EFFECTS OF MAINSTREAMING LEARNERS WITH COMMUNICATION DISABILITY AND THEIR EFFECTS ON EDUCATIONAL PERFORMANCE IN PUBLIC PRIMARY SCHOOLS IN KERICHO COUNTY, KENYA

PAUL KIPKORIR MUTAI
E83/20598/2010

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR AN AWARD OF A DOCTOR OF PHILOSOPHY DEGREE IN THE DEPARTMENT OF SPECIAL EDUCATION OF, KENYATTA UNIVERSITY

MAY, 2018
DECLARATION

I declare that this research thesis is my original work and has not been presented for a degree in any other University or any other award. It has been complemented by the references duly acknowledged. Where the text, data, graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited in accordance with the anti-plagiarism regulations.

Signature
Paul Kipkorir Mutai
E83/20598/1001/2010

Date 14/5/2018

This research thesis has been submitted for examination with our approval as university supervisors:

Signature
Prof. Geoffrey Karugu
Department of Special Needs Education
Kenyatta University

Date 15/5/2018

Signature
Dr. Beatrice Bunyasi Awori
Department of Special Needs Education
Kenyatta University

Date 15/5/2018
DEDICATION

To my loving grandmother Roda, who through her encouragement, gave me the strength to keep the candle burning even during my weakest moments. My father Daniel and my mother Esther whose foresight in education and constant encouragement have brought me to this level of education and to my beloved wife Everlyne and our loving children Joyce, Patrick, Carolyne and Bryne for their unending moral support and encouragement.
ACKNOWLEDGEMENTS

I wish to express my sincere appreciation to all individuals whose contribution made the completion of this thesis possible. First and foremost, my appreciation and gratitude go to my supervisors, Professor Geoffrey K. Karugu and Dr. Beatrice Bunyasi Awori for the scholarly guidance, assistance, tireless devotions and encouragement throughout the course of my studies. My special thanks go to my lecturers in the department of special Education at Kenyatta University; their encouragement particularly to the chairperson Dr. Nelly Otube for the moral constant reminds and encouragement. Also to Professor Eunice Alade who encouraged me through email messages on the progress of my study, my special thanks goes to the learners and teachers in the schools where I conducted my study. They were sincere and very supportive.

Thanks to Professor Misia Kadenyi whose advice and encouragement for the initiation of the study stands. Appreciation goes to my friends Dr. Alexander Rono, Professor Ogola (Dean School education of Maasai Mara University) Gladys Ngao (Chairperson School of Education Maasai Mara University) Mr. Naftali Rop (Department of Special Education). Martha (Copylane Cyber and Gilbert Tonui who have been patient in availing information and assistance whenever requested and who have also offered the moral support throughout the entire program, just to name a few. Finally, I wish to express my personal gratitude to my loving wife Everlyne and our sons and daughters Joyce, Patrick, Carolyne and Bryne for their special moral encouragement and financial support during time of study.
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ABSTRACT

This study sought to establish communication disability and their effects on educational performance of learners in mainstreamed public primary schools in Kericho County, Kenya. The study was guided by five objectives, these are to find out how learners with communication disability are mainstreamed in public primary schools, school’s policies on mainstreamed learners’ with communication disability in public primary schools, establish the teachers’ attitudes towards mainstreamed learners with communication disability in public primary schools, evaluate intervention strategies used to support learners with communication disability in public primary schools and determine the effect of mainstreaming learners with communication disorders on educational performance in public primary schools. The study was based on the Albert Bandura’s social learning theory which states that learning, both cognitive and behavioral, takes place through the observation, modeling, and imitation of others. This theory proposes that academic and behavior modeling takes place through verbal instruction, live modeling by a person, and symbolic modeling through four steps: attention, retention, reproduction, and motivation. Questionnaires were the main instruments of data collection. There was a questionnaire for head teachers, one for teachers and a different questionnaire for learners with CDs. Document analysis guide was used for collecting data on learners’ performance in the year 2017. The study yielded both quantitative data and qualitative data. Qualitative data was analyzed using descriptive statistics; frequencies, percentages and the finding presented on pie charts, bar graphs and tables. Quantitative data was then analyzed using one-way ANOVA as it yielded a 2x3 factorial design. The study also established that teachers adopted various teaching strategies to assist learners with CD. Findings from the study also showed that schools were less equipped with teaching and learning resources for use with learners with CD and this affected their educational performance. The study recommends the training of all teachers to be able to teach learners with CD. The KICD should develop and disseminate teaching and learning resources specifically made for learners with CDs. The study suggests further research to be conducted to compare the effect of learners with CD in mainstream education on the performance of learners without CD.
CHAPTER ONE
INTRODUCTION

1.0 Introduction
This chapter introduces: background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, research hypothesis, significant of the study, limitations and delimitations of the study, assumptions of the study, theoretical and conceptual frame work of the study and operational definition of terms.

1.1 Background to the Study
A communication disability (CD) is an impairment in the ability to receive, send, process, and comprehend concepts or verbal, nonverbal and graphic symbol systems. A communication disability may be evident in the processes of hearing, language, and/or speech. A communication disability may range in severity from mild to profound. It may be developmental or acquired. Individuals may demonstrate one or any combination of communication disabilities. A communication disability may result in a primary disability or it may be secondary to other disabilities (American Speech-Language-Hearing Association, 1993).

Lamport, Graves, & Ward, (2012) while citing Wiebe & Kim, (2008) reported that mainstreaming is a basic model where both learners with CD and learners without CD are educated within the same classroom. Teachers may encounter a variety of situations in the classroom especially when dealing with learners with CD. These learners are placed in the regular education classroom and are involved in instructional settings that may have the general education teacher, the special...
education teacher, the teacher assistant and possibly parental or community volunteers. The most popular mainstreaming method seems to be a co-teaching model. “Co-teaching may be defined as the partnership of a general education teacher and a special education teacher or another specialist for the purpose of jointly delivering instruction to a diverse group of students, including those with communication disabilities or other special needs, in a general education setting, and in a way that flexibly and deliberately meets their learning needs” (Friend, Cook, Chamberlain, & Shamberger, 2010, cited in Lamport et al., 2012).

Mainstreaming learners has brought about a new challenge for teachers. A typical class may consists of learners with CD of various categories like speech disability, language disability, hearing disability, central auditory processing disability and many more. With such a diverse combination, classroom management, along with focusing on delivering a differentiated instruction that targets each learner individually in the classroom has made a regular education teacher’s job beyond difficult. Because the education systems are calling for schools to improve special education, school systems are turning learners with CD in the mainstream setting, (Lamport et al., 2012). However, the communication disability and its effect on educational performance of learners in mainstream primary schools in Kenya has not been adequately studied in order to establish learners’ difficulties so as to arrest the situation.

The World Report on disability takes a broad emphasis on learners with communication disability. In their paper on the implications of CDs, Wylie, McAllister, Davidson, and Marshall (2013) emphasize the importance of promoting a
broader view of CD. The article by Wylie et al. (2013) outlines an agenda for CD in response to the World Report on disability. An understanding of the numbers of learners with CD and their circumstances can help improve services and remove communication disabling barriers (World Health Organization, 2013). Data on learners with CD are needed in both developed and developing countries since the current estimates are derived primarily from developed countries and from the well-served communities within those countries, (World Health Organization, 2013).

The need for data on CD presents a number of challenges as varying definitions have been used to identify children (Law, Boyle, Harris, Harkness, & Nye, 1998), with different cut-off points being used on CD assessments. For instance, learners with specific language impairment (SLI) most studies have used a wide range of different measures and criteria, from a single assessment, such as receptive vocabulary. Bishop and Edmundson (1987 cited in Sue Roulstone, 2013) identified children as speech and language impaired if any of scores on six speech and language assessment fell more than two standard deviations (SD) below the mean and if more than one score fell below 1 SD below the mean. On the other hand, (Conti-Ramsden, Botting, & Knox, 2001) also use six different assessments, this time to differentiate children with and without ongoing language impairment; they use a cut-off point of 1 SD the mean on any of the six assessments. (McLeod, McAllister, McCormack, & Harrison, 2014) further note that studies of prevalence have used different definitions and different informants.

It is now estimated that over one billion people - 15% of the world’s population - live with some form of disability, and of these, between 110 and 190 million have
significant difficulties in functioning, (World Health Organization, 2013). Though there is a lack of accurate data in this field, the estimated number of learners with disabilities between 0 and 18 years old ranges between 93 million and 150 million, with roughly 5.1% of all children aged 0-14 years (93 million) living with a moderate or severe disability and 0.7%, or 13 million children, living with a severe disability, (World Health Organization, 2013). According to UNICEF, more than 80% of children with disabilities live in developing countries and have little or no access to appropriate services.

Gathering accurate data on CD, especially among learners, has been challenging due to the lack of disability-focused questions in national surveys (such as census), but also cultural conceptions of what constitutes impairment and disabilities. Most of these learners have little or no access to education, and if they do manage to go school, are often amongst the most marginalized and excluded of all groups, and this exclusion can be compounded by gender, age and ethnicity, as well as where the child lives (World Health Organization, 2013).

The Salamanca World Conference on Special Needs Education of the United Nations Educational, Scientific and Cultural Organisation (Singh, 2010) sanctioned the concept of inclusive education and drove the idea that inclusive schooling would effectively eliminate discrimination and achieve equity in education. The concept of inclusion was perceived to be a process to identify and remove barriers and ensure participation and achievement for all learners (Singh, 2010). Since teachers are seen to be central to the implementation of mainstreamed education they need to be developed to be able to deliver multi-level classroom teaching with variations
applicable to individual needs of learners (A. Engelbrecht, Swanepoel, Nel, & Hugo, 2013). This task is complicated by numerous challenges, such as, learners that come communication disability and language barriers (Braccialli et al., 2016). In a diverse classroom teachers also need to deal with differing learning styles and ability levels of CD learners.

Classes with a large number of learners often present disciplinary problems exacerbated by learners with CD which frequently lead to educators lacking the motivation to implement adaptive strategies in considering each learner’s individual learning needs (Engelbrecht et al., 2013). Many teachers are not adequately qualified to cope with the diversity of learning needs and the barriers to learning that occur as a result of these CDs. It is especially important that foundation phase teachers are adequately trained to deal with a variety of CDs to learning because of the impact of learners’ developmental age in this phase (Engelbrecht & Van Deventer, 2013). This requires that teachers’ are able to implement different and appropriate teaching strategies (Davis & Florian, 2004 cited in (Wahl, 2017).

Wahl, (2017) while citing Florian and Black-Hawkins (2011) asserted that mainstreamed education requires dealing with diversity through the differentiation of the curriculum and of teaching methods, as well as of teaching and learning material and assessment tasks. Lesson plans and teaching strategies therefore need to be devised to incorporate multi-level learning, teaching and assessment (Nel & Grosser, 2016). Many teachers develop a store of effective teaching strategies through years of practice. Yet, effective teaching methods are often contained within specific schools or environments and remains undocumented (McMenamin, 2011; SaponShevin, 2007
cited in (Wahl, 2017). One of the objectives of this study was to evaluate intervention strategies used to support learners with CD in mainstreamed public primary schools in Kericho County, in order to inform inclusive classroom training and practices for a broader audience.

Zimbabwe had been seen as exemplary in the education sector, with one of the highest literacy rates in Africa (around 90%). However, there are an estimated 600,000 children with disabilities of school going age in Zimbabwe, of which it is thought that more than half have no access to education (Chakuchichi, 2013). According to (Detrick, Doek, & Cantwell, 1992) teaching learners with special needs in an ordinary classroom is different from the regular program and teachers are often confronted with the question of how to teach these learners. Having been an ordinary classroom teacher, the researcher encountered learners with CD and this difficulty affects all areas of curriculum. These learners often felt humiliated when asked to communicate fluently for example during reading and found themselves unable to pass examination (Farmer, Robertson, Kenny, & Siitarinen, 2007). It was noted that many of the learners were not aware of their problem. Similarly, the investigator did not know the teaching strategies to employ in order to help the learners learn how to read. CD is one of the categories of special needs education that every teacher has to give some extra time for teaching of the learners with CD. Because of this, the researcher wants to study how CD in an ordinary classroom and describe the different approaches and make them available to others. The learner may be expected to underachieve by teachers or parents, and may be ignored by peers. This may create a self-fulfilling prophecy for the child, resulting in actual failure to reach his or her communicative, social, or academic potential (Windsor, 1995).
Kenyan education system has been offering support to only those learners with hearing impairment, visual impairment, physical disability and mental retardation, leaving out other groups like gifted and talented and communication disorders (MOEST 2003; Republic of Kenya, 2005). The researcher notes that the situation of supporting learners with CD has worsened with the implementation of the Free Primary Education programme as most public primary school classes are overcrowded to the extent that learners may not be getting individualized attention. Consequently, learners with CD are mostly affected, as they may not get individualized attention thus exposing them to the risk of dropping out of school early. Kericho Educational, Assessment and Resource Centre, 2014 report indicated a high number of learners with CD was the highest among the learners with disabilities. Table 1.1 below indicate the number of SNE learners assessed between the years 2007-2014 in Kericho County.
Table 1.1: Number of SNE Children Assessed between the Years 2007-2014

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<th>M.C</th>
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<th>H.I</th>
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<th>L.D</th>
<th>EPH</th>
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Source: Kericho Educational, Assessment and Resource Centre, 2014.

KEY
M.C- Mentally Challenged    H.I- Hearing Impairment    C.P- Cerebral Palsy
EPH- Epilepsy    V.I- Visual Important    P.C- Physically challenged    L.D- Learning Difficulties, C.D- Communication Difficulties and M/C- Multiply challenged

Toppelberg and Shapiro (2000), in their 10 year review of empirical studies of communication disability, found undiagnosed CD in community and psychiatric settings to be common. They also found that the identification of CD was helpful in preventing compounded long term behaviour problems in learners. The researcher observes that data may be valuable in understanding the natural history, course and prognosis of CD but no study has been done to establish their availability in Kericho county mainstream primary schools. Therefore the current study sought to establish the effects of CD on educational performance of learners in mainstream primary schools in Kericho County, Kenya.
1.2 Statement of the Problem

As examinations continue to be the primary indicator to measure learner’s performance, emphasis has been placed on the benefits of education in mainstreamed schools for learners with disabilities. Many studies have shown both the academic and social benefits of the mainstream environment on learners with CD. Baker, Wang, and Walberg (1994) in Robinson (2012), cite evidence that "learners with disabilities educated in mainstreamed classes do better academically and socially than comparable learners with CD in non-mainstreamed settings". For instance, deaf schools all over Kenya have performed below average in national examinations and when ranked with other public hearing schools, they are among the bottom last with mean scores as low as 131 out of a possible 500. In the year 2015 KCPE national examination, Kuja School for the deaf, Maseno School for the deaf and Mumias school for the deaf attained mean scores of 151, 131 and 155 respectively and were ranked last in their respective counties, (MoE, 2015).

These results are replicated in deaf schools all over the country and the trend has been an ongoing for years. This has cultivated a culture of failure and acceptance of failure among the deaf learners and the society as a whole. The performance of learners with CD are not known in the national examinations due to mainstreaming. What is only known is that their educational performance improves in a mainstreamed system of education. However, this study focused on communication disability and their effects on educational performance of learners in mainstream public primary schools in Kericho County since most of the learners with CD are in deaf schools but a few are in mainstream schools and the current study addressed this gap.
1.3 Purpose of the Study

The purpose of this study was to establish the effects of mainstreaming learners with communication disability and their effects on educational performance in public primary schools in Kericho County, Kenya.

1.4 Objectives of the Study

i. To find out how learners with communication disability are mainstreamed in public primary schools.

ii. To find out school’s policies on mainstreamed learners’ with communication disability in public primary schools.

iii. To establish the teachers’ attitudes towards mainstreamed learners with communication disability in public primary schools.

iv. To evaluate intervention strategies used to support learners with communication disability in public primary schools.

v. To determine the effect of mainstreaming learners with communication disabilities on educational performance in public primary schools.

1.5 Research Questions

In order to answer the research objectives (i), (ii), (iii) and (iv) above, the following questions in relation to communication disability and their effect on educational performance were utilized for the qualitative study:

i. How learners with communication disability are mainstreamed in public primary schools?

ii. What are the school’s policies on mainstreamed learners’ with communication disability in public primary schools?
iii. What are the teachers’ attitudes towards mainstreamed learners with communication disability in public primary schools?

iv. What intervention strategies are used to support learners with communication disability in public primary schools?

v. What are the effects of mainstreaming learners with communication disability on educational performance in public primary schools?

1.6 Research Hypothesis

In order to respond to the research objectives (v) above, the following research null hypothesis was tested for the quantitative study:

Ho: There is no statistical significant effect of learners with CD on educational performance in mainstream public primary schools.

1.7 Significance of the Study

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

Awareness of the nature of CDs among learners would enable teachers to seek prerequisite skills for effective teaching and learning, hence harnessing the talent of the affected learners and make them more productive in national development. An understanding of the nature of CDs would enable curriculum developers value the
results of the findings in the education and training so as to prepare teachers with relevant skills to manage communication disorders in Kenyan schools. Ultimately, the findings of this study would have implications on national examinations, which should be tailored to meet the needs of learners with communication disorders. Finally, it is anticipated that the findings of this study provides basic data on CDs in mainstream primary schools in Kenya.

