NATURE AND PREVALENCE OF LEARNING DISABILITIES AMONG
STANDARD THREE PRIMARY SCHOOL PUPILS IN STAREHE DIVISION
OF NAIROBI PROVINCE, KENYA

BY

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E55/11062/04

A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILMENT FOR THE
DEGREE OF MASTER OF EDUCATION IN THE SCHOOL OF
EDUCATION (DEPARTMENT OF SPECIAL NEEDS EDUCATION)
KENYATTA UNIVERSITY

OCTOBER 2010
DECLARATION

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

Signature ______________________ Date ____________________

Grace Kwamboka Omete Rasugu
E55/11062/04

We confirm that the work reported in this thesis was carried out by the candidate under our supervision as university supervisors. This thesis has been submitted for review with our approval as university supervisors:

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   Kenyatta University
DEDICATION

This work is dedicated to my family whose continued support gave me the motivation to complete this study.
ACKNOWLEDGEMENT

First and foremost, I thank the Almighty God for His sufficient grace throughout the study that gave me the strength and hope needed.

I am greatly indebted to my supervisors, Dr. Franciscah Wamocho and Dr. Samson Ondigi for their timely pieces of advice, critical suggestions and invaluable support without which this work could not be accomplished.

Special thanks to Dr. Michael Njoroge and Dr. Mary Runo for coming to my support at the initial stages of my postgraduate programme, which continued later on at the inception of the research project. I am equally grateful to all other lecturers in the Department of Special Needs Education who in one way or another contributed to the finalization of this study.

I am grateful to the head teachers, teachers and pupils of the sampled primary schools who volunteered information during data collection.
Despite government efforts to enhance Free Primary Education (FPE) programme in Kenya so as to meet the international commitments such as Education for All (EFA) and the Millennium Development Goals (MDGS), there are still many children who are not in school globally, with some of them dropping out early or not reaching the minimal learning class. Limited research has been done to find out the nature and prevalence of learning disabilities (LD), the extent and their distribution in Kenya (MOE, 2003). The study focused on the nature and prevalence of learning disabilities among standard three pupils in Starehe. The specific objectives of the study were: to find out if there were LD among primary school pupils in Starehe Division, their nature and prevalence, measures being undertaken to assist pupils in actual classroom situations and what can be done to manage learners with LD in primary schools. Guided by the developmental psychology theory, the study adopted a descriptive design which was conducted in 5 schools from Central zone of Starehe division in Nairobi. Whereas the population of the study included 16 head teachers, 236 teachers and 961 standard three pupils, the study involved 5 head teachers, 7 standard three teachers and 150 standard three pupils who were randomly sampled using the lottery technique. The study instruments included questionnaires for head teachers and standard three teachers, Pupil Rating Scale and pupil tests. Data were analyzed using descriptive statistics, which were summarized in frequencies and percentages and presented in relevant tabulation charts. The study found that there could be pupils with LD majority of whom had a high level of difficulty in the tests administered in English and Math (100% and 63.3% failure respectfully). The common types of errors noted in English included; poor visual-motor coordination, difficulty in copying accurately, spacing of letters and words, letter and word reversals, poor handwriting, repetition of sentences, omission of some words and letters, overprinting to correct mistakes, grammatical mistakes (punctuations, spellings and capitalization), inadequate expression of ideas and vocabulary, poor organizational skills, unreadable letters and words, non-attempt or slowness in completing work. While in Math, most pupils totally failed in items that tested their skills in spatial order and relationships, division, time and money. Whereas teachers appeared to know what LD is, and reported using various approaches together with mitigation measures to counter challenges faced, this perhaps was more theoretical than practical if the results of testing are anything to go by. The study recommends for formulation of policies to provide for learners with LD, appropriate teacher curriculum with more Special Education units, strengthening of on-going assessment and a tracking system for analyzing pupils’ academic progress.
# LIST OF ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>BED</td>
<td>Bachelor of Education</td>
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<tr>
<td>CLD</td>
<td>Council for Learning Disabilities</td>
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<tr>
<td>DLD</td>
<td>Division for Learning Disabilities</td>
</tr>
<tr>
<td>EARCs</td>
<td>Educational Assessment Resource Centres</td>
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<tr>
<td>EFA</td>
<td>Education for All</td>
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<td>FPE</td>
<td>Free Primary Education</td>
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<td>GOK</td>
<td>Government of Kenya</td>
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<tr>
<td>IEP</td>
<td>Individualised Education Programme</td>
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<td>IDEA</td>
<td>Individuals with Disabilities Education Act</td>
</tr>
<tr>
<td>KIE</td>
<td>Kenya Institute of Education</td>
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<tr>
<td>KISE</td>
<td>Kenya Institute of Special Education</td>
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<tr>
<td>LD</td>
<td>Learning Disabilities</td>
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<tr>
<td>LDA</td>
<td>Learning Disabilities Association of America</td>
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<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
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<tr>
<td>MOE</td>
<td>Ministry of Education</td>
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<td>MOEST</td>
<td>Ministry of Education, Science and Technology</td>
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<tr>
<td>NGOs</td>
<td>Nongovernmental Organizations</td>
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<tr>
<td>NJCLD</td>
<td>National Joint Committee on Learning Disabilities</td>
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<tr>
<td>SNE</td>
<td>Special Need Education</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programmes</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

On human rights grounds, all learners must have access to education in order that they may contribute to socio-economic development. It is for this reason that the Kenya government is a signatory to various international conventions and declarations including the Salamanca Conference (UNESCO, 1994) and the Dakar Framework of Action (UNESCO, 2000). To attest to this, the government of Kenya declared Free Primary Education (FPE) in 2003 as government’s commitment to achieving Education for All (EFA) and the attainment of the Millennium Development Goals (MDGs). UNESCO (2006) observes that, despite continued overall global progress at the primary level, too many children are not in school, with some of them dropping out early or not reaching minimal learning standards. Governments urgently needs to identify groups of children most likely never to enroll in school, in addition to those who drop out as a first step in implementing policies that reach out to the excluded and improve the quality, flexibility and relevance of education.

Among the children who are affected are those with special needs, who have unexploited abilities, which need to be identified and enhanced by teachers (Brighouse, 1989). Every child is precious and needs to be carefully and lovingly nurtured to be able to develop to her/his fullest capacities. It is for this reason that special education programmes are developed to meet the needs of an increasing number of exceptional children in the world. Despite the Government‘s efforts to provide for persons with disabilities, education and training for persons with disabilities in Kenya is still far from adequate as noted by World Bank (2004). Kenya
has been offering education to only four categories of learners with disability, that is, those with hearing impairment, visual impairment, physical disability and mental retardation, leaving out other groups like those with learning disabilities (LD), the gifted and talented (GT) and communication disorders (CD) (MOEST 2003; Republic of Kenya, 2005a). Thus, it is the researcher’s view that with the implementation of the FPE programme, most public primary school classes are overcrowded to the extent that children may not be getting individualized attention. Consequently, it is children with LD who are affected most, as they may not get individualized attention thus exposing them to the risk of dropping out of school early.

An analysis of the 2008 Kenya Certificate Primary Education (KCPE) by the Kenya National Examination Council (2009) reveals that the performance of pupils in English and mathematics was not good. Mistakes reported in English among pupils who performed poorly include: inability to communicate due to use of broken rudimentary language that is mostly direct translation from mother tongue, misspelling of words, misuse of capital letters and misuse of tenses as well as prepositions. However, girls performed better than boys in English Composition. While in mathematics, most of the poorly performed questions were from the concepts that deal with time, including the calendar. Poor performance could be linked to non mastery of the basic skills in lower primary which are a prerequisite to the next levels of education.

The report contains comments such as: Sentences are strained. Broken constructions, spellings even of simple words are a problem. I believe some of the spelling errors are out of carelessness. The word ‘parade’ is given in the question, yet it is mis-spelt!
Learners with LD have difficulty acquiring basic skills or academic content. Learning disabilities are characterized by intra-individual differences, usually in form of a discrepancy between the learner’s ability and his/her achievement in areas such as reading, writing, mathematics, or speaking (Lerner, 2000). In a paper titled the *Quality of Education in Developing Countries (QEDC)*”, The William and Flora Hewlett Foundation (2008) report that although children are expected to be able to read fluently by the end of three years in school, grade-level testing indicates that even by Grade 6, many students still cannot read or do basic Math. Citing specific sources, the paper reported that, for example, in Zambia, only 25 percent of Grade 6 pupils demonstrated minimum literacy (Nkamba & Nkanyika (1998). In Nigeria, 40 percent of Grade 4 pupils were unable to copy a single word or punctuation mark correctly from a five-line passage (EFA, 2000) while in Malawi, only 22 percent of Grade 6 learners demonstrated minimum literacy (Ellis, 2003). In Ghana, Grade 6 performance on a very simple multiple-choice reading test was as low as what one would expect from random guessing (Glewwe, 1999). More recently, Annual Status of Education Report (ASER) (2006) reported that in India, 50 percent of children enrolled in Class 2 to 5 in public primary schools could not solve two-digit subtraction.

Strong evidence suggests that improvements in student learning in the first years of schooling, in particular, will be critical in addressing the dismal statistics cited above. The learning that occurs in the lower grades of primary schools is likely to have the greatest returns for learning outcomes overall, especially if children start school at the right age. In these early grades, children learn to read and form learning habits for
later in life. Literacy and numeracy are foundational skills that, once acquired, are used to continue learning other subjects. The evidence confirms this-early literacy acquisition is a good predictor of later educational success Abadzi (2006).

Smith, Polloway, Patt and Dowdy (2001) state that an understanding of characteristics of children with learning problems is important in developing pre-referral interventions, in making appropriate referrals, and in identifying effective accommodations and intervention strategies. This can be enhanced if checklists and testing measures are developed to assist teachers identify students with learning disabilities (Myklebust, 1981).

The term “Learning disability” was first suggested by Kirk (1963) in a speech to a group of concerned parents and professionals. Before the term was used widely, labels such as mild mental retardation, minimal brain dysfunction, dyslexia, perceptual impairment, neurological impairment, and slow learner, described children having similar difficulties in school. Now, many of these difficulties have been encompassed by the term learning disabilities, which are now written into law in the US (Lerner, 2000). In the United States of America (U.S.A), the Federal Register (1997) includes the regulation for identifying and defining students with LD under the education for all Handicapped children Act of 1975 (PL 94-142). According to the provision of PL 94-142 and PL 101-176, school systems are required to assemble a multidisciplinary team of professionals to examine the child psychologically, mentally and educationally in the presence of the child’s parent and come to a decision about whether the child is eligible for special education. With this law, education and assessment techniques have improved enabling parents, educators and students to
exert additional pressure on the schools to provide adequate services for students with
LD. Gates (2003) states that without careful epidemiological studies in this area, it is
very difficult to know how best to target resources for those who may need them. It
has often and long been complained that people with LD are not afforded the same
rights as other citizens. Careful measurement of prevalence provides one way of
ensuring people with LD are provided with specialised resources when they are
required.

According to Lerner, Lowenthal and Egan (1998) and Smith and Strain (1988), early
intervention makes a significant difference in child growth and development by
enhancing intelligence in some children, promoting substantial gains in all
developmental areas (physical, cognitive, language & speech, psychosocial, and self-
help), prevents secondary disabilities, reduces family stress, reduces dependency and
institutionalisation. This can only be achieved if assessments are conducted to
generate reliable data for planning and provision of services.

In Kenya, the ministry of education (MOE) is responsible for special needs education.
Among other functions, the MOE is expected to have data for all learners.
Unfortunately there is no data on children with special needs including those with LD.
Sentiments about learners with LD were first echoed by the Report of the Commission
points out that LD is a complex emerging area and recommends that the Kenya
Institute of Education (KIE) develops guidelines for teachers to assist these learners
and the Kenya National Examinations Council (KNEC) recognize these learners and
plan for their examinations accordingly. This does not mean that the difficulties
learners with LD face are new. Many of these learners have been and still exist in regular schools where they are not noticed. For effective teaching and learning for these learners, there was need to find out the individual’s unique needs and their numbers in order to plan and provide quality education for them. A child denied the right to a quality primary education remains handicapped for life, unable to cope with situations requiring reading, writing and arithmetic (UNESCO, 2006).

1.2 Statement of the Problem

Research has shown that people with LD clearly represent a significant section of the society. Historically, there has been a general consensus that the overall prevalence of moderate and severe LD was approximately 3-4 persons per 1000 of the general population (Craft, 1985; Open Univ.1987; DOH1992, Emerson, Hatton, Felce, & Murphy, 2001). It is estimated that this figure might lie between 25-30 people per 1000 of the general population.

Though the Kenya government has made efforts to expand and improve the education of children with special needs as stipulated in the Children’s Act (2001) and the Disability Act (2003), provision is skewed towards four traditional areas – Hearing Impairment, Visual Impairment, Mental Handicap and Physical handicap, leaving out other categories of disability such as LD. This has serious implications on access, equity and quality in the provision of education and training to children with special needs. This situation cannot easily be reversed because of challenges such as lack of reliable data on children with special needs who include those with LD (Republic of Kenya, 2005a, 2005b). In addition literature on LD is scanty.
Majority of the children with LD have not been identified for proper placement and provision prompting Runo (2001) to suggest that, children with learning disabilities are in regular schools and classrooms where they are referred to as “unteachables, hard to teach, lazy, slow learners, difficult, daydreamers, careless and stupid or foolish. This is regrettable because such children have been observed to have incredible talents that are generally undervalued or not well represented in the school curricular (Lerner, 2000). Teachers have observed an unusual dilemma in the classroom for many years. Some of the children who have not been categorized under any disability are unable learn to read, write or do arithmetic calculations at the expected age level no matter what methods of instruction are used. An understanding of the nature of the disability is a critical step before developing plans for appropriate provision of essential services. Therefore this study investigated the nature and prevalence of LD among class three pupils in Starehe Division of Nairobi Province Kenya.

1.3 Purpose of the Study

The purpose of this study was to find out the nature and prevalence of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province. This was in order to identify and categorize LD from the most common types to the rare ones.

1.4 Objectives of the Study

This study intended to:

(i) Identify the learners with learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province.
(ii) Categorize the nature of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province.

(iii) Determine the prevalence of learning disabilities among standard three pupils in Starehe Division of Nairobi province.

(iv) Establish the measures that were being undertaken to assist standard three primary school pupils with learning disabilities in Starehe Division of Nairobi Province.

(v) Make appropriate recommendations on what can be done to manage the problem of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province.

1.5 Research Questions

This study attempted to find answers to the following research questions:

(i) Are there learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province?

(ii) What is the nature of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province?

(iii) What is the prevalence of learning disabilities among standard three pupils in Starehe Division of Nairobi province?

(iv) What is being done for standard three primary school pupils with learning disabilities in Starehe Division of Nairobi Province?

