d) Windows fully closed/opened against wall ( )
   e) Doors fully closed/opened against wall ( )
   f) Storage facilities for braille, books and other materials ( )
   g) Wide desk top to accommodate braille, large print books ( )
   h) Well maintained pavements ( )

6. **Social acceptance**
   i) Sighted pupils as sighted guides for pupils with VI ( )
   j) Pupils with VI and sighted pupils playing together ( )
   k) Sighted pupils reading for Pupils with VI ( )
APPENDIX VII

RESEARCH AUTHORIZATION LETTER

REPUBLIC OF KENYA

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegram: “SCIENTECH”, Nairobi
Telephone: 254-020-241349, 2213102
254-020-312271, 2213103.
Fax: 254-020-2213215, 318245, 318249
When replying please quote

Our Ref: NCST/RRI/12/1/SS-011/1228/4

Gladys Ambiyo Ogombe
Kenyatta University
P. O. Box 43844
NAIROBI

Date:
9th September, 2011

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on
“Factors influencing implementation of Kenya integrated education
programme for primary school pupils with visual impairments in Kitui &
Nairobi Counties” I am pleased to inform you that you have been
authorized to undertake research in Westlands District Nairobi & Kitui
Central District for a period ending 30th November, 2011.

You are advised to report to the District Commissioners & the District
Education Officers, Kitui Central District & Westlands District
before embarking on the research project.

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

P. N. NYAKUNDI
FOR: SECRETARY/CEO

Copy to:
The District Commissioners
Kitui Central District
Westlands District
APPENDIX VIII

RESEARCH PERMIT

THIS IS TO CERTIFY THAT:

Prof./Dr./Mrc./Mrs./Miss/Institution
Gladys Ambiyo Ogombe
of (Address) Kenyatta University
P.O Box 43844-00100 Nairobi
has been permitted to conduct research in

Location
Kitui Central & Nairobi District
Eastern & Nairobi Province

on the topic: Factors influencing implementation of Kenya integrated programme for primary school pupils with visual impairments in Kitui and Nairobi Counties

for a period ending 30th December 2011

CONDITIONS

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

REPUBLIC OF KENYA

research clearance
permit

CIPK65501m10/2011

(CONDITIONS—see back page)