1.8 Limitations and Delimitations of the Study

1.8.1 Limitations of the Study

The study was limited to CDs among a cohort of mainstream public primary school learners in Kericho County. Therefore, given that Kericho County, is just one county among the forty seven counties in Kenya, its findings may not necessarily be generalized to the rest of the country. The study was limited by the fact that it was not possible to control some intervening variables for example, variation in the capacity of the teachers due to experience and training. Some have more work experience and can handle the incidences of CDs better than others and therefore generalization of findings to all schools needs to be considered based on this possible diversity.

Data collection of this study relied much on questionnaires, which included self-assessment measures for the teachers. As pointed out by Sharma (2008), research has shown that individuals tend to over-rate themselves on desirable traits and under-rate themselves on undesirable traits. This means that some teachers may overrate their competence in some areas in dealing with communication disorders which may lead to the wrong conclusion about CDs.
1.8.2 Delimitations of the Study

This study was conducted in mainstreamed public primary school, located in Kericho County. Despite the fact that there are many mainstream schools in Kenya, this study focused on selected schools in Kericho County because the region is geographically vast, yet the experiences within this target population are similar to those of learners with CD in this region as well as other areas of Kenya. Despite the fact that there are learners with CD whose educational performance is lower than average, this study focused on the educational performance of learners with CD because of their disability which compounds the challenges they face in accessing education unlike other learners without CDs. Also this was an area of interest due to the cultural and societal stereotypes held against learners with CD in the region.

1.9 Assumptions of the Study

The study was carried out on the basis of the following assumptions:

1. That all respondents would cooperate and provide reliable responses.
2. That all learners to be selected for the study were homogenous in terms of teaching time and syllabuses.
3. That there were learners with communication disorders in mainstream primary schools in Kericho County.

1.10 Theoretical Framework of the Study

This study was guided by the social learning theory, which enhances an understanding of communication disabilities. Within the school setting, all learners are expected to learn academic concepts as well as behavioral skills. Because both of these areas
often times are potential barriers for learners with CD, they can develop low self-esteem issues which hinder them socially.

“These learners with CD, due to their histories of repeated failure at school, are likely to feel as though academic outcomes are beyond their control, thus perceiving themselves as less competent than their peers” (Ntshangase, Mdikana, & Cronk, 2008, cited in Lamport, 2012). It is important that academic content and social skills are addressed within the classroom.

Albert Bandura developed the social learning theory which states that learning, both cognitive and behavioral, takes place through the observation, modeling, and imitation of others. “The main characteristic of the social learning theory, are the centrality of observational learning, a causal model that involves an environment-person-behavior system, cognitive contributions, and self-efficacy and agency” (Best, Miller, & Naglieri, 2011). This theory proposes that academic and behavior modeling takes place through verbal instruction, live modeling by a person, and symbolic modeling through four steps: attention, retention, reproduction, and motivation. Mainstreamed classes capitalize on this theory because learners with CD can observe their non-disabled learners and their teachers and then imitate them both academically and behaviorally. Social learning theory combined with Freudian learning principles focus on teaching learners important real-life social behaviors (Best et al., 2011). As mentioned before, advocates for mainstreaming thought this course of action would help CD learners by emerging them into a learning community that mimics a mini society. Through this learning community learners with CD are able to interact with their peers and develop friendships.
When included in the mainstream classroom, learners with CD have the opportunity to see their peers working habits, and they can model those habits and behaviors to reflect their own. This insight ties into the Freudian theory of identification through observation of learned behavior from the peers around them. Bandura and Walter, who were two other researchers who expanded on the exploration of Sigmund Freud’s identification concept of identification through modeling, realized that new behavior can be attained by observation; for example, when a learner with CD sees a peer being praised for their hard work, s/he learns to try that behavior in hopes of pleasing the teacher and being praised also (Miller, 2011). This plays an important role, where learners with CD can watch the correct behavior and model that desired performance.

Communication disability learners frequently perform at a poor or insufficient educational level, struggle with reading, have difficulty understanding and expressing language, misunderstand social cues, avoid attending school, show poor judgment, and have difficulty with tests. Communication skills are at the heart of life's experience, particularly for learners who are developing language critical to cognitive development and learning. Reading, writing, gesturing, listening, and speaking are all forms of language – a code we learn to use in order to communicate ideas (American Speech-Language-Hearing Association, 2005). In this regard, learning takes place through the process of communication. The ability to participate in active and interactive communication with peers and adults in the educational setting is essential for a learner to succeed in school.

According to Bandura’s (1977) social learning theory, human behavior is a function of the person plus the environment. In other words, the person, the behavior, and the environmental situations are highly interrelated. Each is capable of influencing the
other. The theory assumes that when two persons or groups interact, they become part of each other’s environment. This means that school learning occurs as a result of interactions of learners and parents, learners and teachers, children and peers, and children and school environment. The theory further holds that performance in school learning is traceable to gender stereotype as it relates to the learners. This may be explained on the ground that family and school interactions may influence the child’s performance in school. Based on the assumption of the theory, the social learning theory stipulates that academic dysfunction sometimes arises from gender stereotype and location of the student. This theory has a link with the present study as it has highlighted a link between academic achievement and the students’ gender stereotype. The theory will therefore serve as a guide to identify the elements of students’ gender stereotype that may influence both academic performance and self-concept with regard to teaching and learning in primary schools. The social learning initiated by Bandura (1977) argues that learning is a product of the individual and the environment. This implies that the interaction between a learner and the learning environment determines, to a certain extent, the performance of the student in a given school subject. The environments include both the school environment and the home environment, and other factors that are within the environment such as stereotypic view, gender, location, and individual’s self-concept.

1.11: Conceptual Framework of the Study

This study was conceptualized to establish the effect of communication disability on the educational performance of learners in mainstream primary school. The independent variable was conceptualized as types of communication disabilities, severity of communication disabilities and the onset of CD. While the dependent
variable that is educational performance was conceptualized as learning effectiveness and educational performance. The frame indicates that the relationship between the variables is moderated by mainstreaming, school policies, teacher’s attitudes, intervention strategies, facilities available, Teacher’s Experience and Teacher’s Skills as shown in the figure below.

![Conceptual Framework](image.png)

**Independent Variables**                   **Moderating Variables**                   **Dependent Variables**

**Figure 1.1: Conceptualization of the effect of CD learners on educational performance**

This conceptual framework clearly indicates that prior knowledge influences both conceptual growth and conceptual change in learners. With conceptual growth, learners add to their existing knowledge, and with conceptual change, learners correct misconceptions or errors in existing knowledge. Facilitating conceptual growth or change requires first obtaining a baseline level of learners with CD’s knowledge prior to the start of each unit through formative assessment. Therefore, the educational performance of the learner with CD in mainstreamed schools improves only through social interactions with other learners without CD as advocated by Albert Bandura in his social interaction theory. The study conceptualizes that teachers’ receptivity of learners with CDs; intervention strategies towards learners with CD; teachers’ attitudes toward CD and school policies on learners with CD affects educational performance.
1.12: Operational Definitions of Terms

The list below contains the operational definition of key terms that were used throughout the study.

Attitude: Chambers and Forlin (2010) define attitude as a learned, evaluative response about an object or an issue or a cumulative result of personal beliefs.

Communication Disability: disorders that deviate from the community standards clearly enough that interferes with the transmission of messages, stands out as being unusually different or produces negative feelings within the communicator (Duff, 2004).

Mainstream education: to ordinary schools where learners require minimal support (Landsberg, 2011a).

Mainstreaming: inclusion of learners in the general education process. It involves selectively placing these learners in mainstream classes (Swart & Pettipher, 2011).

Teaching strategies: plans or techniques that are used to ensure that a certain concept or lesson is passed from the teacher to the learner by several means. For the purpose of strategies used in inclusive education these strategies must be applicable to all levels of ability and should vary in accordance with learners’ learning styles and needs (Engelbrecht, 2013b).
CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter presents a review of literature related to the objectives of the study. The chapter covered literature on past studies on communication disability (CD), communication disabilities among primary school children in Kenya. The chapter also reviewed literature on mainstreaming learners communication disability, the school’s policies on mainstreamed learners’ with communication disability, teachers’ attitudes towards mainstreamed learners with communication disability, intervention strategies used to support learners with communication disability in public primary schools and the effect of mainstreaming learners with communication disorders on educational performance.

2.1 Types of Communication Disability


2.1.1 Speech Disability

Speech disability is an impairment of the articulation of speech sounds, fluency and/or voice. An articulation disability is the atypical production of speech sounds characterized by substitutions, omissions, additions or distortions that may interfere with intelligibility. While fluency disability is an interruption in the flow of speaking characterized by atypical rate, rhythm, and repetitions in sounds, syllables, words, and phrases. This may be accompanied by excessive tension, struggle behavior, and
secondary mannerisms. A voice disability is characterized by the abnormal production and/or absences of vocal quality, pitch, loudness, resonance, and/or duration, which is inappropriate for an individual's age and/or sex (ASLHS, 1993).

2.1.2 Language Disability

A language disability is impaired comprehension and/or use of spoken, written and/or other symbol systems. Newmonic, (2016) defined language disability either an acquired or developmental disability that is identified by deficits in comprehension, production and use of language. The disorder may involve; the form of language (phonology, morphology, and syntax), the content of language (semantics), and/or the function of language in communication (pragmatics) in any combination. Form of Language disability include; phonology in which the sound system of a language and the rules that govern the sound combinations; morphology is the system that governs the structure of words and the construction of word forms and syntax is the system governing the order and combination of words to form sentences, and the relationships among the elements within a sentence. Content of language disability known as semantics is the system that governs the meanings of words and sentences and function of language disability; pragmatics which is the system that combines the above language components in functional and socially appropriate communication, ASLHS (1993).

2.1.3 Hearing Disability

A hearing disability is the result of impaired auditory sensitivity of the physiological auditory system. A hearing disorder may limit the development, comprehension, production, and/or maintenance of speech and/or language. Hearing disorders are
classified according to difficulties in detection, recognition, discrimination, comprehension, and perception of auditory information, ASLHS (1993). CD learners with hearing impairment may be described as deaf or hard of hearing. Deaf is defined as a hearing disorder that limits an individual's aural/oral communication performance to the extent that the primary sensory input for communication may be other than the auditory channel. Hard of hearing is a hearing disorder, whether fluctuating or permanent, which adversely affects a learner's ability to communicate. The hard-of-hearing learner relies on the auditory channel as the primary sensory input for communication.

Packer (2015) reported that hearing is critical to speech and language development, communication and learning. Hearing loss causes delays in development of speech and language, and those delays then lead to learning problems, often resulting in poor school performance. Unfortunately, since poor academic performance is often accompanied by inattention and sometimes poor behavior, learners with hearing loss are often misidentified as having learning disabilities such as ADD and ADHD.

Mwanyuma (2016), investigated some of the factors in Kilifi County, specifically at Sahajanand School for the Deaf in the south coastal region of Kenya. The factors that were investigated by this study are: Socio-cultural factors, curriculum factors, language of instruction and availability of teaching and learning resources. The study was conducted from a target population of 46 respondents which is the entire population under study. The researcher therefore employed census sampling technique to sample 46 respondents including 1 head teacher, 37 teachers and 8 parent representatives of Sahajanand School for the Deaf. The target population from the
Sahajanand School for the Deaf was randomly selected as a representative population of the 12 Deaf schools spread across 6 counties in the coast province. The study found that negative community and societal attitudes towards the deaf influence their achievement in Education, the present curriculum does not cater for all learners with Special Educational Needs in terms of coverage of curriculum content and that the few available teachers are not very familiar and fluent in using Kenyan Sign Language. Most of the schools offering special education to learners lack adequate teaching and learning resources.

Teachers in Kenyan schools for the learners with disabilities lack adequate resources to design classroom experiences that can help deaf learners understand the content being taught. In addition, the teaching and learning materials meant to be used in deaf schools are unavailable or inadequate and the few available ones are not adapted to suit the deaf learners. Large scale studies on school effectiveness have pointed out the importance of teaching and learning resources deaf learners’ achievement. Fuller & Clarke, (1994) researched on studied school effectiveness in developing countries that adjusted learners’ achievements for their family background and found quite consistent school effects related to availability of textbooks and other accompanying reading materials. Various studies have showed a significant positive relation between learner’s achievement in academics and school inputs.

Boissere (2004) said that teaching and learning resources such as text books and writing materials were essential contributors to the academic achievement of deaf learners at the primary level in developing countries. Studies conducted by Michaleowa (2001) found that the availability of textbooks had a significant positive
on the academic achievement of learners. Much literature in developing countries suggests that the most important and cost effective input is the textbook and other pedagogical learning materials (Fuller and Clarke, 1994).

Mwanyuma (2016) while citing Sumner, (1985) asserted that instructional materials such as diagrams, pictures, graphs and flow charts are very essential in the teaching and learning process and more so to a deaf learner as they reduce language and reading demands. This is because visual methods of teaching and learning create a more lasting experience and relate most readily to other sensory experiences. Instructional materials accomplish 83% of what is learnt through sight activating students in the learning process. They make the learning become very interesting even to dull and hyperactive students.

A Chinese saying, “If I hear I forget, if I see I remember, if I do I know” puts more emphasis on the importance of visual materials in information retention (Harrison, 1983). By seeing over and over again, the brain may be able to recall what has been learnt. Some of the concepts become more visible and self-explanatory from the diagrams. It reduces the language demands especially for Deaf learners and they are able to easily recall what has been learnt from such visual aids. According to the researchers’ observation, when the pictures or charts are displayed in the classrooms, then even in the absence of the teacher, the learners can look at the charts and review their own work. They can also connect ideas and remember other related facts. For example, when a class six student looks at a diagram showing parts of a flower, he or she can recall their functions and whether it is wind, insect or self-pollinated. The teacher should also be familiar with the learner’s condition from the Individualized
Education Plan (IEP). The IEP is a written statement for every learner with a disability that states the present level of achievement, annual goals, short-term instructional objectives, special educational services needed, and relevant date and evaluation procedures. Once developed, an IEP is signed by parents as well as educational and other personnel present or involved in its development.

According to Hallahan & Kauffman (1997 cited in Mwanyuma, 2016) other areas of instructional materials are the technological explosion in the area of hearing impairment. The explosion of micro-computer and related technology like video discs is expanding learning capabilities for people who are deaf. For instance, visual displays of speech patterns on a computer screen can help children who are Deaf and Hard of Hearing learn and understand speech. Video programs showing people sign are also available for use in teaching Kenyan Sign Language which if used by teachers they can improve their sign language skill that could be a challenge to them. Although these technological advancements are now being widely used to benefit the deaf learners in developed countries, they are yet to be fully embraced in Kenya. Hearing aids, closed caption television programs, telephones and computer assisted instruction assist learners with hearing Impairments to communicate and have access to information. These devices are still very costly to acquire and maintain and are not readily available to deaf learners as well as teachers. Most schools are still grappling with providing basic infrastructure in schools and provide basic teaching and learning materials for the deaf learners. Therefore, they are unable to acquire such costly resources despite their usefulness in learning. The researcher sought to find out whether teaching and learning materials used by teachers influence the learners academic achievement.
According to the ASHA, learners who have mild to moderate hearing loss but do not get intervention services are very likely to be behind their hearing peers by anywhere from one to four grade levels. And for those with more severe hearing loss, intervention services are even more crucial; those who do not receive intervention usually do not progress beyond the third grade level. The reasons behind this education gap are certainly not a question of intelligence; just because a learner has hearing loss doesn’t mean he is any less capable of doing well in school than his hearing peers. Sometimes the classroom environment itself doesn’t support a child with hearing loss; A busy teacher who has many learners to tend to, or a teacher with a poor understanding of hearing loss, often is unable to alter his teaching style or keep a learner’s hearing loss in mind while teaching a lesson or assigning homework.

Central auditory processing disabilities are deficits in the information processing of audible signals not attributed to impaired peripheral hearing sensitivity or intellectual impairment. This information processing involves perceptual, cognitive, and linguistic functions that, with appropriate interaction, result in effective receptive communication of auditory presented stimuli. Specifically, CAPD refers to limitations in the ongoing transmission, analysis, organization, transformation, elaboration, storage, retrieval, and use of information contained in audible signals. CAPD may involve the learner's active and passive for instance conscious and unconscious, mediated and unmediated, controlled and automatic, ability to do the following: attend, discriminate, and identify acoustic signals; transform and continuously transmit information through both the peripheral and central nervous systems; filter, sort, and combine information at appropriate perceptual and conceptual levels; store and retrieve information efficiently; restore, organize, and use retrieved information;
segment and decode acoustic stimuli using phonological, semantic, syntactic, and pragmatic knowledge; and attach meaning to a stream of acoustic signals through use of linguistic and nonlinguistic contexts (ASHA, 1993).

Internationally and locally, learners with CDs, were historically segregated in special schools or not afforded education at all. This situation was due to medical model thinking that focused on the extent of individual impairments and associated deficits, rather than on the interrelating factors comprising a disability as described in the International Classification of Functioning, (World Health Organization, 2001). The World Health Organization states that using an ICF framework can help one to “understand the interaction between educational environments and the participation of learners with disabilities” (WHO, 2013).

