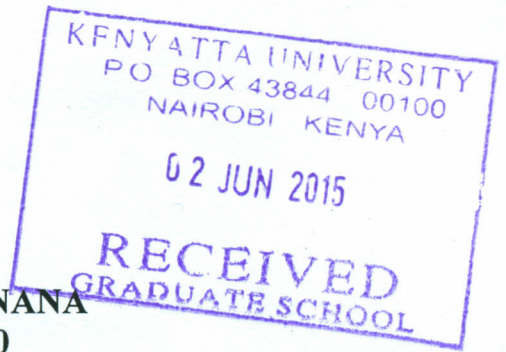


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**INSTRUCTIONAL CHALLENGES FACING LEARNERS WITH  
CEREBRAL PALSY IN SELECTED SCHOOLS IN MACHAKOS  
AND KIAMBU COUNTIES, KENYA**

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E55/20133/2010**



**A RESEARCH THESIS SUBMITTED FOR THE DEGREE OF  
MASTER OF EDUCATION (SPECIAL NEEDS EDUCATION) IN  
THE SCHOOL OF EDUCATION AND HUMAN RESOURCE  
DEVELOPMENT OF KENYATTA UNIVERSITY**

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*Instructional  
challenges facing*



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**DECLARATION**

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

Signature Date 25/5/2015**Judy Naomi Kanana****E55/20133/2010****Supervisors:**

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**DEDICATION**

To God the Almighty for giving me health and impetus to study this programme; my husband and friend Eng. Willis Ingari who supported me financially, morally and spiritually throughout the period of this course.

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## OPERATIONAL DEFINITION OF TERMS

- Cerebral Palsy (CP):** It is a disorder of the brain which occurs as a result of brain damage or lack of development in the part of the brain which controls movement and posture in early life of an individual. (Mwura , & Wanyera , 2007)
- Conductive Education:** It is a guided educational programme that focuses on all The aspects of development: physical, educational, social, emotional and communication.(Ogono,2008)
- Disability:** Any loss or reduction of functional ability to perform an activity in a manner or within the range generally considered normal for a human being within the cultural context.(Mwaura & Wanyera, 2007)
- Disorder:** It is disturbance of the normal working of the body or mind.
- Education:** This refers to the acquisition of knowledge and skills related to make the person with CP more functional in the society and it is not limited to the academic performance.(Mwendwa, 2010)
- Handicap:** Restriction of activity which results from a disability or from society's attitudes towards disability (Mwaura & Wanyera, 2007).

- Instructional Intervention:** The effort employed by the teacher to facilitate the learning process for learners with CP. (Researcher, 2014)
- Instructional Challenges:** They are the various obstacles that hinder a learner with CP from normal learning. (Researcher, 2014).
- Learners with Cerebral Palsy:** A learner who has been assessed and found to have CP and referred to a special school for the PD or CP (Onsong, Otiato & Kithure, 2007).
- Multiple Handicaps:** Refers to a combination of two or more handicaps in a learner.
- Special Needs Education:** This is the education which provides appropriate modifications in curricula, teaching experiences, educational resources, medium of communication or the learning environment in order to cater for the evident individual differences in learning.(Mwaura & Wanyera , 2007)
- Special Needs:** Conditions, barriers, challenges or factors that hinder normal learning and the general development of an individual. (Author, 2015).
- Special School:** This refers to a school or instructional facility that is organized to exclusively provide educational services to learners with disabilities.

**ABBREVIATIONS AND ACRONYMS**

<b>ADL</b>	Activities of Daily Living
<b>APDK</b>	Association for the Physically Disabled of Kenya
<b>CE</b>	Conductive Education
<b>CPSK</b>	Cerebral Palsy Society of Kenya
<b>EARC</b>	Educational Assessment and Resource Centre
<b>EFA</b>	Education For All
<b>FPE</b>	Free Primary Education
<b>IEP</b>	Individualized Education Programme
<b>GoK</b>	Government of Kenya
<b>KISE</b>	Kenya Institute of Special Education
<b>MoE</b>	Ministry of Education
<b>NIDS</b>	National Institute of Disorders and Strokes
<b>PD</b>	Physically Disabled
<b>PWDs</b>	Persons with Disabilities
<b>UCP</b>	United Cerebral Palsy
<b>UNCRPD</b>	United Nations Convention of the Rights of Persons with Disabilities
<b>UNEB</b>	Uganda National Examination Board
<b>UNESCO</b>	United Nations Educational, Scientific & Cultural Organization
<b>WHO</b>	World Health Organization