(v) What further measures can be taken to manage the problem of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province?
1.6 Significance of the Study

An understanding of the nature of learning problems among primary school pupils would be helpful in developing pre-referral interventions, making appropriate referrals as well as identifying effective accommodations and intervention strategies. It was hoped, therefore, that the findings of this study would be helpful to a number of stakeholders. The study findings would enable policy makers and planners generate appropriate policy measures, thus leading to appropriate corrective measures.

Awareness of the nature of learning disabilities among pupils would enable teachers to seek prerequisite skills for effective teaching and learning, hence harnessing the talent of the affected children and make them more productive in national development. An understanding of the nature of learning disabilities would enable curriculum developers adapt the education and training so as to prepare teachers with relevant skills to manage learning disabilities in Kenyan schools.

Ultimately, it is hoped that the findings of this study would have implications on national examinations, which should be tailored to meet the needs of pupils with learning disabilities. Finally, it is anticipated that this study would provide basic data on learning disabilities in Kenyan primary schools.

1.7 Delimitations of the Study

The study limited itself to the nature and prevalence of LD and therefore it did not focus on multiple-intelligence. The study was conducted in public primary schools in Nairobi because of one important reason. Being a metropolitan city, learners come from all ethnic and regional backgrounds to avoid bias.
1.8 Limitations of the Study

The study involved teachers and learners of standard three only. Standard three learners were involved in this study because most children are not identified to have LD until age 9 when LD become apparent as they enter school and fail to acquire academic skills. Further, s three pupils have only one teacher to teach them throughout and they have a long way to go in education before they sit for their Kenya certificate Primary Education (KCPE) and may benefit from the research. Furthermore, Wolfendale and Bryans (1978) note that failure is seldom reversible after the age of 8 or 9. They suggested that: “early experience of failure on the part of the child, even minimal failure, seems to have a substantial negative effect which endures and reduces the benefits of remedial help”. Given that the study was limited to Nairobi, which is just one province among the eight provinces in Kenya, its findings may not necessarily be generalized to the rest of the country.

During data collection, the researcher faced a challenge of cash expectation from some respondents’. Upon the researcher explaining the purpose of the study, most of them understood. However, it was not possible to get data from one of the sampled schools in the study because of the cash expectation. This forced the researcher to replace the school with another school from the same locality.

1.9 Assumptions of the Study

The study made the following assumptions:

i. That all respondents were to cooperate and provide reliable responses.

ii. That all pupils selected for the study were homogenous in terms of teaching time and syllabuses.
1.10 Theoretical Framework of the Study

This study was guided by the developmental psychology theory, which enhances an understanding of learning disabilities. According to this theory, the maturation of cognitive skills, or thinking, follows a sequential progression. An individual child’s ability to learn depends on his/her current maturational status. Any attempts to speed up or bypass the developmental process may create problems (Lerner, 2000).

Each individual has a preset rate of growth for various human functions including cognitive abilities. Discrepancies among the various abilities indicate that the abilities are maturing at different rates with some abilities lagging in their development. Most children with learning disabilities experience developmental delay and/or may fail to reach the higher stages and therefore do not accomplish relevant activities at the right time. For instance, a child whose chronological age is 9 years could be operating at an intellectual age of a five-year old.

In the next section, a conceptual framework shows how developmental problems in children affect their academic performance.
1.11 Conceptual Framework

Figure 1.1: Conceptual Framework showing types of learning disabilities

- **Learning disabilities**
  - **Neuropsychological/Developmental learning disabilities**
    - **Memory & Attention disorders**
      - **Biological/Genetic disorders**
      - **Perceptual-motor disorders**
      - **Visual processing disorders**
      - **Auditory processing disorders**
    
  - **Academic/Achievement disabilities**
    - **Language and reading**
    - **Writing**
    - **Spelling**
    - **Mathematics**
  
  - **Social disabilities**
    - **Low self-concept**
    - **Oppositional Behaviours**
    - **Low motivation and interest**

*Source: Kirk, Gallagher and Anastasiow (2003).*
The conceptual framework that guided this study in identifying the characteristics of learners reported to have learning disabilities was adopted from Kirk, Gallagher and Anastasiow (2003). The upper part of the figure contains the hypothesized developmental disorders: biological/genetic, perceptual - motor, visual, auditory, memory, and attentional disorders. The middle part lists the academic areas that teachers are most concerned with: language and reading, writing, spelling, mathematics and executive functions.

This developmental - academic model implies that the child with learning disabilities comes to school with a set of developmental problems in processing information. Developmental learning disabilities (also called neuropsychological learning disabilities) include attention problems, memory problems, and disorders in thinking and using language. These problems are rarely detected before the child enters school because few serious demands are made of the pre-school child in these areas (Wolery, 1992). These developmental learning disabilities lead to academic achievement learning disabilities in listening, reading, spelling, writing or arithmetic. Though not everyone who has these academic problems has learning disabilities, but a thorough examination can determine the presence of developmental learning disabilities (Lyon, 1994 and 1999). Continued failure in academic achievement leads to social disabilities which include low self-concept, oppositional behaviours, low motivation and interest. This conceptual frame work fits the study as it shows the interrelationship between developmental and academic learning disabilities and their characteristic features.
1.12 Operational Definition of Terms

A child with special need: This refers to a child whose performance deviates from the normal either below or above to such an extent that special Programming is necessary in order to maximize his/her potential or performance level.

Assessment: This is the systematic process of gathering educationally relevant information to make legal and instructional decisions about the provision of special services.

Developmental Delay(s): This means slowness in specific aspects of development (Lerner, 2000). This is also referred to as maturation lag.

Disability: This is the limitation a person has regarding carrying out an activity in a way it can be regarded normal.

Discrepancy: It refers to the difference between ability and achievement.

Handicap: This is a disadvantage or a restriction of activity, which results from a disability or from society’s attitudes towards a disability.

Human Capital: This refers to the stock of skills formed after an individual receives formal education and training.

Individualized education programme: This is a written plan that states a child’s present level of functioning; specific areas that need special services, annual goals; short term objectives; services to be provided; the method of evaluation, and is reviewed from time to time.

Intra-individual Differences: These are differences within a learner across academic areas.
Learning Disabilities: This is a term used to describe specific academic problems in one or more of the following areas: reading, writing, spelling, arithmetic, listening and speaking.

Multiple Intelligence: It means many different types of intelligence that are generally undervalued or not well represented in our curricular (Lerner, 2000).

Nature: This is the type of character or the way a person behaves.

Prereferral Interventions: These are preventive intervention measures taken by general education classroom teachers to meet the needs of students who are having difficulties in their classrooms. Teachers take these measures before referring students for a special education case study (Lerner 2000).

Prevalence: This is the number or proportion of individuals (among a given population) with a condition under investigation. It shows how widespread the condition is.

Resource room: This is an educational setting that provides remedial instruction to students with disabilities on a regularly scheduled basis for a portion of the school day.

Special needs: This refers to conditions, barriers or factors that hinder normal learning and development of individuals.

Special needs education: This refers to education, which provides appropriate modifications in curricula, teaching methods, educational resources, medium of communication or the learning enrolment in order to cater for individual differences in learning.
CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The purpose of this study was to establish the nature and prevalence of learning disabilities among learners in primary schools in Nairobi. This chapter contains the relevant literature, which is reviewed under the following subsections: an overview of learning disabilities, their prevalence, identification, characteristics, causes, classification, intervention measures, and an overview of the status of LD in other countries and in Kenya and the summary of the literature reviewed.

2.1 Learning Disabilities: An Overview

Learning disability is a dynamic and expanding condition that is found across all ages. From the time the term was founded by Samuel Kirk in 1963, legislators, parents and professionals have debated on the best way to define the condition. The United States of America's Public Law (PL) 94-142 defines “Specific learning disability” as “a disorder in one or more of basic psychological processes involved in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems, which are primarily the result of visual, hearing, or motor handicaps, mental retardation, emotional disturbance, or environment, cultural, or economic disadvantage (Lerner, 2000).

When this definition was proposed it was seen as vague and unacceptable to many professionals. Three problems were most troublesome. First, it separated the field to
groups who supported the importance of identifying underlying causes of LD (such as psychological processing disorders) and those who did not. Second, the definition's reference to children alienated adults with LD. Third, it created confusion with its ambiguous “exclusion clause”. Professionals would have preferred a clear statement that LD can exist with other disabilities but cannot be the result of them. The National joint committee of LD (1991) comprising the professionals and parents proposed the following definition. “Learning disabilities” is a generic term that refers to a heterogeneous group of disorders that are manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. The disorders are intrinsic to the individual and are presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions such as sensory impairment, mental retardation, social and emotional disturbances, insufficient/inappropriate instruction, psychogenic factors, it is not the real result of those conditions or influences.

Nevertheless, learning disability remains a controversial issue. Even after many decades of research no final consensus has been reached concerning a precise and unambiguous definition of learning disability (Westwood, 1997). Westwood argues that the best known form of specific learning disability is dyslexia – a disorder manifested by difficult in learning to read despite conventional instruction, adequate intelligence and socio-cultural opportunity. He further points out those other forms of learning disability have been identified as dysgraphia (problems with writing), dysorthographia (problems with spelling) and dyscalculia (problems with arithmetical calculation).
Estimates of the prevalence of learning disabilities in developed countries vary widely – ranging from 1 to 30 percent of the school population, with about 5 percent receiving services in the schools (Lerner, 2000). The number of those identified as having learning disabilities depends on the criteria – the more stringent the criteria the lower the prevalence and vice versa. It is important to point out that the number of children affected with learning disabilities in developing countries is not clearly known.

### 2.2 Prevalence of Learning Disabilities

There have been a number of estimates of prevalence of LD in the world. Emerson, Hatton, Felce and Murphy (2001) suggested that prevalent mild learning disability is between 2.5 percent and 3 percent. The World Health Organization (1985) also put the figure of mild LD for children in industrialized countries at 2 percent – 3 percent. Smith, et al, (2001) reports that in 1995-1996 school year, 51.2 percent of school going children were learning disabled in United States which implied that there were more students with LD than any other disability. It has generally been approximated that 4 boys are identified to every girl (4:1), meaning that there are more boys with LD than girls. In Netherlands, approximately 110,000 people have LD, or 7.4 per a thousand persons, and approximately 57,700 of them have a severe handicap (Ministry of Economic Affairs 2000). Owing to lack of accurate data, prevalence of LD in Canada, United Kingdom (UK), China, Japan, India, Australia, South Africa, Kenya, Tanzania and Uganda has been extrapolated to be 1.69 % of the total population of respective countries. The statistics used for the prevalence of LD are typically based on US, UK, Canadian or Australian statistics (http://www.wrongdiagnosis/stat-country.htm).
However, these estimates cannot be accepted uncritically. The "real" prevalence of learning disabilities is subject to much dispute because of the lack of an agreed-upon definition of LD and objective diagnostic criteria. Some have argued that the currently recognized 5 percent prevalence rate is excessive and is based on vague definitions, leading to inaccurate identification (Lyon, 1996). However, Lyon suggests that it should be made clear that difficulties in the identification of children with learning disabilities do not make the disabilities any less "real" to the student who cannot learn to read, write, or understand mathematics despite good intelligence, an adequate opportunity to learn, and ostensibly good teaching. The question remains, however, of how to go about increasing the ability to identify individuals with LD accurately. Valid prevalence estimates depend upon a set of criteria for identification that are clear, observable, measurable, and agreed upon.

2.3 Characteristics of Learning Disabilities

A variety of characteristics of symptoms have been attributed to children with learning disabilities. Bryan & Bryan (1978) have determined that the ten most frequently cited characteristics are:

(i) **Hyperactivity:** A hyperactive child runs excessively, cannot stay seated for long and does things quickly without thinking.

(ii) **Perceptual-motor impairments:** difficulty in coordinating a visual or auditory stimulus with a motor act, such as difficulty in recognizing, interpreting and understanding external stimulus.

(iii) **Emotional lability:** emotional outbursts that observers consider unreasonable in light of situation or the child’s immediate past history. Often there is an identifiable cause for these emotional ups and downs — a
bad day at the office, worry over bills or a deadline, or perhaps not enough sleep the night before.

(iv) *General coordination deficits:* clumsiness or awkwardness. A child with learning disability may have difficulty in activities like cutting, buttoning, lacing shoes, copying from the chalkboard, sorting out objects according to shapes and sizes.

(v) *Disorder of attention:* either distractibility - paying attention to what one should not or perseveration - concentrating on something for too long.

(vi) *Impulsivity:* describes actions that occur without careful thought and deliberation.

(vii) *Disorder of memory or thinking:* difficulty in recalling materials that should have been learned and failure to understanding abstract concepts. A child with learning disability may also have difficulty in remembering sounds, letters, or words that have been learned. This disorder also affects comprehension. The child may distort the sequence of sounds or letters in words for example, may write ‘stop’ for ‘tops’ or ‘pots’.

(viii) *Specific learning disabilities:* inability to learn reading, spelling, writing, understanding comprehension, and arithmetic computations.

(ix) *Disorders in Speech and hearing:* Have difficult in understanding or remembering spoken language, deficits in articulation, difficulties in expressing oneself verbally and using the correct vocabulary.

(x) *Equivocal neurological signs:* A child with learning disability may show signs of neurological impairment; may display behavioural signs of brain damage called ‘soft signs’, which include lack of fine motor coordination, poor balance, clumsiness and poor speech.
It must be noted, however, that not all children with learning-disabilities exhibit all the above difficulties. And having one of them does not automatically make a child learning disabled. Most children placed in programs for learning disabilities manifest several of the above characteristics. Once the characteristics of LD are known, teachers need to understand the classification of LD for appropriate placement and remedial action.

2.4 Classification of Learning Disabilities

As learning disabilities is concerned with difficulty in learning some things or subjects, the classification was done according to the degree of learning difficulties. Adima (1989) lists them as follows:

(i) **Mild learning disabilities**

Even though this is not regarded as serious, it is however serious enough to attract the attention of the parents and teachers. Learners with mild LD can be successfully integrated in the general education classroom where delivery of education services will be shared between the general and special educationist. If this condition is neglected, it may become worse.

(ii) **Moderate learning disabilities**

This condition is serious and it requires intensive assistance to enable the child to succeed. Learners with moderate LD require remedial instruction in a resource room. At the resource room, learners have an opportunity to receive specific instruction while remaining integrated with their friends in the school. In addition to the programmes being flexible to fit the level of the learner, resource rooms have a variety of materials.
(iii) Severe learning disabilities

The child at this level cannot learn without special materials, special method, and individualized educational program (IEP). This being a very serious condition, learners require intensive and comprehensive intervention, which ideally can be offered in a separate class within the school or a separate school. While in a separate class, such learners appear to have a better self-concept than in regular classrooms possibly because regular class competition sets achievement criteria that these learners cannot meet. With its lower teacher-pupil ratio, this setting offers more intensive individualized instruction in which learners spend more time learning and hence are able to make greater strides in both academic and social areas (Smith, 1991).