It confirms that the “physical, social and attitudinal environment in which people live influences their functioning in a substantial way” and that positive environmental factors have the power to boost performance beyond the capacity expected. In contrast negative environmental factors lead to performance below the expected capacity, as has been the major focus of past studies. The environmental section of the ICF allows one to assess contexts in terms of how they facilitate or create barriers to participation, including in education, which can then be used to guide intervention for learners with disabilities, the ultimate purpose of this study. The ICF considers the following environmental factors: products and technology; natural environment and human made changes to environment; support and relationships; attitudes; and services, systems and policies along with personal factors (World Health Organization, 2001).
In 21st century, the majority of learners with CD disabilities are in mainstreamed schools. In New South Wales (NSW) are making a significant contribution to the education of learners with CD and other learning difficulties. Data from the 2015 Nationally Consistent Collection of Data (NCCD) on learners with CD show that nationally, the number of learners with special educational needs in independent schools is consistent with the sector’s enrolment share of 14%. NSW public schools, most learners with CD attend either a regular class in a regular school, a support class in a regular school or a support class in a school for specific purpose. In 2015, about 80% of learners with disability were enrolled in regular classes. The remaining 20% were mainly enrolled in support classes with a small proportion – about 5% – attending special schools. Mainstreaming approach to educating learners with communication disabilities began in Scandinavian countries in the late 20th century and has gradually become the norm in most countries, framed by various international agreements, programs and declarations and national laws, mainly developed since the 1981 United Nations International Year of Disabled Persons, (Schools, n.d.).

The challenges facing learners with CD in mainstreamed schools can be attributed to factors such as discrimination, stereotyping, inadequate physical facilities, poor administrative policies and inadequate supervision, teacher incompetence, large class sizes, indiscipline and formative assessment (ADEA 2012, JICA 2012 and MOEST, 2009). Mainstreamed education in Kenya is hindered by insufficient educational resources, lack of a barrier free environment, high teacher-learner ratios, rigid curriculum and unfriendly classrooms, (Oketch, Mutisya, Ngware, Ezeh and Epari, 2010), as well as unfriendly national examinations (UNESCO, 1990). In addition, the counselling services that are available are poor in quality and the
personnel who handle them are not skilled enough and also lack the requisite training to handle them competently.

Over-enrolment in schools has led to poor integration of learner disabilities in mainstream schools in Njoro sub-county. It has also led to over-stretched facilities, inadequate specialized personnel, overcrowding in schools and diminished community support. This situation therefore requires psychological intervention strategies, which are insufficient in Njoro (Njoro Sub-County Education Office, 2013). According to Woolery and Bailey (2003), children with learning disabilities perform poorly in schools, develop low self-esteem, and become disenfranchised when their needs are not met.

A study by Gargiulo (2006) showed that such learners suffer challenges which may affect their reading, listening writing, spelling and computation abilities. Those with communication disabilities experience problems when reading, talking and writing. Learners with physical, psychological and neuron-skeletal impairment and other special needs encounter difficulty in accessing education resources and facilities. It is also a fact that the adolescent disabled suffer frustrations, loneliness, withdrawal and embarrassment due to undue pressure to perform by parents, teachers, peers, siblings and the society at large (Turnbull, Wehmeyer & Shogren, 2013).

Kimani (2016) in his study on integrating learner disabilities in mainstreamed schools in Njoro Sub-County whose purpose was to explore ways of mainstreaming for holistic development among learners with disabilities in Njoro Sub-County. Data was collected using two questionnaires which were administered to 100 learners and
20 teachers. Interviews were conducted among five (5) education officers in the sub-county. He found that most of the teachers in the Sub-County were not professionally trained to handle learners with disabilities. The findings further established that the few specialized teachers are overstretched, poorly remunerated and unevenly distributed, and hence are not able to meet the needs of these learners. The study shows that out of the 20 class teachers contacted, only 6 (30%) were trained to handle learners with special needs in seminars and at certificate level while (70%) were not. The pedagogical approaches they use are usually rigid and fail to capture the needs of learners with disability in the Kenyan inclusive primary schools. Hence, the pupils’ special needs that cause psychosocial challenges in the Sub County primary schools were unmet and therefore called for urgent attention. It follows that the teachers are not in a position to mount counseling intervention strategies that could alleviate the challenges.

Nadera, (2017) conducted a study entitled “The ‘yes … but’ dilemma: implementing mainstream education in Emirati primary schools. This article investigated the implementation of this initiative in three primary schools from stakeholders’ perspectives. Using a multiple case study approach, data were collected over a full school year from interviews, observations and documents. Purposive sampling was employed to select the schools and participants (two Ministry officials, three zone officers, three head teachers, 10 teachers, six students with disabilities and five parents), thus providing information-rich cases for the investigation of relevant site-based provisions and services. Selection criteria were based on the number of students with disabilities enrolled in mainstream classrooms, types of disabilities and the provisions provided in each school. Findings revealed
uneven progress in five areas: staff training and development, school structures, support services, assistive technology and community awareness. The study identified improved access to mainstream classrooms and growing awareness among stakeholders as emerging good practice. However, serious challenges remain regarding teacher training, exclusionary practices, the lack of specialized support services and misguided policies.

2.2 Severity of Communication Disability

Communicating confidently is a cornerstone of a positive self-image, and we recognize that severe communication disability is an example of a phrase that will be interpreted differently in different contexts. In the field of speech-language pathology, severity ratings are based upon clinical judgment rather than an absolute numeric standard or severity rating scale such as those used in ranking the level of intellectual disability. The focus was on the small but significant minority of learners with CD who have such severe disabilities that they either cannot communicate via speech or are at risk to have significant limitations in this area, Hollar, (2012).

Severe communication disorders may result from acquired injuries and illness or from developmental conditions. Whether acquired or congenital, the language, phonology/articulation, and voice disability can each or in combination limit communication to such a degree that AAC is needed. A learner might have such severe dysarthria (oral muscle weakness) resulting from a head injury or treatment for cancer that both articulation and voice are profoundly impaired. AAC may be needed for this child throughout his or her life span. In contrast, the child who has apraxia (oral motor planning problems) associated with autism, may be unintelligible and
require AAC for several years. Both of these children will have traditional articulation therapy as a component of their intervention plan, and they must also be supported by strategies that address the broader picture of communication, Hollar, (2012).

2.3 Onset of Communication Disability

A history of adversity in childhood has been associated with an earlier age of onset of bipolar disorder. This has most consistently been demonstrated for a history of physical or sexual abuse which is often accompanied by verbal abuse, but the isolated effect of verbal abuse itself has not previously been well delineated (1–4). Those with a history of childhood adversity have not only an earlier age of onset, but also a more difficult course of bipolar disorder (4–7), and more associated medical comorbidities (Leverich GS, McElroy SL, Suppes T et al. 2002 cited in Post et al., 2015).

Many speech problems are developmental rather than physiological, and as such they respond to remedial instruction. Language experiences are central to a young child’s development. In the past, learners with communication disabilities were routinely removed from the regular class for individual speech and language therapy. This is still the case in severe instances, but the trend is toward keeping the learner in the mainstream as much as possible. In order to accomplish this goal, teamwork among the teacher, speech and language therapist, audiologist, and parents is essential. Speech improvement and correction are blended into the regular classroom curriculum and the learner’s natural environment, Gaur, (2003).

Given the adverse effects of other forms of abuse and the high prevalence of verbal abuse, we wanted to more specifically assess the effects of verbal abuse in isolation
and in association with other types of childhood adversity. Leverich et al. in Post et al., (2015) found that, compared to those without a history of physical and sexual abuse, those with such a history had an earlier onset of bipolar illness, an increased number of Axis I, II, and III comorbid disability, including drug and alcohol abuse, faster cycling frequencies, a higher rate of suicide attempts, and more psychosocial stressors occurring before the first and most recent affective episode. The retrospectively reported associations of early abuse with a more difficult prior course of illness were validated by clinician prospective ratings of a more severe course after network entry during naturalistic treatment and follow up. However, the statistical significance of these effects and others may have been underestimated because of the unexamined occurrence of verbal abuse in a substantial percentage of the comparison group with no physical or sexual abuse.

Amplification may be extremely valuable for the learner with a hearing impairment. Learners whose hearing is not completely restored by hearing aids or other means of amplification have unique communication needs. Learners who are deaf are not automatically exposed to the enormous amounts of language stimulation experienced by hearing learners in their early years. For deaf learners, early, consistent, and conscious use of visible communication modes such as sign language, finger spelling, and cued speech and/or amplification and aural/oral training can help reduce this language delay. Some educators advocate a strict oral approach in which the learner is required to use as much speech as possible, while others favor the use of sign language and finger spelling combined with speech, an approach known as total communication. There is increasing consensus that whatever system works best for the individual should be used, (Gaur, 2003).
2.4 School Policies on Mainstream Education

Self-representation is advocated as essential by the disability rights movement (Swartz, 2014). Shah, (2007) challenged all educationists to listen and provide an opportunity for learners with disabilities to take an active part in the education process, including informing practice. Sparkes and Hall (2007) did a study on the quality of life of learners with cerebral palsy and concluded that there is a need for more studies that included the views of learners with cerebral palsy themselves. By 2011, (Rosenbaum & Gorter, 2012) continued to highlight that there was still not enough known about what intervention learners with cerebral palsy themselves and their parents really value. Swartz, Van Der Merwe, Buckland, & McDougall, (2012) from South Africa reiterated that we should seek the valuable information that can only be obtained by listening to learners with communication disability themselves. Reflections of learners with cerebral palsy on what factors facilitated their mainstream education at an ordinary school will complement the more widely reported barriers to education, from the perspectives of teachers and/or parents and in other countries. A focus on the facilitating factors as reported by those with disabilities in Cape Town themselves, was anticipated to shed valuable insider knowledge on support strategies that can facilitate successful mainstream education for learners with communication disabilities in the future.

In Australia, the Disability Discrimination Act 1992 sets the frame for learners with CD to be offered the same educational opportunities as others, with schools required to make reasonable adjustments so that learners with CD needs experience a quality education. The Disability Standards for Education under the act are a guide for schools in ensuring they are compliant with the legislation and provide the necessary
support. The nationally consistent data collection is founded on this legislation and the standards (Schools, n.d.).

Kenya’s policy on CD has created a brain-drain of the few specialized teachers due to poor remuneration and stereotyped community attitudes. According to Craig, Kraft and Duplessis (1998), effective teachers are highly committed, caring about learners’ welfare and therefore need a supportive working environment to maintain these positive attitudes. The Kenyan constitution (2010) article 43, section 1(f) and article 54 section 1(b) asserts that all learners with CD, have a right of receiving quality and relevant education.

Engelbrecht, Nel, Smit, & Van Deventer, (2016) conducted a study entitled “The idealism of education policies and the realities in schools: the implementation of mainstream education in South Africa.” The study focused on the development of policy and guidelines on mainstream education in dynamic interaction with the complexity of realities in South African schools with a special focus on the policy recommendations regarding the development of full-service schools. The overarching purpose of their study was to explore how over a period of time the recommendations regarding the development of full-service schools were translated by teachers into action. During Phase one the research question focused on teachers’, parents’ as well as the school head teacher’s views in general about the development of this school as a full-service school. During phase two the research question focused on how the recommendations regarding the development of a full-service school with learners with CD being implemented in a specific classroom. A qualitative case study approach with two phases (phase one: 2008–2009 and phase
two: 2012–2013) was undertaken at the outset to develop an understanding of how the implementation of the policy guidelines has progressed over a period of several years.

Engelbrecht et al., (2016) found during phase one of their study that teachers viewed the transformation of their school since 2008 into a full-service school as being in its ‘baby shoes’ and that they were not implementing the guidelines as described in the document published in 2005: ‘... because they (the government) have not given us a specific time when we absolutely have to accommodate learners with CD in the mainstream ... we wait for them to tell us’. As a result learners with disabilities were placed in separate classrooms and described in medical deficit terms: ‘... I feel that those children are expected to cope under normal circumstances but they are not normal ...’ Teachers from the mainstream classrooms also described themselves as not qualified due to the fact that they were initially trained to work in general classrooms and not trained to mainstream learners with CD in their classrooms. They therefore preferred to rather refer learners with CD to what they regarded as well-qualified health professionals for support and placement in separate ELSEN classes.

Majoko, (2017) while conducting a study on practices that support mainstream education which was embedded in qualitative research methodology, utilized a multiple-case study design. As the study focused on individual participants’ views, experiences, and practices, its methodological approach was entrenched in phenomenology. Schools were purposively sampled from institutions that were mainstream. The sample constituted 18 public primary schools. Six institutions were
drawn from urban, semi-urban, and rural settings, respectively. A total of 18 purposively sampled ECD teachers made up of 11 females and seven males, one per participating institution, participated in the current study. The study found that all teachers (18) revealed that they strategically taught learners with CD using paired gestures with speech to ensure inclusive pedagogy since most of them lack functional language. Teachers also used concrete language to eliminate abstract concepts as learners with CD misunderstand abstract language. Consistent with the content and activities of their lesson plans, most participants (16) and typically developing learners were observed using several strategies to support communication of learners with CD. These included clear, simple, precise, and concise language, and familiar, concrete, and specific words used daily. Participants paced their speech according to the abilities of individual learners to afford them time for processing information. Participants also used social interaction–oriented activities including pair work, group work, whole-class assignments, and games to support communication, thereby including learners with CD in mainstream classrooms.

2.5 Teachers’ Attitudes towards Learners with Communication Disability
A tension exists between the principle and practice, where teachers confront the difficulty of educating a wide range of learners in the mainstreamed setting, particularly at the point where they have to address the significant challenge of learners with CD. This is frequently raised as a concern by teachers, who consistently rate learners with severe CD. Teachers are generally supportive of the concept of mainstreaming but see that successful mainstreaming is influenced by the nature and extent of CD. CD and high level disabilities are seen as especially demanding of a
teacher and disruptive for other students. Teacher attitudes towards CD have been identified as a critical factor in determining how well schools support learners with CD. Positive teacher attitudes are associated with better academic and social outcomes for learners with CD (Schools, n.d.).

The role of teachers is seen as critical in the success of mainstream classroom practice through their attitudes and actions (Florian & Graham, 2014). Teachers serve as role models with whom CD learners identify and this influence determines the degree of willingness to comply with what is expected of them in the classroom (Polat, 2011). According to the General Teaching Council for England (2008), teachers’ ability to promote CD learners’ learning is affected by their beliefs which can be enhanced positively through better understanding and more knowledge. The council believes that teachers’ disposition is important in order to promote positive beliefs in their CD learners as well as responding constructively to their mistakes. With appropriate training, teachers can be skilled with strategies in which to gain more positive dispositions. Teachers need to accept that all learners have the capacity to learn and it is their responsibility to enhance this learning by any means at their disposal (Florian & Graham, 2014).

Research undertaken on educators’ willingness to teach in inclusive classrooms suggests that while educators are generally willing to include students with a disability in their classrooms, they continue to express concerns when students with a disability are included in their classroom. Some of the most frequently expressed concerns include lack of support in the form of extra planning time and concerns about the declining academic standards of the class and the school. A number of
researchers have expressed the need to understand educators’ concerns and address them to ensure that educators remain optimistic to include students with a disability (Forlin and Chambers 2011; Woodcock, Hemmings, & Kay, 2012 cited in Round, Subban, & Sharma, 2016).

It is evident that the variables cited as concerning to teachers by Larrivee and Cook (1979 cited in Round et al. 2016) in their early study on ‘mainstreaming’ are still relevant today. These researchers identified three variables that impacted teacher attitudes and concerns in regard to mainstreaming. These were academic concerns – the possible negative educational consequences of segregating learners with CD; administrative concerns – issues of support; and pedagogical concerns – issues about the training and experience necessary to educate learners with CD.

Teachers’ attitudes, and therefore their concerns, impact on the learners’ success at school, both behaviourally and academically (Savolainen et al. 2011). For teachers to be confident that they can indeed mainstream learners with CD into the regular classroom, training is required (Bhatnagar & Das 2014). For mainstream education to be successful, teachers need to be open to the idea of implementing mainstreaming practices Forlin, Keen, & Barrett, (2008). Teachers with positive attitudes to learners with CD in their classroom are more confident in their approach to teaching these learners and more effective (Woodcock, Hemmings, and Kay 2012). There is a correlation between teacher efficacy to include learners with CD and attitudes towards mainstream education Sharma, Loreman, & Forlin, (2012).
Acknowledging social justice should be a first priority for teachers to enact mainstreaming in a classroom (Nel & Grosser, 2016). Furthermore, Rodrigues (2009) feel that teachers need to develop a research attitude by continuously looking for more appropriate teaching strategies and experientially applying this in the classroom. Active participation by all learners should constantly be encouraged by teachers by exercising creativity and imagination. It is also important to have a resilient attitude by rather focusing on the learners achieving learning outcomes than emphasizing own teaching successes (Florian & Graham, 2014). Teachers who allow for reflection to integrate and modify their skills base to fit specific situations find it easier to develop new strategies (Barret & Green, 2009).

In mainstreamed classroom, teachers need to demonstrate an approach towards CD learners that demonstrates understanding, empathy and nurturing of CD learners who experience difficulties to learning by applying an appropriate assortment of teaching strategies that allow all learners to experience success (Florian & Graham, 2014). A negative teacher mind-set and attitude can be a major barrier to the implementation of mainstreamed education when they believe that the presence of those requiring additional support will hold back the progress of the rest of the class (Wilde & Avramides, 2011; Daniels, 2010; Hodkinson, 2010; Ainscow & Miles, 2008; Forlin & Lian, 2008 cited in Wahl, 2017). At the same time, a lack of adequate support does not help to improve teachers’ attitudes towards mainstreamed education (Hodkinson, 2010).