**ABSTRACT**

The purpose of this study was to investigate the instructional challenges facing learners with cerebral palsy in the two selected special schools in Machakos and Kiambu Counties. The study was guided by the Bronfenbrenner's ecological theory of human development (1979) which asserts that natural environment is the major source of influence on a developing person. The study adapted descriptive survey design targeting 2 administrators, 40 teachers and 272 learners with Cerebral Palsy: a sample size of 120 respondents was used; 2 administrators, 40 teachers and 78 learners with Cerebral Palsy. All the respondents were purposively selected. Interview guide containing open-ended questions were administered to the administrators. Close-ended and open questionnaire items were administered to the teachers and the learners. Observation checklist was used to gather more information. The collected data were analyzed using descriptive statistics. The study established that; the current curriculum did not fully cater for the learners with CP, Schools did not provide learners with specialized equipment or adaptive devices, the available facilities were not adequately adapted or modified, teachers did not have knowledge of learners with CP in their initial PTE, teachers did not modify their teaching methods. As a result of the findings, the researcher recommended that KIECD develop a PTE curriculum for teachers of learners with CP, Schools to provide specialized equipment, and modified facilities, the MoE to organize refresher courses for teachers teaching learners with CP.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

This chapter presents the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, scope and limitations of the study, assumptions, theoretical and conceptual framework of the study and operational definitions of terms.

#### **1.1 Background to the Study**

Cerebral Palsy (CP) is a disorder of movement and posture due to unprogressive abnormality in the immature brain (Sherwood, Kartheryn & Biggei, 2005). In addition, McAdams and Juul (2011) describe CP as a group of disorders of the development of movement and posture which causes activity limitations that are attributed to non-progressive disturbances that occurred in the foetal or infant brain. The motor disorders of CP are often accompanied by disturbances of sensation and cognitive, communication, perception, and or behaviour and or by a seizure disorder. Andrie (2003), echoed this by stating that CP is not a single disorder but a multi-handicapping condition comprising groups of symptoms such as speech difficulties, epilepsy, learning difficulties, behaviour and emotional difficulties, hearing and seeing difficulties, perceptual difficulties and mobility problems.

According to Eileen and Glynnis (2009), CP is the most common among children with physical disability. This statement is echoed by Ndurumo (2003), who posits that CP is the leading cause of physical disability in children in developing countries.

Learners with CP exhibit a wide variety of symptoms such as involuntary movements, difficulty with precise motions; such as writing or buttoning a shirt or a blouse, random involuntary movement, stiff or tight muscles, exaggerated reflexes and lack of muscle coordination when performing voluntary movement, excessive drooling for difficulty in swallowing or speaking. Sherwood et al (2005). They also have variations in muscle tone, either being too stiff or floppy and having crouched gait or a scissor gait. These symptoms differ in type and severity from one learner to another. Some learners with CP depict medical disorders such as seizures, impaired vision or hearing and having abnormal physical sensations such as perception (NIDS, 2011).

Globally, more than 17 million people have CP (Centre for Disease Control and Prevention, (CDCP, 2014). In Canada, it is estimated that 500 babies and up to one in three and have low birth weight have CP. Presently, there are 50,000 Canadians living with CP (UCP, 2007). The United Cerebral Palsy Foundation estimates that nearly 800,000 children and adults in the United States are living with one or more of the symptoms of CP.

According to the Federal Government Centre for Disease Control and Prevention, each year, about 10,000 babies born in the United States develop Cerebral Palsy. Despite advances in preventing and treating certain suspected causes of CP, the percentage of babies who develop the condition has remained the same over the past 30 years.