It is possible that teachers will find one or more of these classifications in classroom situations. A clear understanding of these classifications will enable teachers to identify learners with LD and the degree of learning difficulties.

2.5 Identification of Learning Disabilities

In most cases the classroom teacher is usually the first to notice signs of learning disabilities and refers students for special education assessment. In addition the teachers assist in gathering assessment information and in the coordination of special services. Students may be identified as learning disabled at any age, but most are noticed during the elementary years. There are two major indicators of learning disabilities. First, students appear capable but experience extreme difficulty in some areas of learning. This is a discrepancy between expected achievement and actual achievement. For example, a young child may be verbal, appear bright, but be very
slow to learn to say the alphabet, write his or her name, and count to 20. The second indicator is variation in performance; there is a discrepancy among different areas of achievement. A class four child may perform well in math but read and spell poorly (Lewis & Doorlag, 1983).

In addition to these two main indicators of learning disabilities, teachers should watch for several other signs. According to Gulliford (1971), outstanding examples cited are:

1. Severe difficulties in reading, writing, spelling and arithmetic;
2. Distinguishing left from right, up and down, front and back;
3. Perceptual and language weaknesses;
4. Some clumsiness in hand and eye tasks;
5. Visuo-spatial difficulties in recognizing and distinguishing written symbols; in reproducing letters or groups of letters correctly; confusing or reversing letters;
6. Speech-sound difficulties in synthesizing words from their component sounds; in relating words to meanings. Most of these children show a history of late or slow speech development; often with continuing minor articulatory defects and hesitancy in verbal expression;
7. Association difficulties such as in associating speech sounds with their symbols in reading and writing;
8. Difficulty in spatial orientation—they bump into things, and cannot estimate distances.
Moreover, California Association for Neurologically Handicapped Children (1980), an affiliate of the national association for children and adults with learning disabilities, cited other signs seen in children with LD as:

a) Guessing constantly when reading;

b) Trouble understanding or following instructions;

c) Difficulties expressing thoughts;

d) Trouble understanding time and distance;

e) Short attention span: easy distractibility.

The disability manifests itself in each age group (preschoolers, elementary children, adolescents and adults) with different intervention and teaching strategies being required for each age group. Substantial numbers of children with LD are identified in the age range of 9 through 14. Most children are not identified until age 9 when LD become apparent as they enter school and fail to acquire academic skills in areas like reading, mathematics, writing and other school subjects (US Education Department, 1998).

Myklebust (1981) emphasized the importance of developing checklists and testing measures by schools to help teachers identify students with disabilities. Myklebust developed a Pupil Rating Scale as a screening tool for LD, which has since become a research instrument included in extensive investigation of the incidence and nature of LD in public schools in the United States of America. Besides identifying signs of LD, it is important to know the root causes of learning disabilities among children for effective intervention measures.
2.6 Causes of Learning Disabilities

According to Westwood (1997), there is seldom a single cause for learning disabilities and sometimes, it is impossible to identify any predisposing factors. Though in most cases the causes of a child’s learning disabilities remain unknown, the possible causes can be classified into four broad categories namely; educational, environmental, psychological and physiological. These categories are considered below.

2.6.1 Educational Factors

These are factors within the educational system that may cause learning disabilities. These include inadequate and inappropriate teaching, use of poor teaching methods, lack of motivating or stimulating activities, use of materials and curriculum that is too difficult for the children to learn, frequent absence from school as a result of illness, lack of encouragement from parent/guardians, and financial problems (Westwood, 1997). Considering that Kenya’s education system is highly examination-centred, schools are keen on how much of the curriculum they can cover within a given time instead of what children learn. In the process, children who are unable to cope with the pressure of preparing for examinations develop learning problems with some of them eventually dropping out due to frustrations. According to Engellman (1977), many children are labelled LD not because of anything wrong with their perception, synapses, or memory but because they have been seriously mis-taught. Concurring with this view, Lovitt (1978) argues that learning disabilities are made, and not born.

2.6.2 Environmental Factors

Evidence shows that environmentally disadvantaged children are likely to exhibit learning difficulties. Environmental factors, which affect learning include poor
nutrition, lack of emotional and social security, lack of security, witchcraft, accidents, love, warmth and acceptance at home, lack of harmony at home such as single parenting, child abuse, alcoholic parents or drug abusive parents, quarrels among siblings, inconsiderate step mother/step father, overwork, and inadequate sleep (Westwood, 1997).

2.6.3 Psychological Factors

These refer to an interference with senses that are used to transfer information leading to disorders in functions like receiving and recalling information (Westwood, 1997). Children with LD exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling or arithmetic. They include conditions, which have been referred to as “perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia, among others”.

2.6.4 Physiological Factors

These include genetics and trauma.

2.6.4.1 Genetics

Studies show that learning disabilities are hereditary and tend to run in families especially severe reading disability (Pringle, 1974). When one identical twin has a reading disability, the other one is also likely to have reading disability (but not the case with fraternal twins).
2.6.4.2 Trauma

Injury or infection of the brain, which occurs before, during or after birth, may affect the neuro-motor system leading to problems in perception, thinking and emotional behaviour. Trauma interferes with the normal learning process. A significant number of children with learning problems do have a history of traumas that may include prolonged labour, anoxia, prematurity and injury from medical instruments such as forceps. Once the causes of learning disabilities are known, teachers will be able to take necessary intervention measures for the affected children to benefit from education.

2.7 Intervention Measures for Educational Purposes

If learning disabilities are suspected, the teacher may refer students for special education assessment. Parents are notified of the reasons for referral and presented with an assessment plan prepared by the educational team. If consent is given for special education evaluation, the team begins to collect information about the student (Lewis & Doorlag, 1983).

There are a number of intervention strategies for children with learning disabilities. However, it should be noted that there is no specific teaching method or technique, which can be used as a cure, thus teachers should apply a wide range of instructional materials and techniques (Koppitz, 1973). The following is an overview of the techniques that have been discussed by Lerner (1976), Wallace & McLoughlin (1975), and Wallace & Kauffman (1973) among others.
2.7.1 Special Services

When assessment is complete, the teacher, parent/guardian, local education authority (and the student, if possible), can plan the student’s Individualized Educational Program (IEP). While the resource room is the most typical placement for learning disabled students, self-contained special classes are provided for those with comprehensive learning needs. Whereas some students with LD receive assistance in oral language development from speech-language clinicians others receive counselling from the school counsellor, social worker or school psychologist.

2.7.2 Task Analysis

Task analysis involves breaking down a task into several components, which in turn are divided into sub-components. In teaching a task, which requires manual manipulation, a child observes how a model or master performer performs the task and tries to imitate (McCarthy, 1987).

2.7.3 Precision Teaching

Developed by Lindsley (1964), this technique uses a chart on which the teacher records the progress in the child’s behaviour in relation to the desired or target behaviour. The graph is called The Class Behaviour Chart. The child’s daily progress on a given task is recorded and also the rate of performance.

2.7.4 Behaviour Modification

This is an effective measure in remediating learning problems, eliminating undesirable behaviours and establishing desirable ones.
In addition to these techniques that are to be used in class, there are other interventions, which can be administered outside the school, which are outlined below:

### 2.7.5 Administration of Drugs

Hyperactive children are constantly in motion, restless and impulsive. Physicians tend to treat these characteristics by prescribing drugs to calm them. Though some caution has to be taken in the treatment of hyperactivity, drugs have nonetheless been found to produce substantial academic and behaviour improvements.

### 2.7.6 Dietary Management

Another controversial approach used in the treatment of hyperactivity is the management of diet (Feingold, 1975). Some chemicals found in food, including additives and food colouring, cause children to become hyperactive. However, Cott (1977) cast some doubt that diet management can reduce hyperactivity in the child.

### 2.8 Overview of Status of LD in Other Countries

According to Wong (1998), America has made achievements in the field of learning disabilities (LD) in four major areas. First, more children are currently being served in LD programs than in any other area of special education. Second, the extensive services to children and youth with LD in the United States are the result of the field’s firm status within the law. Beginning with P.L. 94-142 (The Education of the Handicapped Act of 1975), all school districts are required to provide free and appropriate education to children identified as LD. The essential provisions of P.L. 94-142 were reaffirmed in P.L. 98-199 (The Education of the Handicapped Act of 1983),
which also contained some provision for expansion of services at preschool, secondary, and postsecondary levels. Finally, this legislation, now known as the Individuals with Disabilities Education Act (IDEA) was reauthorized in 1997, with provisions to assist with discipline, assessment and accountability, and development of individualized educational programmes for children with disabilities.

The third indication is in the number of associations that have been formed to advocate on behalf of children with LD, support professional development, and provided a forum for discussion of research. These organizations include; Learning Disabilities Association of America (LDA), the Learning Disabilities Association of Canada, the Division for Learning Disabilities (DLD), the Council for Learning Disabilities (CLD), the Orton Dyslexia Society, and the National Joint Committee on Learning Disabilities (NJCLD) which play a very important role in contributing to the development and continuing visibility of the field.

The final indicator is the level of interest in the topic among researchers. It is a very active area of research. Research on LD within the United States received a major impetus with the passage of the Health research Extension Act of 1985, which mandated the formation of an Interagency Committee on Learning Disabilities to examine the current state of knowledge in field of LD and then make a report to the Congress, with recommendations for a research initiative in the area (Wong 1998).

Gates (2003) observes that institutions for people with learning disabilities existed in Netherlands at the end of the 19th century with large institutions being built after the 2nd World War. All people with learning disabilities get some care from care
providers in institutions, in the community or in special schools where they have their daily care and activity in day care centers for children/adults. The government and professional groups embrace four concepts in the process of care provision: the concept of Tailor-Made Care, the Quality of Care Act, the personal contract and the individual care plan along with the coordinating role of the case manager.

Whereas Sweden has been providing for pupils with LD since 1866 when the first special school was established for pupils with LD, the law for people with LD came into force in 1944, which provided for children and young people with mild LD. Another law followed it in 1954. With the inception of the Act concerning support and service for persons with certain fundamental impairment (Disability act) in 1994, local authorities have taken over responsibility for support and provision of services for persons with LD (Gates, 2003).

However, it is significant to point out that what happens in developed countries is in sharp contrast to the situation obtaining in developing countries where learning disabilities is an emerging new area.

2.9 The Status of Learning Disabilities in Kenya

Despite the continued expansion of Educational Assessment and Resource Centres (EARCS) to all districts in Kenya since inception in September 1984, these centres are faced with a number of challenges. Most of the screening tools and equipment used in the EARCS are for children with Visual impairment, Hearing impairment, mental handicap and Physical disabilities, which are inadequate, and need revision, updating and validation. There are no diagnostic tools for assessing specific cases
such as learning difficulties, giftedness, talentedness and behavioural difficulties. Hence most learners with special needs education end up being mislabelled and given wrong placement (MOEST 2003).

A study of Cost and Financing of Special Education in Kenya, by Karugu and associates (1995) sponsored by the Ministry of Education and World bank (MoE & World Bank (1995) found out that only 0.5 per cent of the estimated 2.3 million children with special needs aged 0 to 19 years were receiving special education services in primary, secondary, integrated schools and special units. However, programmes for children with LD did not exist in both primary and secondary schools. Hence the need for a study to investigate the existence of learners with LD in primary schools and what is being done to such learners. A number of factors account for this underdeveloped state of the country’s special needs education. Until March 2010 when the policy framework for special needs education was launched, there had been no policy or legal framework to guide special needs education in Kenya despite the various policy guidelines given by the various commissions and task forces (Republic of Kenya, 1964; 1976; 1988; 1999). To close the legal framework gap, the Persons with Disabilities Act 2003 was introduced, which, however, does not mention anything about assessment of special needs children. Other challenges facing the government in providing special needs education include identifying and rehabilitating all those with special needs, increasing budgetary support for special education, training more teachers, providing more resources and initiating integration programmes for children with learning needs in regular schools (Elimu Yetu Coalition, 2003).
As a result of the challenges facing special needs education, a lot remains to be done if children with all forms of special needs are to be catered for. Teachers still need practical skills to assess and manage LD. It is in this light that Elsa Abreau, the Headmistress of Kestrel Manor School for LD says, “the resources needed are not available and at the end of it all, the job of assisting these children translates into a ‘calling’.” Unfortunately, training of teachers in special needs education is more theoretical than practical and we are having situations where some of the teachers with special education training don’t know what to do when they are finally sent out” (Kithaka, 2004:3).

Acknowledging these situations, Report of the Commission of Inquiry into the Education System of Kenya (Republic of Kenya, 1999) refers to LD as a complex emerging area probably because not much research has been undertaken in the area and recommends that the Kenya Institute of Education (K.I.E.) develops guidelines for teachers to assist children with specific learning disabilities in regular classrooms, and the Kenya National Examinations Council (KNEC) take cognisance of these children and plan examination papers and schedules with these children in mind.

As already noted, there are no special programmes specifically for LD like in other established special needs areas safe for a few units now coming up within regular schools. Therefore, within the larger framework, LD continues to be neglected, except for some sporadic work by a handful of concerned individuals. The exact number of LD cases in Kenya is not known. However, Karugu cited in Runo (2001) estimates the figure to be between 30 per cent and 40 per cent of school going population. Without reliable data, there is no meaningful planning that can be done to
cater for the affected children. Children with learning disabilities need to be identified in order to make adequate provisions for them.

Having looked at the literature, this study will address the following: establishing the presence of LD, the nature and prevalence of LD, intervention measures in place and lessons to learn from developed countries.

2.10 Summary of the Literature Reviewed

The literature reviewed confirms that the definition of learning disabilities is debatable. Despite this, there is evidence from the literature that learning disabilities indeed exist among learners who appear capable but experience extreme difficulty in some areas of learning such as orientation, reading, writing, spelling, comprehension, and arithmetic. Owing to controversies surrounding the definition, there is no known cause of learning disabilities. However, the literature outlines a number of possible causes, which include: educational factors, environmental factors, psychological factors, and physiological factors. From the literature reviewed, learning disabilities classification ranges from mild, moderate to severe. A number of intervention measures have been highlighted in the literature, which include special services, task analysis, precision teaching, behaviour modification, administration of drugs and dietary management.

Given the identified characteristics, learning disabilities are not confined to any one region of the world. Existing research data that have been reviewed relate to learners in developed countries. As a result of clear policies and elaborate research activities in these countries, there are specific programmes for learners with learning disabilities.
However, learning disabilities among learners in developing countries is not well documented. Limited research has been conducted in these countries with the consequence that teachers may not be aware of the manifestations or the prevalence of learning disabilities. Most of the research that has been conducted in Kenya is mainly on reading difficulties. Considering that LD is regarded as a complex emerging area in the country, its nature and prevalence is hardly known. This study was an attempt to fill the apparent research gap in Kenya.
CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter provides a description of the methods used in the study. It presents the research design, variables, location of the study, target population, sampling techniques and sample size, research instruments, pilot study, validity, reliability, data collection techniques, data analysis, logistical and ethical considerations.