Wilde & Avramidis, (2011) assert that considerable influence on the attitude of teachers towards mainstreamed education is the divided loyalty they have for CD
learners and the ‘rest of the class’. As a result, many teachers do not feel that all learners can be accommodated in the mainstream, with particular reference to learners with behavioural problems and others that are neuro-typical, such as autism. In research done by (Ainscow & Miles, 2008) teachers felt that a mainstreamed classroom would mean they could not treat everyone equally, as some CD learners would need considerably more attention than others.

Naraian, (2011) suggests that to promote positive attitudes in learners towards those with CD teachers would have to create a classroom culture where learners can take powerful stances against oppression and recognize their own ability to change others’ thinking. Harnessing parents and the community as resources to change attitudes are also considered vital as often barriers to learning are rooted within the family and community environment (Nel et al., 2012).

According to Stronge, Ward, & Grant, (2011) personal qualities that contribute to teacher efficiency within an mainstreamed education include: caring; social interaction with learners; positive attitude towards their profession; fairness and respect towards learners; and instilling enthusiasm and motivation in learners by utilizing methods such as peer feedback and reflective practices. Teachers that uphold mainstreamed justice in the classroom view CD learners as competent and ensure that they have opportunities to demonstrate their abilities (Higgins et al., 2009).

A teacher also plays a pivotal role in creating the social climate within the classroom as it is an important factor to learners’ successful development and learning. Acting as a mediator of learning in a comfortable diplomatic environment will promote and
encourage dialogue among all learners, despite their differences, as well as between CD learners and the teacher (Landsberg, Krüger, & Nel, 2005). When CD learners are taught to be compassionate and to see things from another’s perspective it will foster respect and result in learners who will function rationally in a democratic society (Polat, 2011). In this manner the teacher serves as role model and CD learners who identify with their teachers are more inclined to accept their teaching. Garrett et al. (2009) declare that a caring classroom and strong interpersonal relationships create a functional environment. A mainstreamed classroom with a positive social climate will therefore have teachers who exercise authority without too much rigidity, make learning fun, and are able to establish positive, caring interpersonal relationships.

A communication disability learner’s responses are often elicited according to how the teacher presents a lesson. Creating a relationship of trust during a lesson presentation helps both teacher and CD learner to develop a positive perspective towards one another and the learning process. This requires expectations to be conveyed honestly to all learners in the mainstreamed class according to Naraian (2011). Communication disability learners need to trust in a system that will meet their individual needs and motivates striving to achieve to the best of their ability.

Wide-ranging capabilities and impediments require individualizing education for such learners (Polat, 2011). In order for teachers to meet the educational needs of these learners in a mainstreamed setting requires adaptation, such as a differentiated curriculum and also a variety of teaching strategies. In addition, Nel (2013) proposes that teachers should know individual learners’ strengths and needs. The role of teachers should always involve ongoing learning to enhance personal skills through

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further study, attending workshops, initiate scholastic and community projects and research methods and strategies that can be applied in their profession to advance mainstreamed education (Landsberg, 2011a). This also includes utilizing the media such as the internet and teacher education websites. As (Bornman & Donohue, 2013) assert it is ultimately up to the teacher to be willing to commit to making the mainstreamed environment a successful experience for all learners.

Forming collaborative partnerships with colleagues, parents and other professionals (such as health professionals) is an essential tool to effect mainstreamed education (Nel, 2013). Collaboration and interrelationships between role players in education fosters accountability through a collective, problem-solving and supportive environment. Professionals and parents can help identify barriers to learning and assist the teacher to develop strategies to address these needs. In addition, knowledge is honed and materials shared through collaboration among teachers.

Murungi, (2017) conducted a study entitled “influence of school based factors on performance of learners with CDs in Kenya certificate of primary education in public primary schools in Igembe South District, Meru county Kenya.” The study was guided by four objectives, i.e. influence of pre-service teacher training on performance of CDs, influence of teacher strategies, teaching and learning resources and teacher attitudes on educational performance of learners with CDs. Findings from the study have established that majority of head teachers had not undergone training to handle learners with CDs. Nevertheless involved in the study had at least one teacher who had undergone training in handling learners with CDs. The study also established that teachers adopted various teaching methods to assist learners with CDs.
and that having these teaching and learning strategies combined enhances the process of learning for the learners with disabilities. Findings from the study also show that schools were less equipped with teaching and learning resources for use with learners with CDs and this definitely influences their academic performance. The study has also shown that though teachers accepted learners with CDs in their schools, most (64.1%) found it challenging to handle learners with CDs due to lack of training in SNE.

Murungi, (2017), while citing Agbenyegu (2006) states several regular education teachers who feel that they are not competent to work with learners with disabilities in mainstream classes exhibit anger, frustration, and negative attitudes to mainstreaming as they belief it facilitate poor academic educational performance (Gary 1997; Tiegerman-farber, 1998 cited in Murungi, 2017). These teachers’ attitude exhibits their strong opposition toward learners with CD in a mainstream classes and rather supports them to be segregated in existing special schools. These teachers sighted their incompetence in teaching/handing learners with CDs in a mainstream classroom. Yet other teachers expressed panic and worry that they are unskilled to teach learners with CDs in a mainstream classroom sighting it to facilitating poor educational performance in their schools.

Ehlert, (2017) conducted a study on the perceptions of public primary school teachers regarding noise-induced hearing loss in South Africa. The main aim of the study was to determine the perception of primary school teachers regarding noise induced hearing loss (NIHL). The study also aimed to determine if any hearing conservation programs are being implemented in schools and the need for training of primary
school teachers regarding NIHL. A survey was conducted. In order to cover the population of interest, the sampled schools in Pretoria were clustered into urban, semi-urban and rural areas. The study found that majority of the teachers included in this study were aware of NIHL and its effects on educational performance. They, however, lack the necessary resources and knowledge to effectively use this information. Most (67.5%) of the teachers indicated that they have never been exposed to learners with NIHL in a school setting. It was also found that the majority (84%) of the schools included in the study do not implement hearing screening and conservation programmes. Although the sample size was limited, the results correlate with other research in this field indicating a need for planning and implementation of hearing conservation programmes in schools, including training of teachers in order for these programmes to be effective.

2.6 Intervention Strategies used to Support Learners with CD

Teaching strategies are a broad plan of action for teaching and learning activities to achieve aims in the desired course content that entail setting goals and developing plans to achieve these goals. These aims and plans also need to be evaluated to accommodate learners with CD learning styles (Landsberg et al., 2005). Teaching strategies contain methods teachers use to help learners with CD access information by determining achievable goals. This can be done by: visualizing, such as, by displaying pictures; auditory methods, through listening to the teacher or a recording; and kinesthetically by letting CD learners experience a situation and actually doing something, such as an experiment.
It is therefore, important to use a variety of teaching strategies, methods and teaching styles within the education system to accommodate the diverse learning needs that can originate from the aforementioned. Appropriate planning for a teaching strategy can help identify the different teaching methods to enable teachers to develop or adapt activities in order to ensure all learners understand the content (Donald et al., 2010). Differentiation in all aspects of teaching should be considered to accommodate all learners. This should be incorporated when planning lessons, developing assessment and for designing a variety of classroom activities. Group work and peer teaching are also considered effective teaching strategies.

Besides taking into consideration different ways of learning, learners with CD’s developmental levels and types of intelligence, research has also shown that issues such as personality traits, socioeconomic background, experience and the environment in which learners with CD function impact on their learning (UNICEF, 2010). Taking this into account teachers need to choose topics that relate to the learners experiences and encourage participation and involvement. Collaborating with colleagues enhance learning environments through effective classroom management, tested teaching and curriculum adaptation strategies, and sharing of resources (Ainscow & Miles, 2008). In addition, collaborating with parents is an effective teaching strategy that serves to motivate learners.

Schools, (n.d.) conducted a research study on the impact of different factors on the education performance of learners with CD show that, as in mainstream education, it is variation in teacher quality that is most responsible for differences in achievement, although outside the control of the school and education policies, learners with CD
and family variables are also important influences. Given the different circumstances of each learner with CD in the mainstreamed classroom, there is no one-size-fits-all approach that will work for all learners – the critical ingredient of effective special education is an individualized approach. All teachers need to be well prepared for a diverse range of learners, flexible in their preparedness to respond to individual differences and equipped to use a variety of teaching practices and techniques that they can adapt to promote learning for individual learners.

For all learners, teacher quality is without doubt the greatest in-school influence on outcomes. The most effective teachers are recognizable by their capacity to use a range of teaching strategies appropriate to individual learners with CD, their knowledge of assessment and how to use it to remediate and extend them and their ability to build positive relationships with them and manage the classroom environment. Effective teachers also set high expectations for all students to succeed, collaborate with colleagues and engage in continuing professional development. These skills are especially important in teaching learners with CD (Florian & Black-Hawkins, 2011).

Teacher preparation courses in NSW have had a mandatory unit in special education since 1994. A recent evaluation study of the state’s teacher preparation programs established that they all include in different forms training in classroom management and teachers’ responsibilities for students with special needs. The focus is mostly on strategies for working with a diverse range of students in the classroom rather than on specific disabilities, although in some courses teaching strategies for particular disabilities are highlighted, and many pay special attention to autism spectrum
disorder as a result of demand from schools. There is also recognition that the NCCD requires teachers to have a clear understanding of the educational needs of all their students (Schools, n.d.).

Particular deficiencies of teacher preparation highlighted in recent reports are training in explicit instruction and phonics, which are acknowledged to be important strategies for the early literacy development for many learners with CD, and the development of good classroom management skills, with techniques and strategies for dealing with challenging behaviours. It is unrealistic to expect that graduate teachers can be prepared for all the special educational needs they will encounter in the classroom, hence the need for continuing professional development opportunities to fill the gaps and to keep up to date with more recent evidence and experience. Effective teaching methods engage learners with subject matter through active learner participation, demonstration or memorization, often determined by the ability of the learner and the subject matter to be taught (Donald et al., 2010).

2.6.1 Learner-Centred Strategy

This approach to teaching allows teachers to employ a variety of teaching strategies that shift the role of teacher from the giver of information to facilitate learners’ learning. Teachers who adhere to learner-centred classrooms are strongly influenced by principles of constructivism and social constructivism. Learner-centred approaches, such as an inclusive pedagogy, are more favoured and encouraged in inclusive education. In this approach, learner participation in the decision making process of what is to be learnt, how to learn, and the type and amount of help required is emphasized, (Monyai, 2006).
The teacher as a mediator of knowledge first ensures that learners have prior knowledge to be able to connect with new knowledge. Experiences need to be provided by the teacher that allows the learners to identify with their own knowledge and incorporate this with their learning in the classroom. Teachers provide scope for learners to explore and test their learning in a variety of ways, including multisensory experiences. Learning is facilitated through experimentation and by posing open-ended questions to further learners’ thought processes. The teacher also serves as temporary support or to bridge the learning process and guide learners onto the next step (Warin et al., 2011). In addition, learners are offered the freedom to apply their own ideas and discuss concepts freely with others (Monyai, 2006).

Learner-centred teaching focuses on the active process of learning, thus encouraging learners to take responsibility for their own learning, leading to increased motivation and confidence (Blumberg, 2008). The direction and purpose of the lesson is also determined in the process with strategies such as active presentations, investigation, projects, brainstorming and field excursions (Nieman, 2006). Since communication and collaborative skills are encouraged in this approach, learners become more interested in learning because they participate actively. In this approach can be used more appropriately to encourage communication, while active engagement in the LOLT enhances language skills (Monyai, 2006).

2.6.2 Cooperative Strategy

Cooperative learning entails a team effort where individuals work in cooperative learning groups to reach a common goal (Henson et al., 2004). This requires positive interdependence within the group to achieve a mutual outcome, where tasks are
divided among group members and roles are specifically assigned (Landsberg et al., 2005). According to Karpov (2003), cooperation involves social skills that include trust, communication, support and conflict resolution as education advancement takes place through group members’ encouragement and acceptance of each other’s efforts. In a cooperative learning activity the task of the teacher is to explain the group assignment so that it is fully understood by all members of the group. This also serves to foster mutual respect at all times among learners as well as between teachers and learners (Nel & Grosser, 2016). According to Grosser (2014), cognitive conflict occurs in group discussions which enhances intellectual development, while emotional development is also nurtured through group support in the process of learning to work with and respect diversity. Since the group is accountable for achieving tasks each learner is to be held responsible, necessitating active involvement of all members (Karpov, 2003). Reflection on the success of individual members as well as the group’s contributions is also regarded as a vital constituent of cooperative learning (Grosser, 2014). Cooperative learning can be a key element in multi-level teaching where lessons should be planned to accommodate all levels of learning in the mainstreamed classroom situation.

In a mainstream classroom where diversity is accommodated the value of trust and a disposition to communicate within a cooperative group should be taught and encouraged by the teacher. In a group where there is trust, despite differences, conflict is easier to control. This necessitates that the teacher is aware of the various potential skills of the learners and the contributions they can make, and discretely encourages this in the group setting (Donald et al., 2010). Further to this, reflection is essential at the end of a group task as learners with CD should evaluate their contribution towards
the outcome of the activity. This can be done by asking open-ended questions with less emphasis on correct answers but rather ensuring participation by all learners. It is suggested by Donald et al. (2011) that groups could be varied with long-term tasks that can take weeks to complete or activities that last the duration of a class lesson. It is also important that groups are heterogeneous and often rotated to stimulate cognitive conflict and active engagement, promote social development, encourage respect for gender and diversity and refine proficiency in the LOLT (Donald et al., 2010). The teacher should at all times promote constructive social interaction through support and praise for the individual as well as the efforts of the group as a whole. This helps to highlight the importance of each member’s contributions while removing any feelings of inadequacy by certain learners (Donald et al., 2011).

Engelbrecht et al., (2015) noted that the advantages of co-operative learning apart from involvement include increasing self-esteem and self-worth, cooperative problem-solving, a more positive attitude to learning, social interaction and peer acceptance. A disadvantage of this form of learning is that more confident learners can dominate the group, resulting in a learner with CD opting for a submissive role. In Kenya class size could further hamper the successful application of this strategy and result in roused noise levels and behaviour problems. It is therefore essential that proper planning is done to gain the most learning from cooperative learning. By knowing their learners, teachers can place a learner with CD in a group setting where certain communication might be frowned upon by group members, thus spurring a positive response in the learners with CD’s communication to conform to the rest of the group.
Tactics such as using clear instructions and keeping desks clear of distractions also foster attention skills and alleviate many communication problems (Gregory, 2008). Some teachers in the mainstream classroom place learners with CD in homogenous ability groups and provide them with different educational material than the rest of the class. These teachers feel that leaners with CD would feel more comfortable with material that they can cope with. This prevents learners with CD from moving forward as full participants with the opportunity for more challenging tasks denied them, and even less motivated as they also become aware of being treated differently from the rest of the class (Engelbrecht et al., 2015).

In the classroom, this flexibility and variety can be built into the design of lessons, content delivery and assessment practices. In practice, this translates into being flexible in how content is presented, whether through auditory, visual or tactile methods or using assistive technology or explicit instruction; using varied ways to engage learners, whether in small groups or cooperative learning, with ongoing monitoring; allowing different ways for learners to express what they know, through projects, papers, presentations and other means. Lesson plans need to be accessible for diverse learners, and monitoring, feedback and the opportunity for additional instruction are also important. Some teaching practices have been found to be particularly important for making mainstream education effective. The most essential include the effective monitoring of progress, encompassing explicit and systematic instruction, an understanding of the critical factors associated with progress in academic areas such as reading and Mathematics, and the provision of many opportunities to practice and obtain feedback. A main difference in teaching learners with CDs is the need to be more direct and explicit, more intensive and more
supportive. High quality instruction for learners with CD is also likely to involve small group instruction, emotional support through encouragement and feedback and supervised independent practice. The research is unequivocal on two points – first, that languishing in a mainstream classroom without special attention and support is not useful for any learner with CD learning needs, and second, that specialized interventions need to be based on the individual learner’s needs. Effective teaching strategies and an individualized approach are the critical ingredients of mainstream education (AISNSW 2017).

2.6.3 Cubing Strategy

This intervention strategy is associated with a cube which consists of six sides and asks learners to consider a concept from six different perspectives that incorporate describing, comparing, associating, analyzing, applying and arguing. According to research, the strategy is tied to stages of Bloom’s Taxonomy of Learning and encourages problem-solving and thinking skills (Bornman & Rose, 2010). The skills include: Describing through recognition and memory, comparing to indicate understanding of the matter at hand, associating by applying facts to the given situation, analyzing information by breaking it into smaller parts and arguing for and against and applying facts to new situations (Landsberg et al., 2011a).

Both cubing and Bloom’s Taxonomy of Learning prioritize the modification of content and different instruction methods to address different levels of learning needs encouraged in mainstream education. Bearing the multidimensional sides of a cube in mind in a classroom with diverse needs, teachers should present lessons in a variety of ways so that all learners can be given the opportunity to understand, while at the
same time learners with CD can be taught to consider various ways of looking at an idea (Gregory, 2008). In a cubing approach, reflection at the end of a lesson takes into account all considerations as discussions are held, and it is consequently important that all learners are encouraged to participate.

2.6.4 Scaffolding Strategy

Bruner’s (1966) scaffolding idea, based on constructivist practice, is a learning process that is tailored to the needs of the learner with CD and can be an effective teaching strategy to accommodate diverse learning needs. Likened to a scaffold in the building process, it offers support to help a learner with CD along during the learning process and is therefore also a multi-level teaching method. The teacher models the expected problem-solving technique, presents new approaches to solve the problem and encourages the learner with CD to use personal skills. As the learner assumes more responsibility to solve the task independently, the teacher presents progressively more challenging tasks (Petersen et al., 2002). Explaining concepts continuously, demonstrating through modelling, and questioning learners with CD to determine their understanding of a topic or concept are essential teaching activities during scaffolding. Scaffolding can also be part of tasks, such as steps in a mathematics problem or visual clues to comprehension questions.