Improved care in neonatal intensive-care units has resulted in higher survival rates for very low birth weight babies with CP. Many of these infants have developmental defects in their nervous systems or suffer brain damage that causes the characteristic symptoms of Cerebral Palsy (NIDS, 2011).

According to the WHO (2011), it is estimated that 15% of any population have disabilities, and 1 out of every 300 children have CP in the developing countries. Ghana with a population of 23 million people, with life expectancy of 59 years, 79% of her children who are enrolled in schools, out of whom 75% have disabilities. However, the breakdown of statistics does not present the full picture of CP in the total population. According to the Zambia's Population and Housing Census (ROZ, 2000) the population was 9,337,425. The PWDs were 2.7% of the total population. The census also indicates that physical disability was the most prominent disability in Zambia. The 2010 census of the same country estimates the population of PWDs at about 3%. In China, it is estimated that 310,000 children have CP, and that the number is likely to rise due to increased survival rate of children born with low birth weight Liu, Li and Lin (1999). These data were not categorized to reflect the proportion of those with CP.

Kenya has a population of 38.6 million persons (Republic of Kenya , 2010) and Muthoni (2012) states that there are 3.6 million persons living with disabilities in Kenya, out of which 413698 persons have Physical disabilities. It is estimated that 1.8 million persons aged between 0-19 years have disabilities (GoK, 2002). In their studies, Auka and Afedo (1985), Kennedy (1990), as cited in Mwendwa (2010)

reports that 12.5 per cent of the cases with physical and neurological impairments among the school going aged children have CP. Records at Joytown Special school 2013, indicated that there was a total enrolment of 320 learners, out of which 179 had CP.

According to MoE (2003), the number of children enrolled in special schools and units was 26, 888. Records at the Ministry of Education indicate that there are 207,761 learners with disabilities in schools, and the total number of those with physical disabilities stands at 29,234 (MoE, 2008).

The number of learners with CP remains hidden in the category of physical disability. Ogono,(2008) states that despite the enrolment of learners with disabilities rising due to Free Primary Education (FPE), that of the teachers has continued to remain low and especially those trained in SNE, and this makes the situation complicated because the number of learners who may have CP and require more individualized programmes may not be catered for as the number of teachers trained in SNE remains low. UNESCO (2007), observes that despite continued overall global progress at primary levels, too many children are not in school, with some of the enrolled dropping out early or not reaching minimal or literacy learning standards.

CP is among many other conditions that make up physical disabilities. According to Mwendwa (2010), there are no statistics on the number of children with CP who are enrolled or placed in special schools and units in Kenya. This is due to the fact that most of the studies conducted on the population of PWDs in Kenya have tended to

focus on the four traditional categories, namely; the visually impaired, hearing impairment, the physically handicapped and the mentally challenged.

The number of learners with physical disabilities assessed at Kenya Institute of Special Education (KISE) Assessment Centre over the last four years 2010 and 2013 is 319. Those with CP were not identified as they are eclipsed in the physical disability category thus denying them effective services. The situation in Africa where learners with CP are concealed in the physical disability category makes it hard to assess the total number of learners with CP who are enrolled in schools. Ogono (2008), states that learners with CP may have impaired speech, auditory problems, learning difficulties and mental disabilities. Non-definition of the cohort of learners with CP makes it difficult for meaningful intervention.

Accurate statistics for learners with CP are therefore, very critical for adequate planning of effective service delivery by the government and other stakeholders. It is against this background that this study sought to investigate the instructional challenges facing learners with CP in the two selected special schools in Kiambu and Machakos counties.

## **1.2 Statement of the Problem**

Despite the continued overall global progress at the primary level, too many children with CP are not in school with some dropping out early or not reaching minimal literacy learning standards (UNESCO, 2007). World Health Organization (2011), observes that most PWDs have lower education achievement which is partly

associated with their conditions and the challenges they encounter in accessing educational services.

Statistics by the MoE (2011) indicate that schools for learners with PD were few compared to those of children with other types of disabilities. Currently, there are only three secondary schools for learners with PD in Kenya. In Kiambu County, there is only one primary and a secondary school for learners with PD, while in Machakos County, there is only one special primary school for the PD.