3.1 Research Design

A descriptive study was adopted to conduct this study. Descriptive research is a process of collecting data in order to answer questions concerning the current status of the subject in the study (Best & Khan, 1993; Gay, 1981). This includes the conditions existing, relationships, opinions held, processes going on and trends developing among others. It determines and reports the way things are – possible behaviour, attitudes, values and characteristics. Sekaran (2006) points out that a descriptive study is undertaken in order to ascertain and be able to describe the characteristics of the variables of interest in a situation. For instance, a study of a class in terms of a percentage of members who are in their senior and junior years, gender composition and age groupings can be considered as descriptive in nature.

This design was deemed appropriate for this study because it enabled the researcher to get information relating to the nature and prevalence of LD among class three pupils in Starehe Division of Nairobi Province in finding out what was actually happening on the ground, and what can be done to assist these learners. The study used both quantitative and qualitative approaches in the construction of instruments and in data analysis. Mugenda and Mugenda (1999) state that both methods complement each
other as qualitative methods provide in-depth explanations, while quantitative methods provide the hard data needed to meet the required objectives. Mwiria and Wamahiu (1995) assert that a mixture of both qualitative and quantitative designs may be appropriate since many educational issues have both qualitative and quantitative aspects. The study therefore generated both quantitative as well as qualitative data. While quantitative data are quantifiable data in terms of frequencies or means and class deviations, qualitative data are not quantifiable. Mugenda and Mugenda (1999) state that although a descriptive survey is typically quantitative, including open-ended items in a research tool yields qualitative data.

3.1.1 Variables
Mugenda and Mugenda (1999) define a variable as measurable characteristic that assumes different values. Variables may be classified as independent or dependent. An independent variable is a variable that a researcher manipulates in order to determine its effect on another variable (dependent). A dependent variable attempts to indicate the total influence arising from the effects of the independent variable. A dependent variable therefore varies as a function of the independent variable. In this study, the independent variable was the type of LD while the dependent variables were the nature and prevalence of LD. Measurement of these variables depend on how the independent variable affects the dependent variable. Responses from the subjects formed the dependent variables from which categories, themes and codes were developed.

3.2 Location of the Study
This study was conducted in primary schools in Starehe Division of Nairobi Province. The division has two zones; Central and Juja zones. Being one of the eight divisions
in Nairobi Province, Starehe Division borders Westlands to the North West, Kasarani to the North East, Kamkunji to the East, Makadara to the South East, and Lang’ata to the South. This division was purposively sampled for two reasons. First, there was no evidence that any study on the nature and prevalence of learning disabilities had been conducted in this division. Second, the division was considered to be geographically and socio-economically inclusive given that it has schools in the city’s Central Business District, affluent Parklands and Pangani estates, and areas adjoining the Majengo slum.

3.3 Target Population

The study was carried out in Central zone of Starehe Division. The researcher purposively sampled central zone because it is representative of the division’s characteristics of affluent and slum conditions. There were 16 City Council primary schools in Central Zone of Starehe Division, whose pupils and class teachers’ statistics are shown in Table 3.1:

Table 3.1: Pupil and teacher statistics in central zone of Starehe Division, 2008

<table>
<thead>
<tr>
<th>Zone</th>
<th>Number of Pupils</th>
<th></th>
<th>Number of Teachers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
<td>Male</td>
</tr>
<tr>
<td>Central Zone</td>
<td>4291</td>
<td>4038</td>
<td>8329</td>
<td>46</td>
</tr>
<tr>
<td>(16 schools)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Starehe Education Divisional Advisor’s Office (2008)

As shown in Table 3.1, the target population comprised of 16 head teachers from the 16 schools, 8329 pupils and 236 teachers in Central Zone primary schools in Starehe Division of Nairobi Province.
3.4 Sampling Techniques and Sample Size

3.4.1 Sampling Techniques

Orodho (2004) defines random sampling as a process of selection from a population that provides every sample of a given size an equal probability of being selected. This sampling procedure is appropriate in obtaining a representative sample. In this study, the lottery technique of random sampling was used to select a sample of 5 schools, which constituted 33% of the 16 primary schools in central zone, which is within the recommended appropriate sample for descriptive studies (Gay, 1987). The schools that participated in the study included: Catholic Parochial, Parklands, Pumwani, St. Brigids and River bank because they were representative of the whole zone where the study was conducted.

3.4.2 Sample Size

The study involved all head teachers of the 5 sampled schools, 7 standard three teachers (two schools had double streams) and 150 class three pupils. The 150 pupils included 30 pupils from each of the five schools sampled. The number was limited to 30 pupils because no single teacher is expected to rate more than 30 pupils. Experience shows that when more than 30 pupils are rated by a single teacher; the results are less reliable (Myklebust 1981). These pupils were drawn from those already ranked by the teacher as poor performers based on their class work and who were perceived to have a high risk of failing in school. The total sample size comprised of 162 subjects as shown below in Table 3.2:
Table 3.2: Sample Size

<table>
<thead>
<tr>
<th>Schools in Central Zone</th>
<th>Head teachers</th>
<th>Std 3 Class teacher</th>
<th>Std 3 pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic Parochial</td>
<td>1</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>Pumwani</td>
<td>1</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>St.Brigids</td>
<td>1</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>River bank</td>
<td>1</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>Parklands</td>
<td>1</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>5</strong></td>
<td><strong>7</strong></td>
<td><strong>150</strong></td>
</tr>
</tbody>
</table>

3.5 Research Instruments

Data for this study were gathered using three instruments: open and closed ended questionnaires for head teachers and class three teachers, a pupil rating scale and pupil tests as discussed in the next sub-section.

3.5.1 Head Teacher Questionnaire

Questionnaires ensure uniform responses to a pre-determined set of items (Saunders, Lewis and Thornhill, 2003). A questionnaire containing both closed-ended and open-ended items was developed and administered on head teachers. Items 1 to 3 were to capture the head teachers’ bio-data, while item 4 sought data on school enrolment, items 5 to 9 generated data on the head teachers’ knowledge about learning disabilities in the school and 10 to 12 were to elicit information on what is being done to pupils with learning disabilities. Items 13 to 17 focused on challenges faced in the management of LD cases and suggested ways of effectively providing for pupils with LD.

3.5.2 Class Teacher Questionnaire

This questionnaire was administered on standard three class teachers to find out how they manage pupils in their classes who have LD. Information from these
questionnaires has been corroborated with the data from the head teacher, pupil rating scale and pupil tests. Considering that they are trained in child development, teachers are expected to know their children. Their observations were therefore critical because they could easily tell when there was a gap. Items 1 to 3 were intended to capture class teachers’ bio-data, while items 4 to 8 sought to establish their knowledge about learning disabilities, items 9 to 12 focused on what was being done to manage LD cases and items 13 to 15 solicited comments on how class teachers were managing pupils with learning disabilities.

3.5.3 The Pupil Rating Scale
Developed by Helmer Myklebust in 1981 in the United States of America, the Pupil Rating Scale was adopted and used to screen for learning disabilities in this study. The Pupil Rating Scale, which has been used widely in investigating the incidence and nature of LD, assist teachers to observe and rate the children on five areas of behaviour: Auditory Comprehension and Memory, Spoken Language, Orientation, Motor Coordination and Personal-Social Behaviour. This is an internationally standardised and validated research instrument (Myklebust, 1981) Children who score below 20 on verbal skills (Auditory Comprehension and Spoken Language) and below 40 in non-verbal skills (Orientation, Motor coordination and Personal-Social Behaviour) and total scores less than 65 were subjected to further screening through a Pupil test.

3.5.4 Pupil Test
Children with LD are most often diagnosed on the basis of their performance in school, because present performance is the only diagnostic method (Neely 1982). A
test prepared by the researcher was used to confirm the teachers’ opinions about the pupils already found to have a high incidence of LD. With the help of standard three-class teachers, the researcher administered the curriculum-based pupil test, which covered English and Mathematics. Both the English and Maths test comprised of 6 items each. The English test assessed the pupils’ visual perception in association with kinesthetic response, spelling skills, auditory perception and visual auditory perception and writing skills (see Appendix 4A pg 99). The Mathematics test assessed the pupils’ skills in serial order and spatial relationships, skills in sets and numbers, computation, shapes, money and time (see Appendix 4B pg 100).

3.6 Piloting
After preparing the research instruments, they were piloted in City Primary School in Starehe Division. City Primary School was purposively selected for a number of reasons. It had a high pupil enrolment, some of whom were drawn from different neighbourhoods in Nairobi, including those from informal as well as affluent settlements. The school, which has a Unit for children with Autistic spectrum disorder, was excluded from the main study. Piloting involved one head teacher from this school, 30 standard three pupils and one class teacher and enabled the researcher to finalize the instruments and enhance their validity and reliability.

3.6.1 Validity of Research Instrument
This refers to the ability of a test or research instrument to measure what it purports to measure (Ingule, Rono & Ndambuki, 1996). Validity of the research instruments used in this study was enhanced through the application of content validity procedures. Mugenda and Mugenda (1999) state that content validity is a matter of judgment by
professionals or experts in the particular field. This is done to ensure that all possible items that should be used in measuring the concept under study are included. In order to establish the validity of the instruments the researcher sought expert opinions of the supervisors and lecturers in the Department of Special Education who were well versed in the area being studied. The researcher synchronized the supervisors’ discussions and incorporated relevant comments and suggestions while developing and revising the research instruments to establish their content validity before data collection was done.

3.6.2 Reliability

This is a measure of the degree to which the instrument yields consistent results or data after repeated trials (Mugenda and Mugenda, 1999; Saunders, Lewis, and Thornhill, 2003). To establish reliability of the instruments, the test-retest method was used at an interval of one week between the first test and the second test using the same respondents. The scores of both tests were correlated and reliability established using the spearman rank order correlation coefficient formula as 0.8. According to Mugenda (1999), a correlation coefficient greater or equal to 0.75 shows a high reliability of the instrument.

3.7 Data Collection Procedures

Upon making appropriate appointments, the researcher proceeded to the sampled schools to make familiarization visits and held discussions with heads of the respective schools to make necessary arrangements for the actual data collection. The researcher personally administered questionnaires on head teachers and teachers. The standard three teachers were considered best suited to administer the pupil rating scale
so long as s/he met the basic requirement of at least one month of experience with the children. The researcher, through training, guided the teachers on how to administer and score on the scale and was present throughout the session for consultation. Those who scored below 20 on verbal skills (Auditory Comprehension and Spoken Language) and below 40 in non-verbal skills (Orientation, Motor coordination and Personal-Social Behaviour) and total scores less than 65 were further evaluated. After the administration and scoring on the pupil rating scale, only one school from the five schools perceived to have a high incidence of LD was involved in an in-depth study where pupil tests were administered to confirm that they had LD. With the help of class teachers, the researcher administered the Pupil Tests. Pupils were required to fill and return the instruments the same day. Upon collection of all instruments, the researcher assembled, organized and sorted out all the used instruments. Editing was done to remove any inconsistencies of the instruments. Any blank responses in the questionnaires and Pupil tests of about 25 percent were not included in the data set for analysis.

3.8 Data Analysis

Data from the pupil rating scale and pupil tests were analyzed using Statistical Package for Social Sciences (SPSS) because of its efficiency and ability to handle large amounts of data. Upon the researcher establishing relevant categories, themes and codes, quantitative data were obtained from pre-coded questions while qualitative data generated from open-ended questions. Quantitative data were analyzed by using descriptive statistics, which are presented in the form of frequencies, percentages, means and class deviations. Qualitative data categories and themes were generated
using codes and then keyed into the computer and analyzed using descriptive analysis. Data analysis was based on the objectives of the study.

Data on existence of LD in the sampled schools were analyzed by describing the responses. Data regarding the nature and prevalence of LD among standard three pupils were recorded according to their characteristics and numbers and then analyzed using frequencies, percentages, means and class deviations. To analyze data on ways of managing LD in sampled schools, responses were grouped into commonly used ways, coded and summarized in percentages. Data regarding suggested measures of managing LD in schools were coded and analyzed into suitable sub-headings and reported using percentages. To analyze data from the pupil test, item analysis was conducted and results given in numbers, frequencies and percentages. Then data were presented in the form of tables and charts.

3.9 Logistical and Ethical Considerations

The researcher was cleared by the Board of Postgraduate studies before proceeding to the Ministry of Education to obtain a permit to conduct research. Upon obtaining the necessary authority to conduct research from the Permanent Secretary (PS) in the Ministry of Education, the researcher followed appropriate channels of authority by obtaining permission from the City Education Office before proceeding to schools for data collection. The researcher was careful that the research subjects freely cooperated in giving the required information without coercion or bribery and instructions were provided in every instrument. To enhance confidentiality of information given, names of respondents were not included in the research tool.
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 Introduction
This chapter presents the results of the study. This study aimed at establishing the nature and prevalence of learning disabilities among standard three primary school pupils in Nairobi. The research findings are interpreted, explained and presented with regard to the research questions explored as follows:

The study attempted to answer the following research questions:

1. Are there learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province?
2. What is the nature of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province?
3. What is the prevalence of learning disabilities among standard three pupils in Starehe Division of Nairobi province?
4. What is being done for standard three primary school pupils with learning disabilities in Starehe Division of Nairobi Province?
5. What further measures can be taken to manage the problem of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province?

4.1 Methods of Data Analysis
The respondents of the study included 150 pupils, 82 males (54.7%) and 68 females (45.3%) out of the total of 315 pupils from the five sampled schools, 164 males and 151 females, 5 head teachers and 7 standard 3 teachers (two of the sampled schools were double steamed). The average pupil age was found to be 9 years with a total of
24 pupils aged 11 years and above seen to be over age. The analysis involved means and standard deviations, frequencies and cross tabulations.

4.2 Research question 1: Are there learning disabilities among standard three Primary school pupils in Starehe Division of Nairobi Province?

The question on the presence of learning disabilities among standard three pupils took a multiplicity of facets. The process involved use of the pupils rating scale, head teacher’s questionnaire, teacher’s questionnaire and pupil tests. The pupils rating scale was used to screen learners for learning disabilities. The scale comprised five observational areas with twenty four items rated on a five point scale with 3 as the average score, 1 or 2 as below average while 4 or 5 were rated as above average. Those who scored below 20 on verbal skills (Auditory Comprehension and Spoken Language) and below 40 in non-verbal skills (Orientation, Motor coordination and Personal-Social Behaviour) and total scores less than 65 were classified as fail. Table 4.1 gives a summary of the results for the pupils in the five schools.