Peer support can also be employed during scaffolding. As better understanding is gained, peer support is gradually withdrawn until the learner with CD is able to assume responsibility for his or her own learning (Landsberg, 2011). A positive feature of peer assistance in the practice of scaffolding is that while the teacher focuses on certain learners experiencing problems, the CD learners are also busy
learning with the help of their peers. Learners with CD could also feel more comfortable interacting with a peer. A disadvantage of peer support in scaffolding could be that with CD learners may feel inferior to their peer tutors. Feedback on the progress of the scaffolding process, especially in large classes, could also be difficult to achieve with peer support.

2.6.5 Repetition Strategy

With regard to repetition, it is important to first ensure that learners with CD have understood the content for them to benefit from memorizing through repetition. Content should therefore not merely be imparted. According to Richards (2003), learners with CD should be taught new knowledge or skills a step at a time to provide learners time to process and associate the information with prior knowledge and skills. Some learners with CD may find multiple repetitions boring and then not pay attention. To enhance repetition, ‘association’ strategies are recommended. These strategies should form a memorable pattern, such as movement, humour and songs, icons, keywords and mind maps (Richards, 2003).

2.6.6 Teaching to a Flexible Curriculum

Donald et al. (2010) describe a curriculum as a syllabus (that what is prescribed to be taught, i.e. the current CAPS), but also as processes that involve methods of teaching, assessment and decision-making. These authors believe that a flexible curriculum involves adapting what is to be taught in the curriculum in such a way that it accommodates the diversity needs of learners with CD.
Diverse needs can be a result of aspects, such as learners with CDs’ level of ability, home circumstances and life experiences (Donald et al., 2010). Teachers therefore need to be aware of any intrinsic and extrinsic barriers to learning which learners with CD may experience in order to adapt the curriculum, by addressing the needs of all learners while still achieving the outcomes. According to Engelbrecht, Nel et al. (2013) a flexible curriculum means that classroom organization and management revolves around the type of activity using different tools, methods and techniques to ensure successful learning takes place. At the same time a variety of material and equipment should be available during activities to address all learning styles and needs (Engelbrecht, Nel et al., 2013). According to Roy et al. (2013), any changes to learning activities in a flexible curriculum should be accommodated in the assessment adaptations as well.

Although policies provide guidelines with regard to a flexible curriculum, teachers need to be innovative and find ways to work together in order to make the appropriate adaptations (Naraian, 2011). In their two-year study of learners residing in a lower income region in Adelaide, Australia, Wrench et al. (2013) found that learners with CD’s engagement and achievement is influenced by pedagogy and curriculum. The researchers asserted that the curriculum content should be taught in a manner that integrates learning and knowledge (Garret & Wrench, 2011). The researchers established that pedagogical practices are effective when teachers manipulate the curriculum to accommodate all learner abilities, thereby discouraging learners with CD from experiencing feelings of inferiority. They determined that this fosters well-being and motivates learners with CD, even though socio-economic challenges prevail, as learners are able to explore and imagine bright futures beyond their
financial circumstances. It was also affirmed in this study that this view should be introduced from early schooling which would then become an entrenched way of thinking (Wrench et al. 2013; Wilde & Avramides, 2011).

2.6.7 Inclusive Pedagogy Strategy

Pedagogy refers to knowledge and skills needed by teachers to enable decisions about their teaching practice (Alexander, 2004). Florian and Black-Hawkins (2011) view inclusive pedagogy to be an understanding of how teachers approach lessons and improve existing resources, with the intention of accommodating all learners within mainstream education. Accepting that there are differences among learners allows educators to reinforce inclusion within the mainstream classroom (Florian & Black-Hawkins, 2011). This includes the extension of available ordinary classroom routines to respond to differences. It integrates different or additional approaches to teaching to provide learning opportunities for all learners to participate in classroom activities. Contrariwise, an additional needs approach to inclusion concentrates on a learner in need of additional support, while the inclusive pedagogical approach emphasizes participation of the entire classroom community. It involves adapting teaching and learning methods from a system that works for most learners to subsist together with ‘additional’ or ‘different’ teaching and learning methods for those who experience difficulties. The result is ultimately to develop a healthy learning community that leads to learning opportunities for everyone, allowing all learners to participate in the classroom (Florian & Black-Hawkins, 2011; Florian & Linklater, 2010).

According to Ainscow & Miles (2008), teachers who feel that their own methods need to be challenged rather than focusing on dealing with learners with CD are more
proficient in re-designing their teaching to effectively accommodate these learners. Florian and Linklater (2010) also determined that educators with a greater awareness and understanding of educational and social issues that could affect learners with CDs’ learning seem to be able to develop strategies to support and deal with these difficulties more effectively (Florian & Linklater, 2010).

Within an inclusive pedagogy approach teaching can, for example, be adapted to the needs of the learner with CD by merely extending work that is normally given to the class rather than making work different, or making separate provision for the learner. Collaboration with learners on how to approach this allows the learners to be participants and engage in dialogue to determine their own programme. In this way activities and outcomes are determined by the learners themselves (Florian & BlackHawkins, 2011).

In this study by Florian & Linklater (2010) it was found that applying inclusive pedagogy forced teachers to become aware of the unfair practice of labelling learners according to ability when providing additional support. It was asserted by this study that teachers preferably needed to find new ways of teaching by creating a variety of strategies that included all learners. The results of this study indicated that when teachers apply an inclusive pedagogy approach, they also developed new means of working with others by circumventing other teachers’ ideas on how to teach (Florian & Linklater, 2010). They also responded to learners by not identifying them as individuals that had to conform to a certain standard. The participants in this study began increasingly to take risks; including adapting the curriculum and offering the learners with CD choices without the restrictions of the curriculum.
Research by Wilde & Avramides (2011), exploring the implementation of inclusive pedagogy, found that teachers in certain schools in Northern England felt that this was not an applicable approach since it was difficult to accommodate all learners in the mainstream; particularly those learners with CDs. The teachers also requested more resources and training regarding learners who experience barriers to learning. A South African study by Nel et al. (2014) also confirmed that teachers felt they were not adequately trained in developing collaborative support strategies to establish networks to be able to help learners with CD. Insufficiently skilled personnel affiliated to DBSTs and ILSTs also fell short of providing adequate instructional support with regard to learning programs, learner support materials, assessment instruments and professional support (Schoeman, 2012).

2.6.8 Differentiation Strategy

Differentiated strategy is defined by Tomlinson et al. (2003) as a strategy whereby teachers offer new avenues of learning to learners with CD in response to differences in readiness, interests and learning profiles. Ferguson (2008) describes differentiated instruction as being fundamentally more inclusive of diverse needs as individual needs are met through adaptations in content, processes and products. The learner with CD’s learning style is regarded as central to the learning process and teaching styles therefore need to acclimatize to this and be varied and combined to accommodate all learners. Using visual, auditory and kinesthetic applications allows for flexible and creative instruction and activities to encourage learning. Teachers provide learners with CD a purpose when learning is connected to genuine life experiences beyond the school setting; for example, allowing learners to count real money brings this reality to the school situation (Petersen et al., 2002). In addition,
topics should be chosen that learners are familiar with in their environment to be able to add more knowledge onto this foundation, as suggested in the social constructive perspective.

Differentiated strategy may include offering alternative tasks and additional supervision with additional time allocated to both teaching and learning (Nel et al., 2012). Differentiation within tasks that incorporates increasing levels of complexity enhances higher-order thinking skills and meets individual levels and interests; for example, a mathematical concept can be introduced with three increasingly difficult tasks. The first task uses smaller numbers to explain the concept; the second activity is with larger numbers, while the third requires a fair amount of thinking to solve problems (Nel et al., 2012).

An alternative method of differentiation is to vary the intricacy of an activity. To do this the teacher can divide an activity into various tasks that are on different levels of difficulty to accomplish. This can be done for a comprehension test, for example, where learners with CD may be reading at different levels of competency and understanding. The teacher may set some fairly difficult questions and also include an easier word puzzle based on the story. Providing additional enrichment activities, especially to challenge learners with CD who finish their work before others, also sustains learner interest (Walton, 2012). In any learning activity it is important for the teacher to develop a teaching strategy that utilizes a learner’s strengths to encourage the learner with CD to overcome weaknesses. Learning activities can also be individualized by the teacher who can adapt the way in which a task is expected to be performed or presented by the learner with CD, for example, introducing new words.
prior to a task with repeated explanation during the task for a learner whose home language is not the LOLT (Rothenberg & Fischer, 2007).

In their research regarding the extent that teachers applied differentiation in classroom learning in Australia, Mills et al. (2014) found that teachers were many times uncertain of what was expected of them regarding differentiation. One teacher explained that she tried mixed ability groupings hoping for peer tuition to take place, only to find that there was a lack of motivation by all the learners, and the lower achieving learners experienced difficulty accepting the higher achievers. The teacher eventually found that friendship groups worked best as close relationships produced strong commitment. The researchers concluded that it seems that school policies restrict the freedom of teachers to experiment with various pedagogical strategies to better assist their learners with CD and this could have contributed to the uncertainty.

Researchers Roy et al. (2013) proposed a method to develop and validate a Differentiated Instruction Scale (DIS) in Quebec, Canada. The DIS was to provide information and guide teachers regarding specific and adaptable approaches for particular learners with CD. The researchers found that with a differentiated approach where there are different outcomes for different learners with CD, some learners with learning difficulties experienced social comparison and as a result low self-concept. This implied that learners with CD compared their coping abilities with that of their peers and developed a low self-esteem when unable to keep up with the others. They proposed therefore that differentiated instruction should be according to learner with CD’s abilities, interests and style of learning without different outcomes. In support of this the researchers cited Tomlinson et al. (2003) who emphasize that differentiation should apply to the following aspects in an integrated manner: Content – focusing on
learners’ competencies, goals and expectations, Process – adapting instruction through activities that create understanding and product – learner’s ability to demonstrate knowledge.

2.6.9 Differentiated Assessment Strategy

Assessment is an integral part of education and a variety of strategies should be utilized and modified accordingly to assess learner with CD knowledge, attitudes and skills. These could include oral tests, projects, examinations and presentations. At the same time both manageable and challenging assessment tasks should be made available to all learners (Walton, 2012). According to Walton (2012), two important categories of differentiation in learning and assessment tasks include: Differentiation where the difficulty of a task’s concept remains unchanged and differentiation that permits a learner to work at different levels of conceptual difficulty.

2.6.10 Multi-Level Teaching Strategy

Multi-level teaching and differentiated teaching strategies are very closely linked. According to Walton (2012) “multi-level teaching is a strategy that can be used for differentiation”. Multilevel teaching revolves around the teacher designing a lesson on a topic that provides multiple opportunities, at varying levels, in which all learners in the class can participate and demonstrate their skills through assigned differentiated learning tasks. This means that teachers can plan a single lesson on a particular topic allowing access to the curriculum for every learner with CD. In addition, the teacher’s workload is reduced as one lesson plan can accommodate all learners allowing each the opportunity to be challenged at a level of intellectual and academic ability that he or she feels motivated to continue (Engelbrecht & Van Deventer, 2013). Designing a
Differentiated lesson plan also requires flexibility in the teacher’s presentation style in order to reach all learners with CD (Betts & Letkemann, 2003). Through this mode of teaching teachers are able to get to know their learners’ academic abilities, become adept at identifying learner support needs and cultivate new ways of organizing lessons. A good classroom relationship develops when learners with CD are challenged at a level where they feel motivated to continue and the teacher shares in each learner’s success (Betts & Letkemann, 2003).

The benefits of multi-level teaching include (Engelbrecht, 2013b): allowing learners with CD to work at their own pace makes them feel more confident to tackle a task. Alternatively, the teacher can increase the pace of a learning activity and allow the learner to compete against himself or decrease the pace by giving the learner a starting point ahead of others. Encouraging learners with CD to work independently by ‘simplifying’ the work through dividing into manageable chunks. In order for a learner with CD who experiences barriers to learning to feel comfortable in a group setting, the teacher should modify the nature of the task and, if need be, the extent of the learners with CD’s active involvement. Developing organizational skills and responsibility for own learning. Allow alternative ways in which the learner with CD can demonstrate competence, such as relating a story verbally instead of written work. Limiting derogatory competition. The teacher needs to continually emphasize the need for accuracy and not speed. Focus on calling for aspects such as neatness to prevent learners with CD from speeding through their work.

There are various ways in which to present teaching a topic at different levels of difficulty (Walton, 2012). To introduce a new concept, cooperative teaching can be
utilized whereby learners with CD are placed in mixed ability groups. The teacher can design work stations over a period of five days for each group with a specific task for each day. Groups are rotated the following day. In this way learners are taught within small groups to master the concept (Nel et al., 2012). Whole class teaching followed by group activities entails teaching a concept to the whole class and thereafter setting differentiated activities within groups, while the teacher walks among groups to assist individuals. Peer tutoring can be very effective as learners could feel more comfortable being tutored by their peers. Providing more challenging material in a step-by-step approach such as the principle of scaffolding.

Differentiating tasks for individual learners with CD can be done in several ways, for instance (Nel et al., 2012): Altering the conditions in which a task is performed, such as allowing for extra time. By changing the manner in which a task is presented, such as going through difficult words first before the learner with CD is expected to summarize a story. Marking leniency allowed for instances such as incorrect spelling granted to learners with CD, as it is considered a motivating factor in reducing feelings of inferiority when compared with marked work returned to the learner with CD covered in red corrective ink. Individualizing tasks so that they can be presented in several ways, for example, learners are given a choice whether to write about a rocket, talk about it, or construct one. Providing enrichment activities such as challenging word puzzles to learners who complete their work before the others to keep them challenged and active throughout the lesson. Differentiating a task with different degrees of difficulty. This can be done, for instance, by introducing a poem with three progressively difficult tasks. The first task asks straightforward questions on the poem. The second task requires learners with CD to offer a substantiated
opinion on aspects of the poem. The third task expects learners to compose their own relevant poem.

### 2.6.11 Collaboration among Teachers

Collaborative partnerships comprise all role players, with support personnel and health professionals. In order to enable teachers in mainstream schools to explore effective teaching strategies, collaboration among all these role players is necessary as all impact on a learner with CD’s learning process (Nel, 2013). Further to this, collaboration among teachers is the most important facet in a mainstream environment as it allows for advancement in an individual’s learning and an all-round positive school environment (Florian & BlackHawkins, 2011). This is because constructive involvement by teachers through sharing knowhow on effective teaching strategies to further the inclusive process draws on the interests and concerns of their learners with CD (Ainscow & Miles, 2008). Effective collaboration requires support structures and good leadership provided by principals and heads of department (HODs) because through collaborating with each other they promote mainstream practice and provide quality education to all learners.

Collaboration among teachers takes place by listening to each other, sharing materials, exchanging knowledge, and learning from each other’s skills and experience. In addition, teachers can share resources and encourage one another (Donald et al., 2010). Knowledge and experiences about learners with CD shared among teachers can often play an important role in solving problems or serve to encourage a CD learner. For example, a hockey teacher can inform a class teacher of certain learner strengths on the hockey field which can be utilized to great effect by
the class teacher in the learner with CD’s academic work. Collaboration among colleagues in the practice of inclusive pedagogy occurs in a supportive manner resulting in confidence to experiment with new ideas and share resources. Meetings can be held on a regular basis to discuss methodology developed by teachers and how to modify the curriculum (Florian & BlackHawkins, 2011).

Teachers can also encourage one another to become actively involved and participate in many activities revolving around their learner with CD’s academic and extracurricular interests, such as sport and fund raising activities (Sapon-Shevin, 2010). In addition, effective classroom management techniques are often shared among teachers, particularly when dealing with learners with CD exhibiting behavioural problems.

2.7 Communication Disability and their Effects on Educational Performance

U.S. Department of Education (2005), reported that speech and language disability can affect the way learners talk, understand, analyze or process information. Speech disability include the clarity, voice quality, and fluency of a learner's spoken words. Language disabilities include a learner's ability to hold meaningful conversations, understand others, problem solve, read and comprehend, and express thoughts through spoken or written words. Communication skills are at the heart of life's experience, particularly for learners who are developing language critical to cognitive development and learning. Reading, writing, gesturing, listening, and speaking are all forms of language – a code learners use in order to communicate ideas. Learning takes place through the process of communication. The ability to participate in active and
interactive communication with peers and adults in the educational setting is essential for a learner to succeed in school.

Spoken language provides the foundation for the development of reading and writing. Spoken and written language have a reciprocal relationship – each builds on the other to result in general language and literacy competence, starting early and continuing through childhood into adulthood. Learners with CD frequently perform at a poor or insufficient educational level, struggle with reading, have difficulty understanding and expressing language, misunderstand social cues, avoid attending school, show poor judgment, and have difficulty with tests. Difficulty in learning to listen, speak, read, or write can result from problems in language development. Problems can occur in the production, comprehension, and awareness of language at the sound, syllable, word, sentence, and discourse levels. Learners with reading and writing problems also may experience difficulties in using language strategically to communicate, think and teach, (U.S. Department of Education, 2005).