MoE (2003) revealed that an estimated 1.75 million children with SNE do not receive any SNE services arguing that they are either at home or in regular schools without the necessary support. Earlier studies conducted on education of children with CP in Kenya focused mainly on specific subject areas. This left a gap in apprehending instructional challenges which face the general teaching and learning of learners with CP.

Records of children assessed at KISE Assessment Centre between 2010 and 2013 indicate that only 319 had PD but no analyzed statistics to show those with CP. Sharing the same category with the PD makes them invisible and underserved. The non-definition and clear identification of this cohort and category makes it difficult for meaningful interventional planning by the government and other stakeholders.

According to MoE (2003), only 20% of teachers in special needs programmes in Kenya are trained in SNE. In Kenya, SNE teachers' training focuses mainly on the

four traditional categories, teachers trained in the area of PD are the ones expected to teach learners with CP. The invisibility of learners with CP means that their educational needs are not appropriately catered for. Despite the existence of Disability Act of 2003 which provided for the right and privileges of the PWDs including education, lack of accurate statistics for learners with CP continues to hamper proper planning and intervention for their education, rehabilitation and other necessary services by the government and stakeholders. It is in this context, this study sought to explore the instructional challenges facing learners with CP in the selected special schools in Kiambu and Machakos Counties.

### **1.3 Purpose**

The purpose of the study was to analyze the instructional challenges faced learners with CP in Special Schools in Kiambu and Machakos counties.

### **1.4 Objectives**

The study was guided by the following objectives:

- i) To find out the suitability of the regular curriculum used by learners with cerebral palsy.
- ii) To establish the current status of the facilities for learners with cerebral palsy in special schools.
- iii) To determine whether the PTE curriculum prepares the teachers to work with learners with cerebral palsy.
- iv) To find out the strategies used by the teachers in teaching learners with cerebral palsy.

## **1.5 Research Questions**

- i) Is the regular curriculum used by learners with cerebral palsy effective?
- ii) What facilities are available for learners with cerebral palsy in the schools for the PD?
- iii) Does the teacher training curriculum prepare the teachers to handle learners with cerebral palsy?
- iv) Which strategies do the teachers use in instructing learners with cerebral palsy?

## **1.6 Significance of the Study**

The finding of this study is important to the Kenya National Examinations Council, in the sense that it may inform the body on the best methods of examining learners with CP. It may further create awareness to other stakeholders such as teachers, parents and significant others on the needs and potentials in learners with CP. The study may be of great use to the government through the Ministry of Education in conjunction with the Kenya Institute of Curriculum Development, to come up with an appropriate curriculum for learners with CP. Finally the outcomes of this study may be helpful to the institutions in responding appropriately to the diverse educational needs of learners with CP.

## **1.7 Delimitations and Limitations**

### **1.7.1 Delimitations**

The study was confined to only two special primary schools for the PD in Machakos and Kiambu Counties. This is because learners with CP are placed in schools for PDs

in these two Counties. In addition, APDK Masaku and Joytown special school for the PD in Kiambu and Machakos Counties were the only place where a good concentration of teachers with training in SNE skills are found.

### **1.7.2 Limitations of the Study**

The major limitations of the study were dearth of literature on instructional challenges facing learners with CP in Kenya. The study depended mainly on foreign literature. The study limited itself to only two special schools for the PD. For more conclusive findings, all special schools for the PD should have been studied which was not possible due to time and financial constrains.

### **1.8 Assumptions**

The basic assumptions of the study were:

- i) The special schools for the learners with PD had teachers who were qualified in SNE.
- ii) That the regular curriculum used was suitable for learners with CP.
- iii) The schools had adequate, appropriate and adapted materials and resources for learners with CP.
- iv) The teachers had adequate skills to individualize instructions for the learners with CP.