<table>
<thead>
<tr>
<th>School</th>
<th>Total verbal performance</th>
<th>Total non-verbal performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pass</td>
<td>Fail</td>
</tr>
<tr>
<td>Parklands</td>
<td>28(93.3%)</td>
<td>2(6.7%)</td>
</tr>
<tr>
<td>Riverbank</td>
<td>18(66.7%)</td>
<td>9(33.3%)</td>
</tr>
<tr>
<td>Catholic Parochial</td>
<td>24(85.7%)</td>
<td>4(14.3%)</td>
</tr>
<tr>
<td>Pumwani</td>
<td>5(17.2%)</td>
<td>24(82.8%)</td>
</tr>
<tr>
<td>St Bridgits</td>
<td>17(63.0%)</td>
<td>10(37.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>92(65.2%)</td>
<td>49(34.8%)</td>
</tr>
</tbody>
</table>
Table 4.1 indicates that there was 65.2% pass and 34.8% failure in verbal performance compared to 62.0% pass and 38.0% failure in non-verbal performance.

**Table 4.2: School performance in Total Scores**

<table>
<thead>
<tr>
<th>School</th>
<th>Total scale score performance</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pass</td>
<td>Fail</td>
<td>Total Pass</td>
<td></td>
</tr>
<tr>
<td>Parklands</td>
<td>25</td>
<td>3</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(89.3%)</td>
<td>(10.7%)</td>
<td>(100.0%)</td>
<td></td>
</tr>
<tr>
<td>Riverbank</td>
<td>15</td>
<td>11</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(57.7%)</td>
<td>(42.3%)</td>
<td>(100.0%)</td>
<td></td>
</tr>
<tr>
<td>Catholic Parochial</td>
<td>24</td>
<td>4</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(85.7%)</td>
<td>(14.3%)</td>
<td>(100.0%)</td>
<td></td>
</tr>
<tr>
<td>Pumwani</td>
<td>1</td>
<td>26</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.7%)</td>
<td>(96.3%)</td>
<td>(100.0%)</td>
<td></td>
</tr>
<tr>
<td>St Bridgits</td>
<td>12</td>
<td>14</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(46.2%)</td>
<td>(53.8%)</td>
<td>(100.0%)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>77</td>
<td>58</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(57.0%)</td>
<td>(43.0%)</td>
<td>(100.0%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.2, above shows the total score performance for the five schools in the study. Although 150 pupils were sampled in the study only 135 qualified for screening out of whom 77 (57.0%) had pass while 58 (43.0%) failed. Based on the screening criteria, the 58 (43.0%) pupils who failed had a high risk of having a learning disability.

**Figure 4.1: Performance per school**
According to results in Figure 4.1 above, Pumwani Primary School had the largest proportion (96.3%) of learners that failed in the screening. St Bridgits had 53.8% failures, Riverbank had 42.3% failures, and Catholic Parochial had 14.3 % failures while Parklands had the lowest proportion of failures at 10.7%. It was observed that schools located in the more affluent areas had fewer incidences of learning disabilities compared to those in slum areas.

After the administration and scoring of the pupil rating scale, only one school perceived to have a high incidence of LD was involved in an in-depth study where pupil tests were administered. From the performance of pupils, Pumwani Primary School, which had the largest proportion (96.3%) of learners that failed in the screening was suspected to have the highest incidence of LD and therefore was involved in an in-depth study. Incidentally, this school had the highest number of pupils (64) in one class. Myklebust (1981) recommends that every child receiving a low score should be further evaluated to determine their specific deficiencies or disability for remedial instruction to be initiated. Evidence has shown that large classes cause wider educational achievement gaps between disadvantaged learners and their peers (Arnold, 2000). According to Arnold, this is because there is less communication, interaction, and coordination with the teacher(s).

Pupils were assessed on various aspects of behavioural characteristics as shown in the Table 4.3. The means and class deviations show the performance of all the pupils.
Table 4.3: Means, standard deviations and range

<table>
<thead>
<tr>
<th>Behavioural characteristics</th>
<th>Number of items rated</th>
<th>Mean</th>
<th>Std.Deviation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditory comprehension</td>
<td>4</td>
<td>10.30</td>
<td>3.160</td>
<td>4-20</td>
</tr>
<tr>
<td>Spoken language</td>
<td>5</td>
<td>12.49</td>
<td>3.462</td>
<td>5-25</td>
</tr>
<tr>
<td>Orientation</td>
<td>4</td>
<td>11.32</td>
<td>2.879</td>
<td>4-20</td>
</tr>
<tr>
<td>Motor coordination</td>
<td>3</td>
<td>9.23</td>
<td>1.980</td>
<td>3-15</td>
</tr>
<tr>
<td>Personal social behaviour</td>
<td>8</td>
<td>21.77</td>
<td>5.735</td>
<td>8-40</td>
</tr>
<tr>
<td>Total verbal</td>
<td>9</td>
<td>22.83</td>
<td>6.380</td>
<td>9-45</td>
</tr>
<tr>
<td>Total non-verbal</td>
<td>15</td>
<td>42.30</td>
<td>9.519</td>
<td>15-75</td>
</tr>
<tr>
<td>Total scale score</td>
<td>24</td>
<td>65.11</td>
<td>15.116</td>
<td>24-120</td>
</tr>
</tbody>
</table>

From Table 4.3, the average score of the pupils for verbal and non-verbal was 22.83 and 42.30 respectively. The average total score was found to be 65.11 which are more or less similar to the pass mark of 65 out of a maximum of 120.

Figure 4.2: Average performance in the aspects assessed
The results in Figure 4.2 show that on average the pupils performed well in motor coordination with an average score of 61.5%. Spoken language had the lowest average score of 50% and this most likely contributed to the total verbal score of 50.7%. The results generally show that most pupils had weaknesses in verbal learning which combines Auditory Comprehension and Spoken Language which have far-reaching effects on successful school learning. This shows that the learners who failed had deficiencies in: comprehending word meanings, following instruction, comprehending class discussions, retaining information (Auditory Comprehension), vocabulary, grammar, word recall, storytelling-relating experiences and expression of ideas (Spoken Language). This is consistent with studies carried out by Myklebust (1981). Intervention measures should therefore dwell on verbal communication.

The results for the total sample of 143 were analyzed by gender and are presented in Table 4.4 and Figure 4.3.

**Table 4. 4: Means and standard deviations by gender**

<table>
<thead>
<tr>
<th>Tested areas</th>
<th>Males (N=79)</th>
<th>Females(N=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Auditory comprehension</td>
<td>9.62</td>
<td>3.33</td>
</tr>
<tr>
<td>Spoken language</td>
<td>11.60</td>
<td>3.54</td>
</tr>
<tr>
<td>Orientation</td>
<td>10.72</td>
<td>3.04</td>
</tr>
<tr>
<td>Motor coordination</td>
<td>9.06</td>
<td>2.16</td>
</tr>
<tr>
<td>Personal social behaviour</td>
<td>20.86</td>
<td>6.01</td>
</tr>
<tr>
<td>Total verbal</td>
<td>21.20</td>
<td>6.63</td>
</tr>
<tr>
<td>Total non-verbal</td>
<td>40.47</td>
<td>10.13</td>
</tr>
<tr>
<td>Total scale score</td>
<td>61.54</td>
<td>15.85</td>
</tr>
</tbody>
</table>
From the mean scores in Table 4.4, girls were found to be more successful than the boys in all the five behavioural characteristics, and the differences were statistically significant.

**Figure 4.3: Pupil performance by gender**

Figure 4.3 shows that 46.5% of the boys passed compared to 68.8% of the girls. It can also be seen that more than one half of the boys (53.5%) failed the assessment as did about one third (31.3%) of the girls. The result suggests that boys were more likely to be affected by learning disabilities compared to girls. This finding is consistent to Finnucci (1978) and Lerner (2000) who reported that learning disabilities are more common in boys than in girls. Lerner (2000) explains that more boys than girls are identified with LD because of *biological causes* whereby males may be more vulnerable to LD, *cultural factors* (boys tend to exhibit more disruptive behaviours that are troublesome to adults), and *expectation pressures* for success in school which may be greater for boys than girls. However, research needs to be carried out to confirm these findings in Kenya.
After the administration and scoring on the pupil rating scale, thirty (30) pupils from Pumwani Primary School were involved in an in-depth study to determine their specific deficiencies or disability. In order to ensure that the base of universal schooling is built on sound and solid foundations, it is critical to establish how much children are learning in primary school especially with respect to basic skills like reading, writing and arithmetic. Therefore, learners in Pumwani Primary School were further evaluated by sitting for a Math and English tests both of which were marked out of 50 marks and pass mark was set at 25 marks. Figure 4.4 shows the performance of pupils in these two tests.

**Figure 4.4: Performance in Math and English tests**

From fig.4.4 above, 36.7% of the students passed the Math test while none of them passed the English test. This shows that pupils had more difficulties in English than in mathematics. As would be expected, unless a child learns to read fluently and confidently by class 2 or 3, it will be hard for him or her to make adequate educational progress in any subject. The learning that occurs in lower grades of primary schools is likely to have the greatest returns for learning outcomes overall, especially if children start school at the right age. In these early grades, children learn to read and form
learning habits for later in life. Skills like literacy and numeracy are foundational skills that, once acquired, are used to continue learning other subjects. Abadzi (2006) concurs that early literacy acquisition is a good predictor of later educational success.

Table 4.5 and Figure 4.5 reflect the performance of boys compared to those of girls in the various skills in English.

**Table 4.5: Performance in English by gender**

<table>
<thead>
<tr>
<th>Tested areas</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual perception</td>
<td>1.79</td>
<td>2.55</td>
</tr>
<tr>
<td>Spelling</td>
<td>3.16</td>
<td>4.55</td>
</tr>
<tr>
<td>Auditory perception</td>
<td>3.58</td>
<td>4.55</td>
</tr>
<tr>
<td>Visual discrimination</td>
<td>1.05</td>
<td>0.91</td>
</tr>
<tr>
<td>Written expressions</td>
<td>1.05</td>
<td>0.18</td>
</tr>
<tr>
<td>Total score</td>
<td>10.74</td>
<td>12.73</td>
</tr>
</tbody>
</table>

**Figure 4.5: Performance in English by gender**
From Table 4.5 and Figure 4.5, the total average score for girls was 12.7 compared to 10.7 for boys. In general the pupils performed most poorly in Auditory Discrimination. However, there were significant differences in auditory perception, and spelling where girls performed fairer than boys. The common types of errors noted in English include; poor Visual-motor Coordination, difficulty Copying accurately from a model, spacing of letters and words, letter and word reversals, poor handwriting, some repetition of sentences, omission of some words and letters, overprinting to correct mistakes, grammar mistakes (punctuations, spellings and capitalization), inadequate expression of ideas and vocabulary, poor organizational skills, unreadable letters and words, non-attempt or slowness in completing work.

Similarly, Table 4.6 and Figure 4.6 reflect the performance of males compared to those of females in the various skills in math.

**Table 4.6: Performance in Math by gender**

<table>
<thead>
<tr>
<th>Tested areas</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial order</td>
<td>4.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Spatial relationships</td>
<td>0.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Sets and numbers</td>
<td>3.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Addition</td>
<td>2.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Subtraction</td>
<td>1.2</td>
<td>1.1</td>
</tr>
<tr>
<td>Division</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Multiplication</td>
<td>1.9</td>
<td>2.9</td>
</tr>
<tr>
<td>Matching shapes and names</td>
<td>5.1</td>
<td>7.4</td>
</tr>
<tr>
<td>Money</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Time</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Total score</td>
<td>20.5</td>
<td>21.4</td>
</tr>
</tbody>
</table>
As shown in Table 4.6 (pg. 55) and Figure 4.6 above, akin to the performance in Math, female pupils performed better than their male colleagues. On the whole, although boys did better than girls in serial order, sets and numbers and addition, there were no significant differences between the performance of boys and girls.

Tables 4.7 and 4.8 (pg. 57) contain an analysis of pupils’ performance revealing their weaknesses in specific test items in Math and English subjects.

**Table 4.7: Performance in specific English skills**

<table>
<thead>
<tr>
<th>Skill</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual perception</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>5</td>
<td>14</td>
<td>14</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(Max. score 8)</td>
<td>3</td>
<td>5</td>
<td>14</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Spelling (Max. score 8)</td>
<td>7</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Auditory perception</td>
<td>3</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(Max. score 10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual discrimination</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(Max. score 5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auditory discrimination</td>
<td>2</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(Max. score 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written expression</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(Max. score 15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
All pupils failed in English test with the majority of them scoring zero (0). As shown in Table 4.7 above, the numbers of pupils scoring zero in Visual discrimination, Auditory discrimination and Written expression are 24, 29 and 22 respectively. This very poor performance confirms the fact that these class three pupils in Pumwani Primary School are unable to effectively communicate in English.

Table 4.8: Performance in specific mathematics skills

<table>
<thead>
<tr>
<th>Skill</th>
<th>Number of pupils with various scores</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spatial order &amp; relationships (Max. score 8)</td>
<td></td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Serial order (Max. score 8)</td>
<td></td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sets &amp; numbers (Max. score 4)</td>
<td></td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Addition (Max. score 4)</td>
<td></td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Subtraction (Max. score 4)</td>
<td></td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Division (Max. score 4)</td>
<td></td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Multiplication (Max. score 4)</td>
<td></td>
<td>8</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Matching name with shape (Max. score 8)</td>
<td></td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Money (Max. score 3)</td>
<td></td>
<td>2</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Time (Max. score 3)</td>
<td></td>
<td>2</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4.8 above shows that these pupils performed better in math than English, they had an erratic distribution of scores in various skills in Math. For instance, most pupils totally failed in items that tested their skills in spatial order & relationships, division, time and money (24, 20, 29 and 29 respectively). At the same time, 24 pupils scored all the marks in an item that tested their skill in sets & numbers. In Math, the most common difficulties faced by pupils were in spatial and serial order, carrying and borrowing numbers, confusion of computation signs (subtraction for addition, division for subtraction or multiplication) and time. Consequently, a good majority of
these children were unable to attempt to solve the problems at all. The study found that teachers’ rating of pupils with deficits was very similar to the results from the pupil tests. It is gratifying to note that for the most part, teachers identified the same learning deficits as those identified by the pupil tests.

To establish whether teachers understood LD and if there were children in their schools with learning disabilities, both the head teachers and standard 3 teachers were asked to explain the term “Learning Disabilities”. It is significant to report that respondents demonstrated an adequate knowledge of LD. On being asked to identify categories of pupils with special needs in their schools, 2 out of the 5 head teachers and 4 out of the 7 class 3 teachers reported LD, followed by emotional and behaviour disorders (2 head teachers and 3 class three teachers). Other disabilities reported were hearing impaired (1 head teacher and 1 teacher), physical impairment (2 head teachers) and visual impairment (1 teacher).