Kimani (2016), reported that education is a fundamental right for all persons including those with special needs. It is a key to other human rights, the heart of development and a tool for empowering people to improve their welfare. The World Educational Forum for All in Dakar recognized it as the prerequisite for equity, diversity and lasting peace. Examinations and certification of learners are central to the education and learning process. However, this poses challenges to learners with special needs in that their performance does not commensurate with those of their peers in normal schools. Their performance is often dismal. Examination results often causes a rift between school administrators, education officers, parents and the
teachers, as their hopes are pegged on performance. This happens in spite of the challenges the learners with special needs go through, including financial, social, psychological, mobility and the attitudes the community holds towards disability (Adolo, 2006). As a result, very few learners with CD end up being enrolled in primary schools. Besides, majority of them are economically dependent on relatives, friends and well-wishers and this leads to poor integration of such learners in these schools (Wamuchu, Karagu & Nwoye, 2008 cited in Kimani 2016).

Learners with autism may be academically able but they typically experience difficulties in social interaction, communication and imagination and are more vulnerable to bullying and social isolation. Their inclination is likely to be at odds with what is described as ‘the noisy, bustling and chaotic environment of mainstream schools and they may therefore make greater progress in a school setting that can take greater account of their preference for routine, predictability and low sensory stimulation. Studies on the impact of special education have similarly come up with mixed results. Some research finds that special education programs have either no effect, or a negative effect, while there are also robust studies that indicate that such programs on average have a significantly beneficial effect on performance. One large-scale study in the USA, which concluded that special education programs did boost the academic performance of learners with CDs, found that these positive program effects were much larger for learning disabled and emotionally disturbed learners, whose particular ‘disability’ was likely to impede classroom performance, than for speech impaired learners. Other studies of individual learners with CDs have found that the fit-for-purpose environment of a special school and the scope there for more
individual attention and instruction have had significant beneficial effects, (Schools, n.d.).

Newmonic (2016), reported that language disability affects both oral and written language. The problem becomes more identifiable when the learner is expected to make the shift from contextualize language to the greater demands of decontextualized language. Contrast that with decontextualized language, which is the language of the classroom. For example, a teacher may ask, ‘What is the capital city of France?’ A learner may not know the answer because it could be new information, so will need to look up the answer in a book. The point is this, decontextualized language is much tougher to learn than contextualized language, because the learner has to learn new information, mostly without a supporting context.

Packer (2015) stated that a learner who is inattentive, poorly behaved in class and getting bad grades might be thought that the learner has a learning disability. Quite often hearing loss, whether mild or severe, has a profoundly negative effect on academic performance. According to the Centers for Disease and Control (CDC), 1.3 out of 1000 8-yearolds have bilateral hearing loss; loss of hearing in both ears of 40 decibels (dB) or more. And 14.9 percent of learners aged between 6 and 19 have hearing loss of at least 16 dB in one or both ears. Even unilateral hearing loss; hearing loss in only one ear has tremendous impact on school performance; research shows anywhere from 25 to 35 percent of learners with unilateral hearing loss are at risk of failing at least one grade level.
2.8 Summary of the Literature Review

Communication disability are classified into speech disability, language disability and hearing disability. Severity ratings of speech-language pathology are based upon clinical judgment rather than an absolute numeric standard or severity rating scale such as those used in ranking the level of intellectual disability. Severe communication disabilities may result from acquired injuries and illness or from developmental conditions. The onset of communication disability has most consistently been demonstrated for a history of physical or sexual abuse which is often accompanied by verbal abuse. Many speech problems are developmental rather than physiological, and as such they respond to remedial instruction and that is why learners with CD are mainstreamed. Language experiences are central to a young child’s development. Given the adverse effects of other forms of abuse and the high prevalence of verbal abuse, the study were more specifically assessed the effects of verbal abuse in isolation on learners with CD who had been identified by CD professionals.

The literature indicated that little has changed regarding the implementation of policy guidelines to become a full-service school and the further development of the school towards inclusion. The learners with CD were still placed in separate classrooms or isolated and described in medical deficit terms. The reason posed for this by the teacher is that mainstream classroom teachers struggle to accommodate the learners with CD. They attribute this amongst others, to not being trained to provide the specialized support they think these learners need, too little time to attend to all the individual learners who experience CD, too many learners in a class and a lack of learning support resources, including adapted reading material.
While teachers’ skills in adapting the curriculum to meet individual learner’s needs and goals in a diverse class are the key to improving outcomes for learners with CD, the success of inclusion as a policy depends on teachers being able to use these strategies at the same time as they meet their equal responsibility to the other learners in their class including high achievers. Teachers and parents often express concern about the effect of having learners with CD, especially learners with behavioural difficulties, in mainstream classes. Differentiation on the basis of individual educational need and using progress monitoring to inform teaching and learning have been shown to have the potential to promote gains in all learners, increasing the achievement level of learners with CD or at risk of failure at the same time as raising the scores of typical learners and learners labelled as gifted and talented.

A variety of teaching strategies should be used to accommodate all learners in the mainstreamed classroom and must be part of the lesson planning stages. In order to address all learning styles as well as implement differentiation—a key strategy of instruction in a mainstream classroom—teachers need to know their learners by interacting with them and keeping learner profiles to follow their progress. With an emphasis on participative methods between teacher and learner as well as between leaners and a focus on learner-centred learning teaching, methods in an mainstream classroom could include the following activities: A variety of teaching strategies to address all learners’ diverse learning needs and ensure all learners understand the content, direct teaching by the teacher, whereby an initial explanation of a concept is discussed but also encourages learners to make their own independent decisions, a differentiated approach, especially in applying the language of learning and teaching (LOLT) that incorporates differentiation of instruction methods as well as that of
content to vary the complexity of an exercise or activity, peer teaching in pairing or groups and class or group discussions whereby the teacher ensures full participation, respect of opinions and understanding of work, which includes explaining, problem-solving, predicting and debriefing of work to follow among others.

Learners with CD struggle mightily with decontextualized language. They are at a big disadvantage as soon as they step into the classroom, from prep onwards. The problem increases as the learner moves through the upper classes, from early years to the later primary school years. Decontextualized language becomes more common and established, and learners are expected to cope with its demands. Literature reported that CD learners always remembered bad things said or done to them by their teachers or peers while learning. Some learners reported were not interested in learning, and only others usually felt sleepy in class while learning. This revealed the presence of psychosocial challenges in a classroom and some teachers may object to having learners with CD in their schools or classes fearing that those learners would lower their schools’ mean scores because the education system is examination oriented.
CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction

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

3.1 Research Design

A descriptive survey research design was adopted in this study. A descriptive research design is considered to be the most appropriate approach for this study because it describes existing situation, of prevalence of children with communication disorders (Price, 2000). A descriptive research design not only concerns itself with the current status of things but also focuses on a group of subjects, as the present study focused on a group of about learners with CD in public primary school in Kericho County. 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). This includes the conditions existing, relationships, opinions held, processes going on and trends developing among others. 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 effects of CD on educational performance among class three learners in Kericho County 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.

3.2 Study Area
This study was carried out in Kericho County, one of the 47 Counties of Kenya. It is bordered by Kisumu County on the west, Nyamira County on the south-west, and Bomet County to the South-East, Nakuru County to the east, Baringo County to the north and Uasin Gishu County to the North-West. Kericho County was selected out of 47 counties of Kenya because it is thought to have the highest number of learners with communication disorders (MOE, Kericho EARC, 2014).

3.3 Target Population
The pupil population is distributed in 582 primary schools, whose total entry is 163,133 in the whole county, (MoE: Kericho County, 2014). The study targeted 600 class teachers and all class 3 learners in public primary school whose population were 25,000, of which 52% males and 48% females in mainstream primary schools in Kericho County.
3.4. Sampling Technique and Sampling Size

3.4.1. Sampling Technique

Sampling is a procedure of selecting part of a population on which research can be conducted, which ensures that conclusions from the study can be generalized to the entire population. Nonprobability sampling methods are mostly utilized in qualitative research, such as, the purposive sampling criterion used in this study. Participants in purposive sampling are the holders of the data needed for research and chosen according to preselected criteria befitting the research question as they are involved in the required settings and activities (Nieuwenhuis, 2010b). The criteria essential for participants involved in this research engaged schools practicing mainstream education. This method of sampling also allowed for convenience when considering travelling and time saving aspects for the research.

The population sample for the purpose of this research comprised twenty class 3 teachers drawn from five mainstream primary schools in Kericho County. During formal and informal meetings the teachers from the selected schools indicated that they believed they were implementing successful mainstream education of learners with CD s’. This was part of the motivation to conduct this study as they further indicated their readiness to complete questionnaires.

3.4.2 Sample Size

A sample is a set of individuals selected from the target population. The degree of representativeness of a sample refers to how closely the sample mirrors the population (Gravetta and Forzano, 2006). Kerlinger (1973) indicates that sample size, 10% of the target population is large enough so long as it allows for reliable data analysis and by
cross tabulation provides desired level of accuracy in estimates of large population and allow for testing for significance of differences between estimates; in other words, the sample size depends on what one wants to know, the purpose of the study, what is at stake, what will be useful, what will have credibility and what can be done with available time and resource. Kericho educational, assessment and resource centre (Kericho EARC, 2014) informed the study on the 5 primary schools practicing mainstream education and of great concern CD learning. Therefore, the study purposely selected 20 learners with CD, 5 class three teachers and 5 head teachers to participate in the study.

3.5 Variables of the Study

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 effect of the independent variable. A dependent variable therefore varies as a function of the independent variable. In this study, the independent variable was the effects of CD while the dependent variable was educational performance of learners with CD in mainstream public primary school. Measurement of these variables depends 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 in the case of the qualitative study.
3.6 Data Collection Instruments

The researcher used questionnaires and interview guides. The researcher administered questionnaires personally.

3.6.1 Questionnaires

To achieve the objectives of the study, the researcher collected data using questionnaires for teachers and learners. The questionnaire for teachers consisted of sections A. Sections A consists of personal details and general information, while section B consist of structured questions. The questionnaire for learners tested the types of CD, curriculum adaptation, teaching/learning facilities and learners’ performance for the year 2017.

3.6.2 Document Analysis

A document analysis was used to collect learners with CD’s educational performance for the year 2017.

3.7 Validity and Reliability of Research Instruments

3.7.1 Validity of Research Instruments

Validity of the research instruments used in this study was enhanced through the application of content validity procedures. Mugenda and Mugenda (1999) stated that content validity is a matter of judgment by professionals or experts in a particular field. An instrument is said to be valid if it measures what it is designed to measure (Orodho, 2008). This was done to ensure that all possible items that should be used in measuring the concept under study were included. A number of strategies were implemented to enhance credibility and authenticity; the main criteria of
trustworthiness in qualitative research (Denzin, 2012; Denzin & Lincoln, 2003; Schwandt, 2001). In this regard, supervisors audited the research instruments to ensure that the steps were logical. Reflective comments were made during and after interviews and sought peer debriefing with the supervisors to help bracket the preconceived ideas and remain as neutral as possible throughout (Finley, 2014). Rich data and detailed information were obtained to contextualize findings and to enhance transferability.

3.7.2 Reliability of Research Instruments

The reliability of the questionnaires helps to establish whether the questionnaires are able to provide similar results if a different sample is selected from the same population. This was tested by use of alpha reliability index which helps to test the internal consistency of the questionnaire. This method is most appropriate because it helps to save on time since the questionnaires are only tested once. The questionnaires were coded and with aid of the computer package, Statistical Package for Social Sciences (SPSS), the alpha index was computed.

According to Sekaran (2005), if the Cronbach’s alpha index is less than 0.6, it means that the instruments has a low reliability and thus open for some errors. If the alpha index value is above 0.7, the instrument has acceptable reliability. The internal consistency reliability coefficient (Cronbach’s alpha) for the scales used in this study are all well above the level of 0.7, acceptable for the analysis purpose. The study established the alpha reliability index as 0.733 which was therefore accepted as appropriate for this study.
3.8 Data Analysis

Before processing the responses, data preparation was done on the completed questionnaires by editing, coding, entering and cleaning the data. The quantitative data collected was analyzed using descriptive statistics such as frequencies, percentages, mean and standard deviation, pie charts, bar graphs and contingency tables. The descriptive statistical tools helped in describing the data and determining the respondents’ degree of agreement with the various statements under each variable. Data analysis was done with the help of the SPSS programme in which a one-way ANOVA was used the 2x3 factorial design on learners’ educational performance. Content analysis was used in processing of qualitative data from the open ended questions and results presented in prose form.

Staying within the study focus of communication disability and their effects on educational performance of learners with CD in mainstream primary schools, an inductive process of experiential thematic content analysis was applied, as is the norm (Smith, 2004:43).

3.9 Logistical and Ethical Considerations

The researcher was cleared by the Graduate School of Kenyatta University before proceeding to the National Council of Science and Technology to obtain a permit to conduct research. Upon obtaining the necessary authority to conduct research, the researcher followed appropriate channels of authority by obtaining permission from the Kericho County Director of Education Office before proceeding to schools for data collection. The researcher before embarking on the study sought informed consent from the parents of learners with CD as shown in appendix I and carefully
cooperated with them freely so as to collect 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, PRESENTATION, INTERPRETATION AND DISCUSSION

4.0. Introduction

The purpose of this study was to establish communication disability and their effects on educational performance of learners in mainstreamed public primary schools in Kericho County, Kenya. This chapter presents the data analysis, interpretation and discussion of the findings. The study objectives were; to find out how learners with communication disability are mainstreamed in public primary schools, to find out school’s policies on mainstreamed learners’ with communication disability in public primary schools, to establish the teachers’ attitudes towards mainstreamed learners with communication disability in public primary schools, to evaluate intervention strategies used to support learners with communication disability in public primary schools and to determine the effect of mainstreaming learners with communication disorders on educational performance in public primary schools.

4.1 Demographic information of the Respondents

The study sought to establish the demographic factors that describe the target population. Three factors were considered for the study; gender, the age in years and professional qualification of the respondents. The results of the study were categorized into two as presented below:
4.1.1 Learners’ Gender

The study established the learners’ gender as indicated in the pie chart below:

![Figure 4.1: Learners’ Gender](image)

There were more boys than girls with communication disability as indicated by 60% of them and 40% of the girls.

4.1.2 Learners’ Age

Learners’ age were recorded and represented in the figure below.

![Figure 4.2: Learners’ Age](image)
In class 3 leaners with CD, 15% were aged less than 8 years and 80% of them were between 9 to 10 years. Only 5% were more than 11 years old.

![Figure 4.3: Teachers’ and Head Teachers’ Ages in Years](image)

Regarding the ages of the participants, the study found out that 20% of the teachers were aged between 21-30 years and 60% of them were aged between 31-40 years. A few of the teachers aged over 40 years. Among the head teachers 20% aged between 31-40 years as the majority, 80% were over 40 years old. Interestingly, Forlin, Keen, & Barrett (2008) noted that teachers with more experience were more concerned and that professional development did not reduce these concerns.

### 4.1.3 Professional Qualification of the Teachers and the Head Teachers

Certainly the different circumstances of each learner with CD in the mainstream education classroom, is that there is no one-size-fits-all approach that will work for all learners. This is due to the fact that the critical ingredient of effective mainstream education is an individualized approach. Consequently teachers need to be well
prepared for a diverse range of learners, flexible in their preparedness to respond to individual differences and equipped to use a variety of teaching strategies and techniques that they can adapt to promote learning for individual learners. In this regard the study generated information on the professional qualifications of the respondents and were as represented in the figure below.

![Figure 4.4: Professional Qualification of the Teachers and Head Teachers](image)

The way teachers are able to practice their profession in terms of the autonomy and independence they have in adapting their teaching to the needs of their learners – is recognized as a key factor in quality teaching generally, and is particularly important for learners with CD. From the finding the study found that most of the head teachers 60% had degree certificates as compared to teachers who were 40%. The same pattern was also noted in diploma qualifications where 40% of the head teachers had diploma certificates compared to 20% of the teachers with the same qualifications. The study associated this trend to the fact that the minimum requirement to teach in primary school is P1 a certificate and since head teachers have stayed longer than
teachers in the field, most of the head teachers have furthered their studies compared to the teachers. Expected none of the head teachers had P1 qualification, 0% but 40% of the teachers had the minimum qualification.

With such a large proportion of learners having CD learning needs, extensive reliance on specialist staff is not an option which the study established that 60% of the teachers were trained in special education and 40% were not. All of them studied through in-service training. Not everything can be accomplished in a mainstream education however and specialist staff with knowledge of specific pedagogies that work with particular disabilities and learning difficulties are much in demand AISNSW (2017).

4.2 Mainstreaming Learners with Communication Disability

4.2.1 Learners with Communication Disability in Mainstream Schools

The study found out three types of communication disability as assessed by professionals in the EARC who have done courses in communication disabilities; speech, language and hard of hearing as indicated in the figure below.
In speech disability, articulation was found with the highest number (40%) of learners, followed by fluency with 15% and sound recorded the least number of learners with 10%. Under language disability, 15% of the learners with CD was reported to have phonology disability, 5% had morphology and 0% had syntax type of communication disability.

There were only two type of hard of hearing disability in which mild hard of hearing was found in 10% of the respondents and moderate hard of hearing was found in 5% of the respondents.