### **1.8.2 Theoretical Framework**

The theoretical framework of this study was based on Bronfenbrenner (1979) ecological theory of human development, assertion that the natural environment is the

major source of influence on the developing person. Bronfenbrenner analyzed five types of the systems that aid in human development. The types are micro-system, meso-system, exo-system, macro-system and finally chrono-system (Bronfenbrenner, 1990).

### **The Micro-Systems**

These are the settings in which a person lives in and include the family, peer group, neighbourhood and school life. This system helps shape a person's development in that a person has direct contact with them.

### **The Meso-System**

This system is the relationship between the meso-systems; the interrelationship with each other and this can be seen with the relationship between school life, neighbourhood and the family. In this system, social integration of children with CP is crucial to enable them to fit in the community and the society at large.

### **The Exo-System**

This system does not allow an individual to play an active role in determining the settings but the settings have direct influence on the individual and especially in relation to children with CP. Teachers are trained appropriately to teach learners with CP. In addition, the entire school environment is adapted and modified to accommodate the needs of these learners. The parents/care-givers in addition are allowed adequate time to engage in economic activities comfortably with the individuals.

**The Macro-System**

This system influences the individual or the culture of the society, it influences the individual directly but the individual has less influence in determining his or her settings. This includes the ideological aspects such as in democracy, capitalism and socialism.

**The Chrono-System**

This develops as a result of experience in one's life. When the learner joins school, through the support and training from the teachers, exposure to varied environmental cues and adaptation and appropriate devices, the learner gradually changes. Attitudes may be influenced to being positive or negative according to the exposure. This is likely to occur, towards their condition, acquisition of Activities of Daily Living (ADL) social integration and self-esteem as well as independence.

In conclusion, the relationship between the teacher, parent, learner and the environment can impact negatively or positively to the achievement of the learner especially with CP. The relationship at the level of Micro-system is a bi-directional in that the efforts of the teacher, and the parent and significant others contribute to the achievement of a learner with CP. At the same time, the efforts and the attitude of the learners can also influence the attitude, belief and behaviour of the parent and teachers towards their abilities.

The meso-system level is very crucial in the achievement of a learner who has CP. Collaboration between the parent, teachers and relevant others can help in the

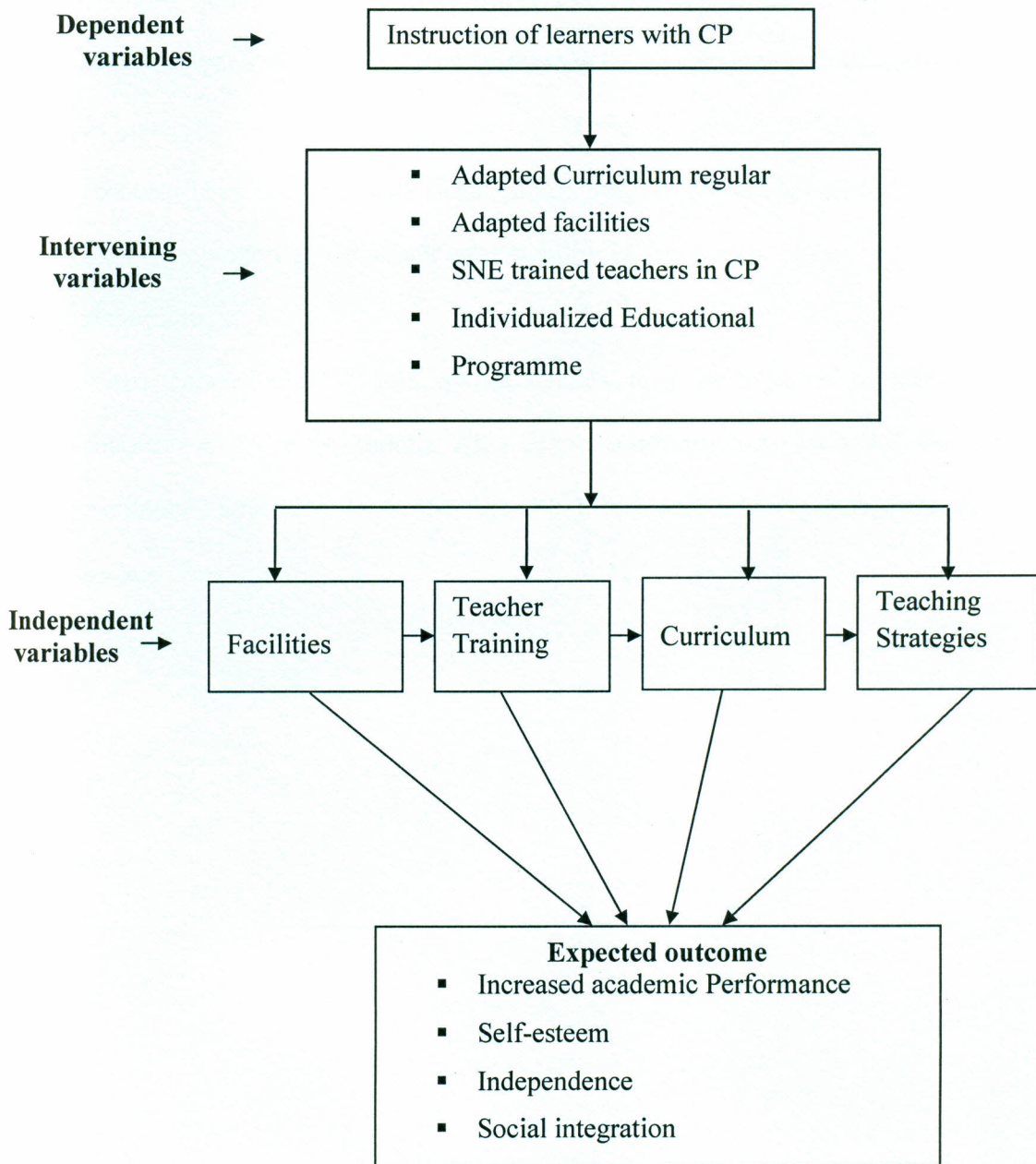
identification of the needs of the learners in education and subsequent planning to enhance their learning and skill acquisition.