Table 4.9: Number of pupils with LD in standard 3 in Starehe Division

<table>
<thead>
<tr>
<th>Schools</th>
<th>Enrolment</th>
<th>Head teachers</th>
<th>Standard 3 teachers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Totals</td>
<td>Males</td>
</tr>
<tr>
<td>River Bank</td>
<td>18</td>
<td>21</td>
<td>39</td>
<td>2</td>
</tr>
<tr>
<td>Catholic parochial</td>
<td>57</td>
<td>40</td>
<td>97</td>
<td>3</td>
</tr>
<tr>
<td>Pumwani</td>
<td>36</td>
<td>28</td>
<td>64</td>
<td>12</td>
</tr>
<tr>
<td>St.Bridgits</td>
<td>27</td>
<td>28</td>
<td>55</td>
<td>0</td>
</tr>
<tr>
<td>Parklands</td>
<td>26</td>
<td>34</td>
<td>60</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>164</td>
<td>151</td>
<td>315</td>
<td>17</td>
</tr>
</tbody>
</table>

Table 4.9 gives a summary of the number of pupils whom head teachers and class three teachers suspected to have LD in their schools. Whereas St. Bridgits and Parklands Primary were reported to have the least number of pupils with LD, Pumwani was reported to have the highest number of pupils with LD (96.3%). In all schools, head teachers reported fewer cases of LD among their pupils than teachers.
One Head teacher did not indicate the number of pupils who could have LD in her school. Therefore, there is an inconsistency in the numbers given by the head teachers and those given by standard 3 teachers. Perhaps this could partly be because head teachers may not be in touch with what goes on in classrooms due to their overwhelming administrative responsibilities. Analysis based on the reported cases (55) and the total number of pupils (315) suggests that 17.5% of the pupils could be having LD in the sampled schools in Starehe Division. Another observation that can be seen is that there are more boys reported than girls (56.4%). While conducting the survey, teachers reinforced the suspicion that LD may be affecting some children in schools in Starehe division of Nairobi. For example;

One head teacher said: “The problem is not only in Standard 3; I have learners who cannot write in class 5 and 8.” Another head teacher said: “I have pupils who have LD in classes 4, 5 and 8” thus affirming that besides Standard 3, pupils with LD cut across all classes.

It is important to note that Lerner (2000) states that, throughout the years, children from all walk of life have experienced difficulties in learning. The condition LD occurs in all cultures, nations, and language groups.

4.3 Research question 2: What is the nature of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province? scale had deficiencies in comprehending word meanings, following instruction, As was shown in Table 4.2 (pg. 48), 43% of the learners who failed in the pupil rating comprehending class discussions, retaining information (Auditory Comprehension),
vocabulary, grammar, word recall, storytelling-relating experiences and expression of ideas (Spoken Language).

Both head teachers and standard three teachers were asked to identify unique characteristics of children whom they thought had LD. Their responses are summarized in Table 4.10:

**Table 4.10: Unique characteristics of learners with LD**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Head teachers</th>
<th>Standard 3 teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties in specific areas - reading, spelling, writing and copying</td>
<td>3 60</td>
<td>2 28.6</td>
</tr>
<tr>
<td>accurately and arithmetic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of attention span or concentration</td>
<td>2 40</td>
<td>2 28.6</td>
</tr>
<tr>
<td>Slow in acquiring skills and concepts appropriate to their age</td>
<td>1 20</td>
<td>2 28.6</td>
</tr>
<tr>
<td>Some do not hear or see properly</td>
<td>1 20</td>
<td>1 14.3</td>
</tr>
<tr>
<td>Dull and unsociable</td>
<td>2 40</td>
<td>2 28.6</td>
</tr>
<tr>
<td>Lack Self confidence</td>
<td>1 20</td>
<td>-</td>
</tr>
<tr>
<td>Are mentally retarded</td>
<td>1 20</td>
<td>-</td>
</tr>
<tr>
<td>Inability to communicate in English</td>
<td>2 40</td>
<td>-</td>
</tr>
<tr>
<td>Know it all</td>
<td>1 20</td>
<td>-</td>
</tr>
<tr>
<td>Lack motivation</td>
<td>1 20</td>
<td>-</td>
</tr>
<tr>
<td>Look bored</td>
<td>1 20</td>
<td>-</td>
</tr>
<tr>
<td>Hyper active and noisy</td>
<td>-</td>
<td>2 28.6</td>
</tr>
<tr>
<td>Difficulties in retention of information</td>
<td>-</td>
<td>2 28.6</td>
</tr>
<tr>
<td>Slow in completing or not completing tasks</td>
<td>-</td>
<td>3 42.9</td>
</tr>
<tr>
<td>Difficulties following instructions</td>
<td>-</td>
<td>1 14.3</td>
</tr>
<tr>
<td>Never ask or answer questions</td>
<td>-</td>
<td>1 14.3</td>
</tr>
<tr>
<td>Activeness in activities outside class</td>
<td>-</td>
<td>1 14.3</td>
</tr>
<tr>
<td>Are disorganized</td>
<td>-</td>
<td>1 14.3</td>
</tr>
</tbody>
</table>

From table 4.10, there are characteristics that were reported by both the head teachers and standard 3 teachers while there were some that were either reported by the head teachers alone or by class 3 teachers alone. Three head teachers and 2 standard three teachers reported difficulties in specific areas such as reading, spelling, writing and copying accurately and arithmetic while 2 head teachers and 2 standard 3 teachers reported lack of attention span or concentration and a similar number of head teachers as well as standard 3 teachers reported dull and unsociable as unique characteristics.

One head teacher and two standard teachers reported that some children were slow in
acquiring skills and concepts appropriate to their age while a similar number of respondents reported that some pupils were slow in completing or not completing tasks among other characteristics.

The reported characteristics varied from one school to another just as they vary from one child to another, thus confirming the finding by Lerner (2000) that individuals with LD are a heterogeneous population. Many different characteristics are associated with LD but each individual is unique and will present only some of the reported characteristics.

As the researcher made familiarization visits to sampled schools and interacted with teachers, some teachers made the following observations:

“Some learners are non readers while others have no language of communication”. “Some learners come to school because of the feeding programme; otherwise they have no academic a gender”. “Some are children from “Majengo.” “Some have the ability, if they just tried harder, but they choose not to work nor pay attention.” “Some cannot write; they are motivated.”

In an isolated case in east lands, teachers said:

“When a teacher is keen on studies, some learners avoid coming to school while others threaten to shoot such a teacher. On an extreme case, a boy came with a gun to school.”

From these comments, it is evident that some teachers do not have the knowledge on how to manage learners with LD. A child with a learning disability cannot “try harder”, “pay closer attention”, or “be motivated on their own”. Teachers need to know how to assist these pupils to learn.
Further to the unique characteristics of pupils with LD, the study sought to establish the severity of cases of LD in the sampled schools. Head teachers and standard 3 teachers were asked to rate the severity of LD in their schools. Their responses are summarized in Table 4.11

Table 4.11: Severity of LD cases in schools

<table>
<thead>
<tr>
<th>Severity of LD</th>
<th>Head teachers</th>
<th>Standard 3 teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Responses</td>
<td>Percent</td>
</tr>
<tr>
<td>Serious</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Not serious</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>100</td>
</tr>
</tbody>
</table>

The majority of the respondents (4 out of 5 head teachers and 6 out of the 7 class teachers) reported that it was not serious while only 1 head teacher and 1 class teacher both of whom were from Pumwani Primary thought that LD was serious.

4.4 Research Question 3: What is the Prevalence of Learning Disabilities among Standard Three Pupils in Starehe Division of Nairobi Province?

In order to determine the prevalence of LD, the study sought to find out the number of pupils with LD in sampled public primary schools. At the initial stage, standard 3 teachers were asked to use the pupil rating scale to screen 30 pupils whom they ranked as poor performers and perceived to have a high risk of failing in school.

Results obtained from this screening indicated that 58 out of a total of 135 pupils screened (43%) were reported to have a high risk of LD. However, head teachers and standard 3 teachers reported a total number of 55 pupils out of a total sample of 315 standard three pupils in the five schools as having LD (17.5%). Going by this number
of pupils with LD given by teachers in a zone with a total of 962 standard three pupils, it means that 5.7% of standard three pupils have LD.

Given that all the 30 pupils failed in the English test, this signifies that some of them might have LD. Similarly, one could suggest that some of the 19 pupils who failed in the Math test could be having LD. From the results of Pumwani Primary School, it is possible that there could be a significant number of LD cases in public primary schools. From the results of pupil tests in Math and English, it is evident that quite a good number of pupils have learning disabilities.

There have been considerable variations in the incidences of LD in general school population. Lerner (2000) observed that estimates of the prevalence of learning disabilities in developed countries vary widely – ranging from 1 percent to 30 percent of the school population. Smith, et al, (2001) reported that in 1995-1996 school year, 51.2 percent of school-going children were learning disabled in United States, which implied that there were more students with LD than any other disability. It has generally been approximated that 4 boys are identified to every girl (4:1), meaning that there are more boys with LD than girls. Chadha (2001) suggested that the percentage of children with LD at primary level in India would not be less than 15-20. Thus, in a class of 50 children, approximately 9 -10 children may be suffering from LD. The population of such children is larger than that of any other category of children with special needs.

Much of the variation in these estimates is largely due to lack of an agreed upon definition of LD and objective diagnostic criteria. Lyon (1996) suggested that
difficulties in the identification of children with learning disabilities do not make the
disabilities any less "real" to the student who cannot learn to read, write, or
understand mathematics despite good intelligence, an adequate opportunity to learn,
and ostensibly good teaching.

4.5 **Research Question 4: What is being done to Standard Three Primary School Pupils with Learning Disabilities in Starehe Division of Nairobi Province?**

The study sought to find out how pupils suspected to be having LD were being provided for in the sampled schools. Responses from the head teachers and standard 3 teachers are shown in Table 4.12.

**Table 4.12: Approaches used to assist learners with LD**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Head teachers</th>
<th>Standard 3 teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Responses</td>
<td>%</td>
</tr>
<tr>
<td>Pairing learner with able peers</td>
<td>3</td>
<td>60</td>
</tr>
<tr>
<td>Giving remediation</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>Individualized attention</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Given simpler tasks</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>Breaking tasks</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>Use relevant teaching aids</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>Extra time for tests</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

As can be seen from Table 4.12, the most frequently reported method of managing pupils with LD was individualized attention, followed by pairing learner with able peers and use of relevant teaching aids. Some respondents reported that pupils suspected to have LD were given simpler tasks in class with some teachers saying that the affected pupils were given remediation. Two head teachers reported that to assist
pupils with LD, teachers used a teaching approach whereby a concept was broken into smaller tasks.

Asked to state how well teachers applied their skills to assist learners with LD, 3 of the head teachers said that teachers applied their skills well while one of them reported that teachers used their skills very well while another felt that teachers did not use their skills sufficiently well. It is important to note that the five head teachers who thought that teachers used their skills to assist learners with LD were based on the assumption that some schools had teachers with skills in special needs education. In any case, some head teachers thought that given that their teachers were trained, they were expected to use appropriate methods such as giving individual attention to pupils with LD identify the problems faced by pupils at school and request parents to help them at home.

There was no consensus among respondents on the adequacy of training received by teachers for managing pupils with LD. Five of the teachers who responded said that the training was adequate while the rest felt that the training was either inadequate or very inadequate. The efficacy of the reported methods of teaching pupils with LD could only be established through further studies that will involve lesson observations among other techniques. In the process of trying to manage pupils with LD, schools faced a number of challenges. The challenges that were reported by both head teachers and standard 3 teachers are summarized in the Table 4.13.
Table 4.13: Challenges faced in the provision of learners with LD

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Head teachers</th>
<th>standard 3 teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Responses</td>
<td>%</td>
</tr>
<tr>
<td>Inability to diagnose cases</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>lack of special education teachers</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>No time due to emphasis on examinations</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>Un-cooperative parents</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>Large class sizes</td>
<td>4</td>
<td>80</td>
</tr>
</tbody>
</table>

Table 4.13 reveals that the most frequently reported challenges were lack of time due to emphasis on examinations (40% of head teachers and 57.1% of standard 3 teachers) and un-cooperative parents (80% of head teachers and 14.3% of standard 3 teachers) followed by large class sizes (80% of head teachers and 14.3% of standard 3 teachers). Although inability to diagnose cases was reported by only 40% of head teachers and 14.3 of standard 3 teachers, and lack of special education teachers (20%of head teachers and 28.6% of standard 3 teachers), these may be the most serious challenges facing schools in the management of LD. It would be hoped that schools with special needs teachers may be better placed to identify and assist children with LD.

To address the challenges faced in the process of providing for learners with LD, the respondents reported twelve (12) different ways as shown in Table 4.14.
Table 4.14: How the challenges faced are being addressed

<table>
<thead>
<tr>
<th>Responses</th>
<th>Head teachers</th>
<th>Standard 3 teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Responses %</td>
<td>Responses %</td>
</tr>
<tr>
<td>Use of special education teachers to diagnose learners with special needs</td>
<td>1, 20</td>
<td>-</td>
</tr>
<tr>
<td>Severe LD cases are handled by special education teachers</td>
<td>1, 20</td>
<td>-</td>
</tr>
<tr>
<td>Giving individual attention</td>
<td>2, 40</td>
<td>1, 14.3</td>
</tr>
<tr>
<td>Referring some for assessment</td>
<td>1, 20</td>
<td>1, 14.3</td>
</tr>
<tr>
<td>Peer tutoring</td>
<td>2, 40</td>
<td>-</td>
</tr>
<tr>
<td>Remedial classes</td>
<td>1, 20</td>
<td>1, 14.3</td>
</tr>
<tr>
<td>Motivation</td>
<td>1, 20</td>
<td>-</td>
</tr>
<tr>
<td>Guidance and counselling</td>
<td>1, 20</td>
<td>-</td>
</tr>
<tr>
<td>Involving parents in assisting the pupil</td>
<td>2, 40</td>
<td>1, 14.3</td>
</tr>
<tr>
<td>Asking parents to allow their children time for extra tuition</td>
<td>-</td>
<td>2, 28.6</td>
</tr>
<tr>
<td>Seeking opinions of colleagues and stakeholders</td>
<td>-</td>
<td>2, 28.6</td>
</tr>
<tr>
<td>Giving simpler tasks</td>
<td>-</td>
<td>1, 14.3</td>
</tr>
</tbody>
</table>

As can be seen from Table 4.14, there was consensus between head teachers and standard 3 teachers in some cases. However, head teachers reported general methods of managing learners in classrooms (such as peer tutoring, individualized attention, motivation, guidance and counselling and asking parents to assist their children) while standard 3 class teachers mentioned more specialized approaches of providing for children with special needs (including consulting with other teachers and referring some pupils for assessing).