According to Doyle & Dye (2002 cited in Ehlert, 2017), the effect of hearing loss in learners has a specific order and these effects vary with the significance of the hearing loss. This order is as follows: speech and language difficulties, academic problems and social and emotional issues. The Centre for Disease Control stated that teachers' lack of awareness and knowledge and its effects is due to lack of training. Ehlert,
(2017) while citing Pottas (2005) stated that although mainstream education is something that is supposed to be practiced nationwide in South Africa, teachers' negative attitudes towards hearing loss will firstly have to be addressed as they are the ones who are supposed to implement the mainstream education approach. Teachers' negative attitudes towards the mainstreaming of the learner with hearing loss are related to their personal experiences with hearing loss.

In mainstream schools, teachers are responsible in providing such a learning program due to the fact that teachers’ skills in adapting the curriculum to meet individual learner’s needs and goals in a diverse class are paramount. When the respondents were asked if the stipulated time in adapting mainstream curriculum of learners with CD was adequate, they reported as indicated in the figure below.

![Figure 4.6: Time Adequacy in Adapting Mainstream Curriculum of Learners with CD](image)

The study found that the stipulated time for teaching was not enough, though 20% of the teachers and 40% of the head teachers said it was enough. But 80% of the teachers and 60% of the head teachers said the time stipulated for teaching was not enough.
Curriculum adaptation rather than a separate curriculum is recognized as best practice in meeting the unique needs of learners with CD in the mainstream classroom. The participation of learners with CD in mainstream classes formalizes the expectation that they should have access to the general curriculum and underlines the importance of teachers’ skills in adapting the curriculum to their individual needs, without which these learners are likely to fall further behind. Teachers repeatedly cite time constraints as a barrier to catering for learners with CD, as well as to giving adequate attention to non-disabled learners without CD. They highlight their need for more time – time for individual planning, lesson planning and preparation, collaboration with colleagues, professional development and engaging with families – as essential to working with a class of diverse learners, ANSWS.

![Figure 4.7: Way of Helping Learners with CD](image)

When most of the respondents reported that the stipulated time for teaching was not adequate in adapting mainstream curriculum, the study went further to inquire some of the way teachers help learners with CD. Step-by-step teaching was used by 10% of the teachers and 20% of the head teachers reported it to be a method used in their
schools in helping learners with CD in order to bring all the learners on the same level. Remedial teaching was reported to be used by 10% of the teachers and 40% of the head teachers said it was used in their school. The study noted that teachers’ perception of having adequate non-teaching time as a key factor in the effective management of classroom diversity. Most teachers viewed curriculum adaptations as remediation; that is remedial work which can be practiced outside the allocated classroom time. Thus teachers were adamant that as a way of adapting the curriculum, they can make use of remedial work and differentiation only if practiced outside the allocated lesson time. (mpho 2014).

It was also found that 50% of the teachers great extra-time to teach learners with CD as the same point was supported by 40% of the head teachers. The point was vehemently supported by learners with CD when they were asked whether they have extra classes after the lessons when the others were playing and the results are shown in the figure below.

![Extra Classes After Lessons](image)

**Figure 4.8: Learners with CD being given Extra Classes after Lessons**
When learners with CD were asked if they are given extra classes after the lessons, 75% of them said they received and very few, 25% said they don’t receive. The study proceeded to inquire the number of times they receive per week and the results were reported as shown in the figure below.

![Pie chart showing the number of times learners with CD were given extra time lessons per week. 47% received extra time thrice per week, 40% received it twice a week, and 13% received it once a week.]

Figure 4.9: Number of Times Learners with CD being given Extra Time

The learners with CD who received extra time lessons thrice per week were the majority as indicated by 47% of them. Those who were given extra time twice a week followed with 40% and 13% of them got it once a week as shown in the figure above. These findings agreed with what (mpho 2014) reported in their study that teachers believed that helping learners within the 40 minutes of stipulated time for a lesson was inadequate, hence their decision to teach them at a separate time. Such interpretations imply that teachers do have the aspirations to assist learners with CD and wish to help them; however, they do so outside of regular time, which is not what mainstream is about. Teachers hinted that it was important that they separated them to help them and that it was difficult to teach the CD learners when other students needed to be taught the general lesson. Thus the reasons for this practice was not only
a lack of understanding of curriculum adaption within the context of mainstream education but perhaps a lack of appropriate skills to support such learners simultaneously with the delivery of regular classroom teaching activities.

4.2.2 School’s Policies

A policy of mainstreaming puts the onus on each school to recognize and support diversity because it is possible to have integration of learners with CD, in the sense of physical placement in mainstream classes, without real acceptance, participation and valuing diversity. The choice mainstream school at a particular stage in the education cycle can only be resolved on an individual basis, taking into account the individual needs of each learner and parental preference, with guidance from special educators and other specialists. The head teachers were given items and asked to indicate the extent of their agreement and the results are shown in the table below.

Table 4.1: School Policy

<table>
<thead>
<tr>
<th>Statement</th>
<th>% Frequency</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the way teacher treat learners with CD impact performance?</td>
<td>20</td>
<td>80</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>There is open communication on issues affecting learners with CD.</td>
<td>40</td>
<td>40</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Frequently hold meeting to discuss issues affecting learners with CD.</td>
<td>20</td>
<td>20</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>Administration normally involves stakeholders in decision making.</td>
<td>0</td>
<td>80</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Administration is less concerned with issues affecting learners with CD.</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>80</td>
</tr>
</tbody>
</table>
Effectiveness of mainstreaming depends not on the setting but on the characteristics and needs of a particular learner and also on the quality of the education experience. In this regard when the head teachers responded on whether the way teachers treat learners with CD affect their performance, 20% strongly agreed as 80% of them agreed to the point because the setting itself is less important than what goes on within the setting. Dramatic differences in performance for learners with CD have been found to be associated particularly with variation in the quality of teaching, whatever the location, just as is the case for mainstream students. A learning plan, may be the critical ingredient of mainstream education in the classroom, but an individual education plan does not solve all problems. A quality schooling experience for learners with CD is also dependent on acceptance by classmates and opportunities to play a full part in the wider life of the school including extra curricula activities.[Ainsws].

A positive school culture, which is generally understood to encompass the social dynamics of a school – the tone set by head teachers, the relations between teachers and learners, the sense of community, teacher and learner morale, norms among peers, a sense of safety and respect and a drive for achievement applying to all students – is associated with higher educational performance and greater learner with CD wellbeing across all schools. The study was concerned whether mainstream schools have an open communication on issues that affect learners with CD and 40% of the principals strongly agreed to the statement and majority, 60% agreed. This could be through holding meetings to discuss such issues which was practice by 20% of the principals who agreed although most of them 80% disagreed to be using meetings on such matters. Nowhere is school climate and culture more important however, than in
addressing CD education needs in mainstream settings. Accepting that educating learners with CD is an issue for the whole school, not just for individual teachers, is of primary importance AISNSW.

The value of direct involvement of parents in schooling is normally believed to have better outcomes. When the study asked the head teachers if the school administration normally involves teachers, parents, learners and other professional bodies in decision making on mainstream education, 80% of them agreed to be practicing it and 20% disagreed to the point. But asked whether they were less concerned with such issues, 20% disagreed and majority, 80% strongly disagreed on the point. The evidence also shows that the successful education of learners with CD is even more dependent on close parental engagement. Through the processes of choosing the best school setting, the development of individualized plans, monitoring progress and seeking additional support, the best outcomes are achieved when families are engaged as partners with the school. Parents have the right to choose a school, and under the Disability Discrimination Act, schools must consider the enrolment application from a learner with CD on the same basis as others, regardless of the level of supplementary assistance that might be needed, unless they can categorically prove undue hardship due to the enrolment of a learner with CD, AISNSW (2017).

**4.2.3 Attitudes towards Learners with CD**

Attitudes towards mainstreaming are complex and are deeply embedded in personal beliefs about human differences like the attitudes about learners with CD who struggle and the belief that some learners are ‘worthy’ of help while others are ‘unworthy’ can affect implementation (Forlin, 2010). For the success of mainstream
education, most notably the role of positive attitudes and teacher beliefs in shaping mainstream classroom environments is paramount and therefore the study generated data seeking teachers’ and head teachers’ attitude concerning mainstreaming learners with CD. The following were the findings.

Table 4.2: Teachers’ Attitude

<table>
<thead>
<tr>
<th></th>
<th>% Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td>Learners with CD should be taught in special schools</td>
<td>40</td>
</tr>
<tr>
<td>Learners with CD should be taught in mainstream schools</td>
<td>20</td>
</tr>
<tr>
<td>Communicating with learners with CD is frustrating</td>
<td>60</td>
</tr>
<tr>
<td>Which learners do you prefer to handle?</td>
<td></td>
</tr>
<tr>
<td>Learners with CD</td>
<td>50</td>
</tr>
<tr>
<td>Learners without CD</td>
<td>80</td>
</tr>
<tr>
<td>Both</td>
<td>30</td>
</tr>
</tbody>
</table>

When teachers were asked if they agree or disagree with the statement that learners with CD should be taught in special schools 40% agreed to the point and 60% disagreed. On whether CD should be taught in mainstream schools 20% of the teachers agreed as 80% disagreed to the statement. This implied that they have a negative attitude of mainstreaming learners with CD a point which was confirmed when 60% of the teachers reported that communicating with learners with CD was frustrating them as 40% disagreed to the statement. From these findings teachers’ attitude was not for mainstreaming learners with CD and this means that implementation of mainstream education programs is not easy. Remarkably, teachers play a significant role in the successful implementation of mainstream education and
they are required to undertake new roles and responsibilities for successful implementation. For example, they need to work collaboratively with the school administration, other professionals and parents in developing and implementing educational plans for learners with CD. Research undertaken on teachers’ willingness to teach in mainstream classrooms suggests that while teachers are generally willing to include learners with CD in their classrooms, they continue to express concerns when learners with CD are included in their classroom (Forlin & Chambers 2011).

The study went further to inquire from the teachers which learners they would prefer to handle and equal number agreed compared to those who disagreed. But majority preferred handling learners without CD since 80% of them agreed while 20% disagreed. More teachers also disagreed handling both learners which was represented by 70% than those who agreed, 30% of them who agreed. In a relatively small sample investigation conducted in the New York school system, Familia-Garcia (2001 cited in Murungi, 2017) investigated the attitude of educators concerning mainstreaming of learners in the regular classroom. All the special education teachers investigated possessed positive attitudes towards working in a mainstream learning environment, even if they were mandated.
The figure above represent head teachers’ opinions on attitude towards learners with CD in which 20% of them reported that their teachers relate well with learners with CD as the majority, 80% of them said their teachers do not relate well with learners with CD. The head teachers were also asked to give their opinion on how teachers in their schools accepted learners with CD in their classes. 40% of the head teachers said their teachers accept learners with CD in their classes while majority, 60% said teachers don’t accept learners with CD. The findings agreed with what Familia-Garcia (2001) in Murungi, (2017) in which half of the teachers in mainstream schools agreed to try mainstreaming while the rest declined. The half of teachers that declined mainstreaming sighted that it would not work and 80% of them indicated that they would transfer if mandated to work in mainstream setting. Florian (2013) posited that quit a number of general academic teachers in Scotland opposed mainstreaming in their classes believing it interferes with effective education of learners without disabilities.
4.2.4 Intervention Strategies

Mainstream education challenges teachers to develop a wide range of teaching methods within the classroom because the learners possess complex requirements. Communication disability learners are likely to benefit more from various teaching/learning approaches like the use of a variety of textbooks, speech aids, charts, models and even computers as shown in figure 4.11 below.

![Teaching Resources](image_url)

**Figure 4.11: Teaching Aids Provided by the School for Learners with CD**

Teaching learning resources are very important for effective teaching for learners with CD and when the study inquired from the teachers the copies/pieces of teaching aids provided by the school, it was found that textbooks, hearing aids, speech aids, charts, models and computers were available in varying quantities. Therefore, 2 schools had between 10-15 textbooks while 3 of them had more than 20 copies. Concerning the hearing aids 2 schools each had 5-10 and 10-15 pieces respectively. Tapping into the senses, particularly the auditory and visual intuits by providing concrete learning material such as slides, charts, counters and CD players, seems to be essential (Mahaye, 2003 cited in Wahl, 2017). Although learning material resources are
limited, the participants were creative in designing and making their own resources. Therefore, blame cannot rest squarely on the unavailability of resources as a reason to not teach inclusively (Florian & Black-Hawkins, 2011). A noticeable component of the classroom (and outside classroom) activities was the element of fun that was incorporated by the participants. Speech aids were only found in 2 schools each had less than 5 pieces and 2 schools had less than 5 charts also and 3 schools had 5-10 pieces of charts. Models are used to represent real life situation and 1 school had less than 5 pieces 2 schools had 5-10 and 10-15 pieces respectively. Only 2 schools had a computer each. Teaching strategies contain methods teachers use to help learners access information by determining achievable goals. This can be done by: visualizing, such as, by displaying pictures; auditory methods, through listening to the teacher or a recording and kinesthetically by letting learners experience a situation and actually doing something, such as an experiment (Wahl, 2017).

![Head Teachers' Rating of T/L Resources](image)

**Figure 4.12: Head Teachers’ Rating of the Teaching and Learning Resources**
In order to understand well the teaching and learning resources used for learners with CD, the study requested the head teachers to rate them and 20% of them rated as very good as 80% rated as good as shown in the figure above.

![Preferred Teaching Method](image)

**Figure 4.13: Most Preferred Teaching Method**

Regarding the preferred teaching methods teachers used for learners with CD, learner centred was the most common method with 60% of the teachers using. In both cases reading support for example was generally on a one-on-one basis with the teacher or in groups where reading tasks were differentiated and rotated among learners with CD. With an emphasis on participative methods between teacher and learner as well as between leaners and a focus on learner-centred learning teaching, methods in an inclusive classroom could include the following activities (Mahaye, 2003): A variety of teaching methods to address all learners’ diverse learning needs and ensure all learners understand the content, direct teaching by the teacher, whereby an initial explanation of a concept is discussed but also encourages learners to make their own independent decisions, and a differentiated approach, especially in applying the language of learning and teaching (LOLT) that incorporates differentiation of instruction methods as well as that of content to vary the complexity of an exercise or activity. Cooperative learning and peer tutoring were also used with 20% of the
teachers each as indicated by the figure above. Wahl, (2017) made an observation on a brief class discussion on aspects of interviewing celebrities was held in one grade 3 class. The participant demonstrated on the blackboard the written format of interview questions and answers, and then placed learners in pairs in an interviewer/interviewee situation. The commitment of the pairs to work together through direct verbal interaction was evident as it appeared that they had thought hard about asking appropriate questions.

Engelbrecht, et al. (2015) also found that strategies used included working as one group as well as dividing the class into three smaller groups based on ability, i.e. homogeneous ability groups. During the observation it was obvious that she actively encouraged the engagement of every learner in the classroom. She also clearly demonstrated sensitivity to each learner’s cultural, social and economic background as well as their individual learning needs by providing individual support when and where needed. Although she was provided with general teaching and learning support materials she developed additional work and assessment sheets based on what she perceived as different homogeneous ability groups in her classroom.

![Figure 4.14: Strategies Teachers Employed](image)

**Figure 4.14: Strategies Teachers Employed**
The categories extrapolated from teaching strategy used for teaching learners with CD were three as indicated in the figure above. Among the teachers who participated in the study, 60% said they were adapting alternative strategy in order to successfully deliver their lessons. For all learners, teacher quality is without doubt the greatest in-school effect on educational performance. The most effective teachers are recognizable by their capacity to use a range of teaching strategies appropriate to individual learners, their knowledge of assessment and how to use it to remediate and extend learners and their ability to build positive relationships with learners and manage the classroom environment. Effective teachers also set high expectations for all learners to succeed, collaborate with colleagues and engage in continuing professional development AISNSW (2017).

Multisensory strategy and slow presentation of information was found to be used by 20% of the teachers each. Wahl, (2017) also found that aspects involved with slow presentation of information in mathematics included counting, concepts, days and months. In the areas of language, repetition accounted mostly for reading words, figures of speech and spelling and in most grade 1 classes the alphabet was recited daily, concentrating on sound and pronunciation. The general occurrence during the observations was that the participants gave an instruction that was repeated several times, and once the learners understood, they continued with the next instruction. They would often revisit and repeat earlier instructions.
Teachers need to use various teaching methods in order to achieve the lesson objectives and head teachers were asked to rate the teaching methods used by teachers in their schools and were recorded in the figure above. It was found that 20% of the head teachers rated the teaching methods as average used and 60% of them rated them as good. It is therefore important to use a variety of teaching methods and teaching styles within the education system to accommodate the diverse learning needs that can accommodate all the learners in a mainstream education. Appropriate planning for a teaching strategy can help identify the different teaching methods to enable teachers to develop or adapt activities in order to ensure all learners understand the content (Donald et al., 2010).

Figure 4.15: Head Teachers Ratings of the Teaching Methods
Head teachers in primary schools play a vital role especially in creating a setting that provides a safe and ordered environment, fosters a sense of connectedness and engagement and focuses on doing the best for all learners in terms of social and interpersonal skills as well as academic achievement. Therefore, their opinion concerning teaching methods used by teachers in their schools were very critical. In their opinion, 80% of the head teachers agreed that teaching methods affect performance of learners with CD as 20% of them strongly agreed. Engelbrecht, et al. (2015) in their observation which was made over a period of time indicated that the group of learners in this classroom formed a close and cohesive group. The teacher regularly shifted seating arrangements for the group and encouraged learners to participate in all classroom activities. These strategies by the teachers facilitated and structured the positive interaction both with the teacher and among the learners. Although learners with CD squabbled at times amongst themselves in the classroom they seemed to be protective of each other during break times in the sense that they will come and tell the teacher when one of them was treated (according to their
understanding of unfairness) unfairly. Although the learners with CD participated in most of the general activities in the school, evidence of discrimination and prejudice were observed that included bullying by other learners on the playgrounds as well as discriminatory remarks made by some of the mainstream classroom teachers. Strong leadership, fully committed to mainstreaming, is essential to effectively meet the needs of learners with CD, by giving teachers greater confidence in their ability to deal with diversity, supporting collaborative approaches and encouraging investment in teacher release for professional learning, planning and lesson preparation AISNSW, (2017).