That one head teacher mentioned that severe LD cases are handled by special education teachers could confirm presence of a special needs teacher in that school. However, it is probable that not many public primary schools in Kenya have special needs teachers. A close analysis of the ways reported by either head teachers and teachers separately reveal that whereas standard 3 teachers gave practical approaches applicable to a class room situation, Head teachers reported general methods. Despite
the reported ways of managing LD cases in schools, the actual practice can only be ascertained by specific investigations.

4.5 Research Question 5: What further measures can be taken to manage the problem of Learning Disabilities among Standard Three Primary School Pupils in Starehe Division of Nairobi Province?

The Head teachers were asked to state ways that would make teachers more effective in assisting learners with LD in the schools and the Table 4.15 summarizes the head teachers’ responses.

**Table 4.15: Head teachers’ suggested ways of making teachers more effective in assisting learners with LD**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular in-servicing of all teachers on LDs</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>Teacher curriculum to include more Special Education units</td>
<td>3</td>
<td>60</td>
</tr>
<tr>
<td>Hire specialists in schools</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Reduced workload</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

Table 4.15 shows that head teachers felt that LD can be managed more effectively if class teachers can be empowered. Four of the five head teachers suggested that teachers should be given regular in-servicing on LD while three of them felt that more Special Education units should be included in the Teacher curriculum. Hiring of specialists and reducing the workload of class teachers were reported by one head teacher each as strategies of enabling class teachers to be more effective in managing LD in schools.

To corroborate the responses received by head teachers and standard 3 class teachers, the researcher required them to respond to the question “What can be done differently
to help pupils with LD improve their academic performance?” The respondents gave
the following recommendations in Table 4.16.

**Table 4.16: What can be done differently to enable pupils with LD improve in their Academic**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Head teachers</th>
<th>Class 3 Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce teachers workload to enable them have enough time to assist pupils with LD</td>
<td>2 40</td>
<td>- -</td>
</tr>
<tr>
<td>Use of concrete learning aids</td>
<td>1 20</td>
<td>1 14.3</td>
</tr>
<tr>
<td>Use of mnemonics to boost remembrance/memory</td>
<td>1 20</td>
<td>- -</td>
</tr>
<tr>
<td>Early identification of LD for early interventions</td>
<td>1 20</td>
<td>- -</td>
</tr>
<tr>
<td>Avoid labelling of children to avoid self fulfilling prophecy</td>
<td>1 20</td>
<td>- -</td>
</tr>
<tr>
<td>Show LD children a lot of love/acceptance/encouragement so as to improve their self-esteem</td>
<td>2 40</td>
<td>1 14.3</td>
</tr>
<tr>
<td>Schools to be provided with a special education teacher</td>
<td>1 20</td>
<td>3 42.9</td>
</tr>
<tr>
<td>In-service teachers on provision for pupils with LD</td>
<td>2 40</td>
<td>1 14.3</td>
</tr>
<tr>
<td>Recommend medical tests for serious cases</td>
<td>2 40</td>
<td>- -</td>
</tr>
<tr>
<td>Creating of awareness on special education</td>
<td>1 20</td>
<td>- -</td>
</tr>
<tr>
<td>Offer one lesson a week for remediation of LD</td>
<td>1 20</td>
<td>- -</td>
</tr>
<tr>
<td>Do away with special units and accommodate pupils with LD in regular classrooms</td>
<td>2 40</td>
<td>- -</td>
</tr>
<tr>
<td>Curriculum should accommodate LD cases</td>
<td>1 20</td>
<td>- -</td>
</tr>
<tr>
<td>Should be paired with able learners</td>
<td>- -</td>
<td>3 42.9</td>
</tr>
<tr>
<td>Parents to be more involved</td>
<td>- -</td>
<td>2 28.6</td>
</tr>
<tr>
<td>Giving them simple activities and more attention</td>
<td>- -</td>
<td>2 28.6</td>
</tr>
</tbody>
</table>

Table 4.16 shows the sixteen different ways of managing LD that were suggested by head teachers and the standard 3 class teachers. An analysis of the suggestions shows that whereas standard 3 teachers proposed on-the-spot remediation strategies, head teachers proposed ways to do with administrative and policy issues, which can only be implemented in the long run. These include; doing away with special units and accommodating pupils with LD in regular classrooms, giving pupils with LD emotional support, in-servicing teachers on provision for pupils with LD, medical tests for serious cases, offering one lesson a week for remediation of pupils with LD and reducing teachers’ workload to enable them have enough time to assist pupils.
with LD. On the other hand, standard 3 teachers reflected a deeper understanding of
LD in schools when they suggested methods such as using of concrete learning aids,
providing schools with special education teachers, pairing pupils with LD with able
learners, involving parents and giving affected learners simple activities and more
attention. The differences observed between the head teachers responses versus the
standard 3 teachers suggest that the head teachers may not be fully aware of the
challenges faced by the pupils hence the suggestion of long term measures. While on
the other hand, the standard 3 teachers who work with these pupils on a daily basis
may have diagnosed their unique challenges and were able to come up with practical
measures that work in a classroom situation. The divergent proposals on how LD is to
be managed in schools calls for advocacy efforts among all education stakeholders at
the sub-national levels to ensure awareness of the challenge.
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Introduction
The purpose of this study was to establish the nature and prevalence of learning disabilities among the standard three primary school pupils in Starehe division of Nairobi province. This chapter summarizes the findings, gives the conclusion and recommendations of the study as well explaining the implications of the findings. In addition to making future projection based on the study, this chapter also indicates further research areas.

5.1 Summary of Research Findings
As per the study objectives, the major findings of this study include the following:

   a. Identify the learners with learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province.

The study could not conclusively establish children with LD. However, based on the screening criteria, the 58 (43.0%) pupils who failed had a high risk of having a learning disability. From the pupil tests, the study found that all the 30 (100%) pupils failed English, while 19 (63.3%) failed Math, suggesting that they could be having LD. Overall, it was found that there were more boys (53.5%) with a high risk of having a learning disability than girls (31.3%).

   b. Categorize the nature of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province.

Though the characteristics of pupils with LD varied from one school to another, the screening criteria revealed that verbal learning was a major deficit. Most pupils had
difficulties in the English and Math tests. The common types of errors noted in English include; poor visual-motor coordination, difficulty copying accurately from a model, spacing of letters and words, letter and word reversals, poor handwriting, some repetition of sentences, omission of some words and letters, overprinting to correct mistakes, grammar mistakes (punctuations, spellings and capitalization), inadequate expression of ideas and vocabulary, poor organizational skills, unreadable letters and words, non-attempt or slowness in completing work. While in Math most pupils totally failed in items that tested their skills in spatial order & relationships, division, time and money.

c. Determine the prevalence of learning disabilities among standard three pupils in Starehe Division of Nairobi province.

Head teachers reported that out of 315 standard three pupils, 29 of them (9.2%) had LD. The corresponding number reported by standard 3 teachers was 55 (17.5%). It was found that some schools had more pupils with a high risk of LD than others with the schools bordering Majengo slum having the majority of cases.

d. Establish the measures that were being undertaken to assist standard three primary school pupils with learning disabilities in Starehe Division of Nairobi Province.

As a result of challenges faced by teachers’ in the process of providing for pupils with a high risk of LD, they adopted a wide range of approaches to assist them. Some of the approaches included pairing learners with able peers’, individualized attention, use of relevant teaching, simpler tasks and remediation. However, the degree of
effectiveness of the mitigation measures that were in place could not be ascertained by this study.

e. Make appropriate recommendations on what can be done to manage the problem of learning disabilities among standard three primary school pupils in Starehe Division of Nairobi Province.

In order to better manage the problem of LD in primary schools, head teachers felt that teachers would be more effective in assisting learners with LD through regular in-servicing of all teachers on LD. Teachers proposed on-the-spot remediation ways which are immediate, while head teachers proposed ways to do with administrative and policy issues as further measures to improve the management of LD cases and improve their academic performance. Apart from hiring specialists in schools and reducing workloads for teachers to enable them provide individualized attention to the affected children, respondents also suggested that teacher curriculum should be strengthened by including more Special Education units.

5.2 Implications of the Findings

Going by the scores from the pupil rating scale and the pupil tests, pupils could be leaving lower primary without basic skills in reading, writing and arithmetic, which would ultimately affect their learning outcomes. This means that the national goals of education may not be achieved and the various international conventions such as, Education for All (EFA) and the Millennium Development Goals (MDGs).

5.3 Conclusion

From the findings, it can be concluded that there are a number of points pertaining to the nature and prevalence of LD among standard 3 pupils. The condition affects quite a significant number of pupils, thus making it difficult for them to master the basic
skills in reading, writing and arithmetic. Without adequate literacy (reading and writing) skills pupils will be unable to learn other subjects in the school curriculum. Teachers are not adequately prepared to attend to these pupils, hence do little to accommodate their learning needs. Therefore, it would appear that pupils with LD may not be benefiting from the Free Primary Education programme even as the country strives to attain Education for All (EFA) goal.

5.4 Recommendations
From the findings, this study therefore recommends that:

1. Intervention measures should therefore dwell on verbal learning (Auditory comprehension and memory and spoken language).

2. Stakeholders should develop an operational definition of LD and objective diagnostic criteria in Kenya and sensitize all stakeholders on the presence of pupils with LD and ways of managing the same.

3. There should be regular in-servicing of all teachers to equip them with ways and means of assisting learners with LD to realize their potential.

4. Teacher curriculum should include more Special Education units so as to make teachers more effective in assisting learners. This will ensure that teachers in regular primary schools are sufficiently trained so as to equip them with the requisite skills needed to address the needs of learners with LD.

5. With the support of all education stakeholders, the government should expand infrastructure to employ more special education teachers in urban settings to cope with rapid urbanization and to create opportunities for disadvantaged urban children to access quality education.

6. Quality education is the sixth goal of EFA, and after a period of focus on access and implementation of Free Primary Education, the government and other
education stakeholders should spend more resources on monitoring the quality of education being offered to children with special needs and disabilities.

7. On-going assessment and tracking system for analyzing pupil’s academic progress especially in the area of basic reading, writing and arithmetic in lower primary should be strengthened to ensure that all learners gainfully participate in formal education regardless of whether they have disabilities or not.

8. The government should spearhead and expedite the implementation of the National policy on special education so as to cater for the needs of all categories of learners with special needs in the country.

9. Given that currently special education programmes in Kenya are highly skewed towards the four traditional categories (Visual impairment, Hearing impairment Physical handicap and the mental handicap) to the total neglect of many other children including those with LD, the Ministry of Education should formulate policies that will address provision for learners with LD.

5.5 Further Research Recommended
Owing to resource constraints, this study was conducted in few sampled schools of one educational Division in Nairobi Province. In order to gain more insights into the extent of the LD affecting learners in Kenya, it is recommended that:

1. This study should be replicated in other provinces in the country in order to give a general picture of the nature and prevalence of learners with LD in the whole country.

2. A major survey should be conducted with a view to exploring the teaching-learning of learners with LD in an inclusive set up.

3. A study should be carried out on the perceptions of both the head teachers and class teachers about learners with LD.
4. A comprehensive study should be conducted focusing on talents that learners with LD could possess which are not well represented in the school curricula. Some learners with LD possess superior abilities in other areas such as music, athletics, or art which need to be nurtured.
REFERENCES


Jomo Kenyatta Foundation.


Appendix 1: Pupil Rating Scale to filled by class 3 teachers

Serial number-----

Directions for use of the scale

Only about 10 minutes is required to rate each pupil. The basic requirements are that the teacher should have ample opportunity to observe the pupils who are to be evaluated. The teacher should have had at least one month of sufficient contact with each pupil. There are five (5) observational factors with twenty-four (24) items rated on a five (5)-point scale with 3 as the average score. Below average ratings receive scores of 1 or 2, and above average ratings receive scores of 4 or 5. The scores representing the ratings for each item should be circled and then added to make the total score.

Gender____________ Age__________

Rate the child on the following behavioural characteristics:

1. AUDITORY COMPREHENSION AND MEMORY

<table>
<thead>
<tr>
<th>COMPREHENDING WORD MEANINGS</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely immature level of understanding</td>
<td>1</td>
</tr>
<tr>
<td>Fails to grasp simple word meaning, misunderstands words at grade level</td>
<td>2</td>
</tr>
<tr>
<td>Good grasp of vocabulary for age and grade</td>
<td>3</td>
</tr>
<tr>
<td>Understands all grade-level vocabulary as well as higher-level word meanings</td>
<td>4</td>
</tr>
<tr>
<td>Superior understanding of vocabulary; understands many abstract word</td>
<td>5</td>
</tr>
</tbody>
</table>
**FOLLOWING INSTRUCTION**

Unable to follow instructions; always confused 1

Usually follows simple instructions but often needs individual help 2

Follows instructions that are familiar and not complex 3

Remembers and follows extended instruction 4

Unusually skilful in remembering and following instructions 5

**COMPREHENDING CLASS DISCUSSIONS**

Unable to follow and understand class discussion; always inattentive 1

Listens but rarely understands well; mind often wanders 2

Listens and follows discussions according to age and grade 3

Understands well; benefits from discussions 4

Becomes involved; shows unusual understanding of material 5

**RETAINING INFORMATION**

Almost total lack of recall; poor memory 1

Retains simple ideas and procedures if repeated 2

Average retention of materials, adequate memory for age and grade 3

Remembers information from various sources; good immediate and delayed recall 4

Superior memory for details and contents 5

**SCORE**

______
II. SPOKEN LANGUAGE

VOCABULARY

Always uses immature, poor vocabulary 1
Limited vocabulary, primarily simple nouns; few precise, descriptive words 2
Adequate vocabulary for age and grade 3
Above-average vocabulary; uses numerous precise, descriptive words 4
High-level vocabulary; always uses precise words; conveys abstractions 5

GRAMMAR

Always uses incomplete sentences with grammatical errors 1
Frequently uses incomplete sentences; numerous grammatical errors 2
Uses correct grammar; few errors in use of prepositions, verb tense, pronouns 3
Above average oral language; rarely makes grammatical errors 4
Always speaks in grammatically correct sentences 5

WORD RECALL

Unable to recall the exact word 1
Often gropes for words to express himself/herself 2
Occasionally searches for correct word; recall adequate for age and grade 3
Above average; rarely hesitates on a word 4
Always speaks well; never hesitates or substitutes 5

STORYTELLING- RELATING EXPERIENCES

Unable to tell a comprehensible story 1
Difficulty relating ideas in a logical sequence 2
Average; adequate for age and grade 3
Above average; uses logical sequence  4
Exceptional; relates ideas in a logical, meaningful manner  5

EXPRESSION OF IDEAS
Unable to relate isolated facts  1
Difficulty relating isolated facts; incomplete and scattered ideas  2
Usually relates facts meaningfully; relates facts adequately for age and grade  3
Above average; relates facts and ideas well  4
Outstanding; always relates facts appropriately  5

SCORE

III. ORIENTATION

JUDGING TIME
Lacks grasp of meaning of time; always late or confused  1
Fair time concept; tends to dawdle; often late  2
Average time judgment; adequate for age and grade  3
Prompt; late only with good reason  4
Skilful in handling schedules; plans and organize well  5

SPATIAL ORIENTATION
Always confused; unable to navigate around school, playground, or neighbourhood  1
Frequently gets lost in relatively familiar surroundings  2
Can manoeuvre in familiar locations, average ability for age and grade  3
Above average; rarely lost or confused  4
Adapts to new situations and locations; never lost  5
**JUDGING RELATIONSHIPS (BIG-LITTLE, FAR-CLOSE, HEAVY-LIGHT)**

- Judgments always inadequate 1
- Makes elementary judgments successfully 2
- Average judgments for age and grade 3
- Accurate but does not generalize to new situation 4
- Unusually precise judgments; generalizes to new situations and experiences 5

**KNOWING DIRECTIONS**

- Highly confused; unable to distinguish right-left, north-south east-west 1
- Sometimes exhibits confusion 2
- Average; uses right-left, north-south-west 3
- Good sense of direction; seldom confused 4
- Excellent sense of direction 5

**SCORE _______

**IV. MOTOR COORDINATION**

**GENERAL COORDINATION (WALKING, RUNNING, HOPPING, CLIMBING)**

- Very poorly coordinated; clumsy 1
- Below average; awkward 2
- Average for age; graceful 3
- Above average; does well in motor activities 4
- Excels in coordination 5

**BALANCE**

- Very poor balance 1
- Below average ability; falls frequently 2
- Average ability for age; adequate equilibrium 3
Above average ability in activities requiring balance 4
Excels in balance 5

MANUAL DEXTERITY

Very poor in manual dexterity 1
Awkward; below average in dexterity 2
Adequate dexterity for age; manipulates well 3
Above-average dexterity 4
Excels; readily manipulates new equipment 5

SCORE __________

V. PERSONAL – SOCIAL BEHAVIOR

COOPERATION

Continually disrupts classroom; unable to inhibit responses 1
Frequently demands attention; often speaks out of turn 2
Waits his/her turn; average for age and grade 3
Above average; cooperates well 4
Excellent ability; cooperates without adult encouragement 5

ATTENTION

Never attentive; very distractible 1
Rarely listens; attention frequently wanders 2
Attention adequate for age and grade 3
Above average in attention; almost always attends 4
Always attends to important aspects; long attention span 5
### ORGANISATION

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly disorganized; very slovenly</td>
<td>1</td>
</tr>
<tr>
<td>Often disorganized in manner of working; inexact, careless</td>
<td>2</td>
</tr>
<tr>
<td>Maintains average organization of work; careful</td>
<td>3</td>
</tr>
<tr>
<td>Above-average organization; organizes and completes work</td>
<td>4</td>
</tr>
<tr>
<td>Highly organized; completes assignments in meticulous manner</td>
<td>5</td>
</tr>
</tbody>
</table>

### NEW SITUATIONS (PARTIES, TRIPS, CHANGES IN ROUTINE)

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Becomes extremely excitable, totally lacking in self-control</td>
<td>1</td>
</tr>
<tr>
<td>Often overreacts; finds new situation disturbing</td>
<td>2</td>
</tr>
<tr>
<td>Adapts adequately for age and grade</td>
<td>3</td>
</tr>
<tr>
<td>Adapts easily and quickly with self-confidence</td>
<td>4</td>
</tr>
<tr>
<td>Excellent adaptation; shows initiative and independence</td>
<td>5</td>
</tr>
</tbody>
</table>

### SOCIAL ACCEPTANCE

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoided by others</td>
<td>1</td>
</tr>
<tr>
<td>Tolerated by others</td>
<td>2</td>
</tr>
<tr>
<td>Liked by others; average for age and grade</td>
<td>3</td>
</tr>
<tr>
<td>Well liked by others</td>
<td>4</td>
</tr>
<tr>
<td>Sought by others</td>
<td>5</td>
</tr>
</tbody>
</table>

### RESPONSIBILITY

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rejects responsibility; never initiates activities</td>
<td>1</td>
</tr>
<tr>
<td>Avoid responsibility; limited acceptance of role for age</td>
<td>2</td>
</tr>
<tr>
<td>Accepts responsibility; adequate for age and grade</td>
<td>3</td>
</tr>
<tr>
<td>Above average in responsibility; enjoys responsibility; initiates and volunteers</td>
<td>4</td>
</tr>
<tr>
<td>Seeks responsibility; almost always takes initiative with enthusiasm</td>
<td>5</td>
</tr>
</tbody>
</table>
### COMPLETION OF ASSIGNMENTS

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never finishes even with guidance</td>
<td>1</td>
</tr>
<tr>
<td>Seldom finishes even with guidance</td>
<td>2</td>
</tr>
<tr>
<td>Average performance; follows through on assignments</td>
<td>3</td>
</tr>
<tr>
<td>Above-average performance; completes assignments without urging</td>
<td>4</td>
</tr>
<tr>
<td>Always completes assignments without supervision</td>
<td>5</td>
</tr>
</tbody>
</table>

### TACTFULNESS

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always rude</td>
<td>1</td>
</tr>
<tr>
<td>Usually disregards feelings of others</td>
<td>2</td>
</tr>
<tr>
<td>Average tact; behaviour occasionally inappropriate socially</td>
<td>3</td>
</tr>
<tr>
<td>Above average in tactfulness; behaviour rarely inappropriate socially</td>
<td>4</td>
</tr>
<tr>
<td>Always tactful; behaviour never socially inappropriate</td>
<td>5</td>
</tr>
</tbody>
</table>

**SCORE**

[Adopted from Myklebust (1981)]
SUMMARY OF SCORES

AUDITORY COMPREHENSION

SPOKEN LANGUAGE  _______ VERBAL SCORE  ______

ORIENTATION

MOTOR COORDINATION

PERSONAL SOCIAL BEHAVIOUR  _______ NONVERBAL SCORE  ______

TOTAL SCALE SCORE ______
Appendix 2: Questionnaire for head teachers

Instructions

This questionnaire has been designed to seek information on the nature and prevalence of learning disabilities (L.D) among class 3 pupils in Starehe Division in Nairobi province. Your responses will be treated with uttermost confidence and data collected will be used for the stated purpose of research. In order to ensure utmost privacy, do not write your name on any part of the questionnaire. Please complete this questionnaire by providing your honest responses in appropriate codes and in the spaces provided. You will notice that in some cases, more than one answer may be chosen. Circle appropriate responses where possible.

1. Name of school……………………………………………………………………


4. Indicate the school enrolment in the table below:

<table>
<thead>
<tr>
<th></th>
<th>Std 1</th>
<th>Std 2</th>
<th>Std 3</th>
<th>Std 4</th>
<th>Std 5</th>
<th>Std 6</th>
<th>Std 7</th>
<th>Std 8</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
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5. Identify ALL the categories of special needs children in your school. [1. Visually impaired. 2. Hearing Impaired. 3. Physically handicapped. 4. Learning disabilities. 5. Emotional and behaviour disorders. 6. Other (please specify)…………………………………………………………………………………]

6. What do you understand by the term “Learning Disability” (LD)?…………………………………………………………………………

7. How many learners with LD do you have in each class?

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8. Briefly state some of the unique characteristics of pupils with learning disabilities (LD).

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9. In terms of severity, how can you rate the cases of LD in your school? [1. Very serious. 2. Serious. 3. Not Serious. 4. No LD].

10. Which of the following approaches are used to assist learners with LD in your school? [1. Pairing learner with able peers. 2. Given remediation. 3. Individualized attention. 4. Given simpler tasks. 5. Breaking tasks. 6. Use relevant teaching aids. 7. Extra time for tests. 8. No special attention. 9. Other (specify)………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..………………..……... ...


12. Please give reasons for your answer in 11 above.

13. Which of the following ways would make teachers more effective in assisting learners with LD in the school? [1. Regular in-servicing of all teachers on special education methods. 2. Teacher curriculum to include more special education units. 3. Hire specialists in schools. 4. Other (specify)…………………………………]

14. In what way(s) are parents involved in the management of LD cases in your school? [1. Supervision of homework. 2. Provision of alternative materials. 3. Discussing child’s performance with class teacher. 4. Parents not involved at all. 5. Other (specify)…………………………………………………]

15. What challenges do you face in handling learners with LD in your school? [1. Inability to diagnose cases. 2. Lack of special education teachers. 3. No time due to emphasis on examinations. 4. Un-cooperative parents. 5. Large class sizes. 5. Other (specify)………………………………………………………………………]

16. How do you address the challenges identified in 15 above?

17. What can be done differently to improve the management of LD cases and improve the academic performance of pupils with learning LD in your school?

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........................................................................................................................................

Thank you for participating in the study
Appendix 3: Standard 3 Class teacher questionnaire

Instructions

This questionnaire has been designed to seek information on the nature and prevalence of learning disabilities (L.D) among class 3 pupils in Starehe Division in Nairobi province. Your responses will be treated with utmost confidence and data collected will be used for the stated purpose of research. In order to ensure utmost privacy, do not write your name on any part of the questionnaire. Please complete this questionnaire by providing your honest responses in appropriate codes and in the spaces provided. You will notice that in some cases, more than one answer may be chosen. Circle appropriate responses where possible.

1. Name of school………………………………………………………………………………


4. Identify ALL the categories of special needs children in your class. [1. Visually impaired. 2. Hearing Impaired. 3. Physically handicapped. 4. Learning disabilities. 5. Emotional and behaviour disorders. 6. Other (Please specify)…………………………………………………………………………

5. What do you understand by the term “Learning Disabilities (LD)?

6. In terms of severity, how can you describe the LD cases in your class? [1. Very serious. 2. Serious. 3. Not Serious. 4. No LD].

7. How many learners with LD do you have in your class (Indicate number of Female and Male)

8. List the unique characteristics of learners with LD observed in your class.

9. Which of the following approaches do you use to assist learners with LD in your class? [1. Pairing learner with able peers. 2. Given remediation. 3. Individualized attention.4. Given simpler tasks. 5. Breaking tasks. 6. Use relevant teaching aids. 7. Extra time for tests. 8. No special attention. 9. Other (specify)………………………….

10. In what way(s) are parents involved in the management of LD cases in your class? [1. Supervision of homework. 2. Provision of alternative materials. 3. Discussing child’s performance with class teacher. 4. Parents not involved at all. 5. Other (specify)………………………….]


12. Please give reasons for your answer in 11 above.

13. What challenges do you face in trying to manage learners with LD in your class? Inability to diagnose cases. 2. Lack of special education teachers. 3. No time due to emphasis on examinations. 4. Un-cooperative parents. 5. Large class sizes. 5. Other specify)………………………………………

14. How do you address the challenges identified in 13 above?

15. What can be done differently to improve the management of LD cases and improve the academic performance of pupils with learning LD in your class?

……………………………………………………………………………………

Thank you for participating in the study.
Appendix 4: Pupils’ tests

Date___________ Name of school_______________ Serial Number_______

a. **English Test**

Gender ________________ Age_________

1. Copy the following story.

Tommy is a beautiful dog. He is two years old. He is black and brown in colour. He always likes playing with me. Tommy likes meat and *ugali*. He does not eat food from strangers. When a new person comes to our house, he barks loudly. During the day, we keep him in a kernel. At night we let him loose.

2. Fill in the missing letters
   
   a) T __ bl __ 
   b) M__ __ze
   c) __ __ hool  
   d) Pe__ c __ l

3. Dictation Exercise

   a) Book   
   b) Picture   
   c) Teacher

Note these words were given to the teacher administering the test.

4. Colour the boxes that have the letters that are alike

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5. Circle the odd one

   Bull, Bow, Pull, Full
   Plum, Peep, Sleep, Keep

6. Write five sentences about yourself.

   Thank you for doing the test
b. Math’s Test

Date___________ Name of school_________________ Serial Number______
Gender___________Age___________

1. a) Fill in the missing numbers

|   | 56 |   | 54 |   | 51 |
---|----|---|----|---|----|

b) Match these sets

\[
\begin{array}{c}
\bigcirc \\
\bigcirc \bigcirc \\
\bigtriangleup \\
\bigtriangleup \bigtriangleup
\end{array}
\]

c) Arrange these numbers in order from the smallest to the largest.

105, 20, 99, 43

2a) Add

\[
5 + 2 = \quad 16 \\
+ 77
\]
b) Take away

\[ 9 - 5 = \square \]

\[ - 38 \]

77

c) Divide

\[ 12 \div 4 = \square \]

\[ 2 \square 24 \]

d) Multiply

\[ 6 \times 4 = \square \]

\[ 2 \times 3 = \square \]

3. Name the shapes

(Star, Rectangle, Circle, Triangle)

4. Mary bought a packet of milk at 22 shillings and a loaf of bread at 25 shillings. How much money did Mary use in total?

5. What is the time?

Thank you for doing the test
MINISTRY OF HIGHER EDUCATION SCIENCE & TECHNOLOGY

Telegrams: "SCIENCE TEC", Nairobi
Telephone: 02-318581
E-Mail: ps@scienceandtechnology.go.ke

When Replying please quote
Ref. MOHEST 13/001/38C 563/2

JOCOO HOUSE "B"
HARAMBEE AVENUE
P.O. Box 9583-00200
NAIROBI

16th September 2008

Grace Kwamboka O. Rasugu
Kenyatta University
P.O. Box 43844
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on, *Nature and Prevalence of Learning Disabilities among Standard Tree Primary School Pupils in Starehe Division of Nairobi Province, Kenya*

I am pleased to inform you that you have been authorized to carry out research in Primary Schools in Starehe Division for a period ending 30th March 2009.

You are advised to report to the Provincial Director of Education Nairobi, and the Head teachers of the Schools you will visit before embarking on your research.

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

M. GATOBU
FOR: PERMANENT SECRETARY
Copy to:

The Provincial Director of Education
Nairobi

The Head teachers
Primary Schools
Starehe Division
Nairobi
CITY EDUCATION DEPARTMENT

GL/NC/141 VOL III/11

22ND SEPTEMBER, 2008

Grace K.O. Rasugu
P.O. Box 43844 - 00100 (G.P.O.)
NAIROBI

RE: AUTHORITY TO CONDUCT RESEARCH IN STAREHE DIVISION

Following your request to be allowed to conduct a research on “Nature and prevalence of Learning Disabilities among STD 3 pupils in Primary Schools”, Your request has been considered & permission has been granted.

This office expects you to submit a copy of your research document on completion.

I wish you success.

TABITHA T. KAMAU
Ag. CHIEF ADVISOR TO SCHOOLS FOR: DIRECTOR OF CITY EDUCATION

cc. - Divisional Advisor - Starehe Division