4.2.5 The Effects of Mainstreaming Learners with CD on their Educational Performance

In order to respond to the above objective, the following research hypothesis was tested: There is no statistical significant effect between communication disability and educational performance. Consequently, the mean score performance for the year 2017 for learners with CD and those learners without CD was used in the study as indicated in the contingency table 4.2 below.

Table 4.3: Learners’ Means Score for the Year 2017

<table>
<thead>
<tr>
<th></th>
<th>Mean Score Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Term</td>
</tr>
<tr>
<td>Learners with CD</td>
<td>221</td>
</tr>
<tr>
<td>Learners without CD</td>
<td>240</td>
</tr>
</tbody>
</table>
For visual impression and clarity, the line graph did indicate that the performance for learners without CD outsmarted those learners with CD in 1st, 2nd and 3rd term in the year 2017. It was also shown in the figure that the performance for learners with CD was almost constant in the three terms.

**Figure 4.17: Mean Score Performance for the Year 2017**

From the contingency table and the line graph above differences in performance was noted. It was therefore, imperative for the study to test these differences statistically. Since learners was a dichotomous variable (learners with CD and learners without CD) and performance was a trichotomies variable (performance for 1st, 2nd and 3rd term) it resulted in a 2x3 factorial research design. As a result, a univariate analysis of variance was conducted to test whether there was or not a statistical significant effect of learners with CD and learners without CD in their educational performance and table 4.3 below indicate the results.
Table 4.4: Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>8167.500*a</td>
<td>1</td>
<td>8167.500</td>
<td>5.487 .027</td>
</tr>
<tr>
<td>Intercept</td>
<td>1989187.500</td>
<td>1</td>
<td>1989186.500</td>
<td>1336.242 .000</td>
</tr>
<tr>
<td>Learners</td>
<td>8167.500</td>
<td>1</td>
<td>8167.500</td>
<td>5.487 .027</td>
</tr>
<tr>
<td>Error</td>
<td>41682.000</td>
<td>28</td>
<td>1488.643</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2039037.000</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>49849.500</td>
<td>29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .164 (Adjusted R Squared = .134)

A one-way between subjects ANOVA was conducted to compare the effect of educational performance of learners with CD and learners without CD. The results indicated a statistically significant effect of communication disability on educational performance at the p<.05 level [F (1, 28) = 5.487, p = .027]. However, the learners with CD scored significantly lower than the learners without CD. Therefore, the study concluded that communication disability affected the learners’ educational performance. The findings concurs with what Ehlert 2017 when she reported that in a learner with hearing loss, the degree of deficit is expected to be mild or moderate, rather than severe or profound. However, such a loss still creates a barrier to effective communication, especially in noisy environments such as the school classroom. Furthermore, a mild-to-moderate hearing loss may not be immediately apparent to a learner. Teachers adapted alternative strategy in order to successfully deliver their lessons. Multisensory strategy and slow presentation of information was also found to be used.
CHAPTER FIVE
SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.0 Introduction

This chapter presents a summary of the findings from which it draws conclusions and recommendations. In addition, policy recommendations and areas for further study derived from the findings are stated. The purpose of this study was to assess the academic performance of the learners with CD in mainstream public primary schools in Kericho County. The study sought to; find out school’s policies on learners with CD, establish the teachers’ attitudes toward learners with CD, determine interventions strategies used by teachers to support learners with CD and to determine the effect of CD on educational performance.

5.1 Summary of Findings

Speech disability, articulation was found with the highest number of learners, followed by fluency and sound. Under language disability, had phonology disability, morphology and syntax type of communication disability. There were only two type of hard of hearing disability, mild hard of hearing and moderate hard of hearing. The study found that the stipulated time for teaching was not enough. Curriculum adaptation rather than a separate curriculum was recognized as best practice in meeting the unique needs of learners with CD in the mainstream classroom. The stipulated time for teaching was not adequate in adapting mainstream curriculum. Step-by-step teaching was used as the head teachers reported it to be a method used in their schools in helping learners with CD in order to bring all the learners on the same level. Remedial teaching was reported to be used by teachers in their school.
The head teachers agreed that the way teachers treat learners with CD affect their performance, because the setting itself is less important than what goes on within the setting. Dramatic differences in performance for learners with CD have been found to be associated particularly with variation in the quality of teaching, whatever the location, just as is the case for mainstream students. A positive school culture, which is generally understood to encompass the social dynamics of a school – the tone set by head teachers, the relations between teachers and learners, the sense of community, teacher and learner morale, norms among peers, a sense of safety and respect and a drive for performance applying to all learners – is associated with higher educational performance and greater learner with CD wellbeing across all schools. The mainstream schools have an open communication on issues that affect learners with CD through holding meetings to discuss such issues. Nowhere is school climate and culture more important however, than in addressing CD education needs in mainstream settings.

Majority of the teachers disagreed with the statement that learners with CD should be taught in mainstream schools. This implied that they have a negative attitude of mainstreaming learners with CD a point which was confirmed by the teachers when they reported that communicating with learners with CD was frustrating them. Majority of the teachers preferred handling learners without CD and most of them also disagreed handling both learners. The head teachers’ opinions on attitude towards learners with CD showed that their teachers relate well with learners with CD. The head teachers’ opinion on how teachers in their schools accepted learners with CD in their classes indicated that teachers don’t accept learners with CD.
For effective intervention strategies, teaching learning resources are very important for teaching for learners with CD, it was found that textbooks, hearing aids, speech aids, charts, models and computers were available in varying quantities. From the statistical test to compare the effect of educational performance of learners with CD and learners without CD and it was found that learners with CD scored significantly lower than the learners without CD.

5.2 Conclusion

In conclusion the study showed that teachers’ knowledge of curriculum adaptation of mainstream education for learners with CD was just physically having and accepting learners in their school and in their classrooms. However, offering learning experiences and providing opportunities which require learners with CD to actively participate in their learning seemed minimal in practice. Some teachers were aware of the fact that there was need to help learners with CD by teaching after classes when the other learner without CD were free was not the goal of mainstreaming and the study attributed the practice to the poor performance of the learners with CD. Creating the extra time for them would just be a confirmation to them their inability therefore their self-efficacy, attitude and morale would be affected.

5.3 Recommendations

The study made three recommendations for:

5.3.1 Policy

- Development of policies and legislations that support learners with CDs.
- Administrative policies within the school environment, including friendly rules and regulations.
5.3.2 Practice

- Strengthening of guidance and counselling programs in primary schools in order to reverse the negative attitude for learners with CDs.

- Introduction of a diversified curriculum and examination system that accommodate learners with CDs.

- In-service training of teachers in the area of handling learners with CDs.

- Motivation of teachers through better remuneration and certification to positively change their attitude towards learners with CD.

- Provision of teaching and learning resources that favour learners with CD.

5.3.3 Further Research

- A comparative study should be conducted to establish the effects of learners with CD on educational performance of learners without CD.

- The sense of self-efficacy of the teachers in the mainstream classroom.

- The discrepancy between policy and practice of mainstream education in public primary schools.

- The value of early childhood programmes to prepare learners adequately for the mainstream primary school.


Appendix I: Informed Consent For Learners with CD’s Parents

Dear Parents,

I am a Ph.D learner at Kenyatta University and as part of this study, I will be examining “Effects of Mainstreaming learners with Communication Disability and their Effects on Educational Performance Public Primary Schools in Kericho County, Kenya”. This study aims to provide schools and settings with an explicit, structured, and whole curriculum framework for developing all children’s with communication disorders in mainstream primary schools in Kericho County. During February and March, I will be observing the classes and teachers involved in the study. Your child will be in these classes. These observations will give data which will form part of the study. In using these data no individual child or teacher will be identified, nor will the school involved. The raw data will not be published and will only be seen by myself and my University supervisors. During the observations, I will be sitting at the back of the classroom quietly and watch the flow of the lesson, to see whether your child will have the chance to develop his/her concentration skills, understanding and following guidelines and working co-operatively with his/her teacher and the rest of his/her classmates. I need your consent for your child to be a part of my observations. Please could you sign the appropriate section of the attached form and return it to me via the school as soon as possible. Thank you in advance for your co-operation.

Yours sincerely,

PAUL KIPKORIR MUTAI
Appendix II: Questionnaire for Class 3 Learners with CD

The research will be meant for academic reasons only. It will try to establish communication disability and their effects on educational performance of learners in mainstreamed public primary schools in Kericho County. You are kindly asked to provide answers as precisely as possible. Do not write your name anywhere in this questionnaire. Tick (√) where appropriate or fit in the required information on the spaces provided.

1. Learner’s gender [ ] Boy [ ] Girl
2. Age in years —
3. How many learners are there in your class?
4. Type of CD;
   [ ] Speech therapy
   [ ] Audiology
   [ ] Hearing Impairment
5. Do you have extra classes after the lessons when the others are playing?
   Yes [ ] No [ ]
   If yes, how often do you have within a week?
   [ ] once  [ ] twice  [ ] thrice.
6. Do teachers give equal amount of questions to all learners in class? [ ] Yes [ ] No.
7. Indicate the number of the following teaching and learning resources if you have in your school?
   Text book  [ ]
   Speech aid  [ ]
   Hearing aid  [ ]
   Charts  [ ]
   Computer  [ ]
8. The learner’s mean score for the year 2017

<table>
<thead>
<tr>
<th>Mean Score Performance</th>
<th>1st term</th>
<th>2nd term</th>
<th>3rd term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learners with CD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learners Without CD</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for participating in the study
Appendix III: Questionnaire for Class 3 Teachers

This research is meant for academic purpose only. It will try to establish communication disability and their effects on educational performance of learners in mainstreamed public primary schools in Kericho County, Kenya.

You are kindly requested to provide answers to these questions as honestly as possible.

Do not write your name or name of your school anywhere in this questionnaire. Please (✔) where appropriate or fill in the required information on the spaces provided.

Part I: Demographic information of teachers
1. Gender [ ] Female [ ] Male
2. Age bracket
   [ ] 21-30 years [ ] 31-40 years [ ] over 40 years
3. Professional qualification
   Master’s Degree [ ] Degree [ ] Diploma [ ] P1 [ ]

Part II: Teachers’ Qualifications and Training
4. Are you trained in special education? Yes [ ] No [ ]
5. Which mode of study did you take in relation to your special education training?
   Workshops [ ] Seminars [ ] In-service training [ ] Pre-service [ ]
6. Which area of specialization did you take in special education?
   [ ] Speech therapy
   [ ] Audiology
   [ ] Hearing Impairment

Part III: Teacher Attitudes
Do you agree or disagree with the following statement?
7. Learners with CD should be taught in special schools
   [ ] Agree [ ] Disagree
8. Learners with CD should be taught in mainstream learning
   [ ] Agree [ ] Disagree
9. Communicating with Learners with CD is frustrating
   [ ] Agree [ ] Disagree
10. Which learners do you prefer to handle?
    [ ] Learners without CD [ ] Learners with CD [ ] Both
    Kindly give reason(s) for your answer.

Part VI: Teaching / learning Resources
11. Does your school provide teaching aids specifically made for learners with CD?
    Yes [ ] No [ ]
    If yes how many copies/pieces do you have in each of the following?
    Text books [ ]
    Hearing aids [ ]
    Speech aids [ ]
    Charts [ ]
12. How can you rate your school in terms of availability and adequacy of teaching and learning resources for learners with CD?
   Poorly equipped [ ]  well-equipped [ ]  moderately equipped [ ]

**Part V. Teaching Strategies**

13. In adapting mainstream curriculum of learners with CD, do you find the stipulated time adequate?  Yes [ ]  No [ ]

   If your answer is No, how then do you help learners with CD in your class?
   Step – by – step teaching [ ]  Remedial teaching [ ]  Extra teaching [ ]
   Other [ ]

14. Do you give equal/similar amount of work to your learners? Explain.

15. Which among the following is your most preferred teaching method?
   [ ] Learner centred
   [ ] Cooperative learning
   [ ] Scaffolding
   [ ] Peer tutoring
   [ ] Inclusive Pedagogy
   [ ] Differentiated method

In addition to the above methods, which strategy do you employ for successful lesson delivery?
   [ ] Adapting alternative strategy
   [ ] Multisensory strategy
   [ ] slow presentation of information

16. What challenges do you experience in relation to teaching methods when teaching learners with CD?

17. What barriers hinders you when adapting mainstream learning on learners with CD?
Appendix IV: Questionnaire for Headteachers

The research is meant for academic purposes only. It will try to establish communication disability and their effects on educational performance of learners in mainstreamed public primary schools in Kericho County, Kenya.

You are kindly requested to provide answers to these questions as honestly as possible.

Please do not write your name or that of your school on this questionnaire. Please ✓ where appropriate or fill in the required information on the spaces provided.

Part I: Demographic information of the Head teacher.
1. Gender  Male [ ]  Female [ ]
2. Age bracket  21-30 years [ ] 31-40 years [ ] 40-50 years [ ] Over 50 years [ ]
3. Professional qualification.
   Master’s Degree [ ]  Degree [ ]  Diploma [ ]  P1 [ ]

Part II: Attitudes toward Learners with Communication Disability
6. Do class 3 learners in your school relate well with learners with CD?  
   Yes [ ]  No [ ]
7. Do teachers in your school accept learners with CD in their classes? Yes [ ] No [ ]
   If No, please specify.
8. In your school do teachers find the stipulated time for teaching adequate in the mainstream education?  Yes [ ] No [ ]
   If No, what initiatives do your teachers undertake to assist learners with CD?
   Step – by – step teaching [ ] Remedial teaching [ ] Extra teaching [ ]
   Other [ ]

For the following items please indicate the extent to which you strongly agree (SA), agree (A), uncertain (U), disagree (D), strongly disagree (SD) with the statement.
(a) Do you agree that the way teachers handle or treat learners with CD influence their performance? (Tick accordingly)
   Strongly agree [ ]  Agree [ ]  Disagree [ ]  strongly disagree [ ]
(b) Do you agree with the following statement concerning the relationship of Head teachers, teachers and learners in your school? Tick ✓ as appropriate.
   i. There is open communication on issues that affect learners with CD.
      Strongly agree [ ]  Agree [ ]  Disagree [ ]  strongly disagree [ ]
   ii. We frequently hold meeting to discuss issues affecting learners with CD.
      Strongly agree [ ]  Agree [ ]  strongly disagree [ ]  Disagree [ ]
   iii. The school administration normally involves teachers, parents, learners and professionals in decision making on mainstream education.
      Strongly agree [ ]  Agree [ ]  strongly disagree [ ]  Disagree [ ]
   iv. School administration is less concerned with issues that affect learners with CD.
      Strongly agree [ ]  Agree [ ]  strongly disagree [ ]  Disagree [ ]
Part III. Teacher Training and Qualification.
10. Have your teachers undertaken any pre-service training on CD education?  
   Yes [ ] No [ ]  
   If yes how many? ____________________________
11. Have you ever been trained in handling learners with CD? No [ ] Yes [ ]  
   If yes please give details of your training.

Part IV. Teaching and Learning Resources
12. Are there teaching and learning resources for use with learners with CD?  
   Yes [ ] No [ ]
13. Please rate teaching and learning materials available for learners with CD.  
   Very good [ ] Good [ ] Poor [ ] Very poor [ ]
14. What is the learner text book ratio in class 3? ____________________________
15. What interventions strategies have you put in place to ensure learners with CD  
   have relevant and adequate teaching and learning aids?

Part V: Teaching Strategies.
16. Do your teachers use specific teaching methods when teaching learners with CD?  
   Yes [ ] No [ ]  
   If yes, give details________________________________________
17. How would you rate the teaching methods as far as learners with CD are  
   concerned?  
   Very good [ ] Good [ ] Average [ ] Poor [ ] Very poor [ ]  
   (a) The teachings methods used by teachers affects the performance of learners with  
   CD.  
   Strongly agree [ ] agree [ ] strongly disagree [ ] disagree [ ]  
   (b) The teaching methods should be adjusted to suit the needs of the learners with CD.  
   Strongly agree [ ] Agree [ ] strongly disagree [ ] disagree [ ]

Thank you participating in the study.
Appendix V: Research Permit

CONDITIONS

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

THIS IS TO CERTIFY THAT:

MR. PAUL KIPKORIR MUTAI
of KENYATTA UNIVERSITY, 861-205000

narok, has been permitted to conduct research in Kericho County on the topic: COMMUNICATION DISORDERS AND ITS EFFECTS ON ACADEMIC PERFORMANCE OF LEARNERS IN MAINSTREAM PRIMARY SCHOOLS IN KERICHO COUNTY, KENYA....

for the period ending: 12th November, 2015

Applicant's Signature

Director General
National Commission for Science, Technology & Innovation

Serial No. A 4849

RESEARCH CLEARANCE PERMIT

National Commission for Science, Technology and Innovation

Republic of Kenya

Permit No: NACOSTI/P/15/2566/5168
Date Of Issue: 13th April, 2015
Fee Received: Ksh 2,000
Appendix V: Map of Kericho County