In the exo-system level, the learner with CP is not directly involved, however, the learner feels the negative or positive impact of the interaction with the system such as rigid curriculum, rigid methods of teaching and inadequate learning materials will impact negatively on the achievement of a learner with CP.

On the other hand, as learners with CP grow, they tend to be more aware of the limitations brought about by their conditions. The chrono-system level tends to address the psychological development of learners with CP. Employment of proper means of addressing psychological and physical changes by both the teachers, parents and the entire society, can lead the learners with CP to react differently to the environment thus taking situations surrounding them positively.

## 1.9 Conceptual Framework of the Study

### 1.9.1 Conceptual Framework



**Figure 1.1: A Conceptual Framework on Instructional Challenges Facing Learners with CP**

**Source:** Adapted and modified from the ecological theory of human development (Bronfenbrenner, 1979)

The conceptual framework shows the relationship between independent variables and dependent variables. The independent variables include teacher training, the available facilities, curriculum in use for learners with CP and teaching strategies used by the teachers. When the independent variables are adequately manipulated as shown in the diagram, they determined the outcome of the dependent variables in the special schools. They include; self-esteem, independence, knowledge and skills, acquired social integration and psychological stability in the society where learners with CP come from.

When learners with CP join special schools, they are expected to receive formal education in those institutions. After proper intervention as expected, they achieve worthwhile education where they are able to integrate and live independently in the society.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presented a review of the related literature by researchers. The chapter focused on the curriculum in use for learners with CP in Special schools, physical facilities for learners with CP, training of Special Needs Education teachers, and instructional strategies used by teachers in instructing learners with CP in Special Schools for the PD.

#### **2.2 Regular Curriculum**

The curriculum encompasses more than the age or grade, list of the content standards strategies and assessment. It includes the day-to-day implementation which requires flexibility with content in relation to the learner (Anne, Alex, & Melody, 2011). Article 20 of the UNCRPD, demands that reasonable accommodation and adaptations of individuals requirements should be ensured by all the state parties. It acknowledges the fact that learners with CP who are not able to use both spoken or written words as their major mode of communication may not succeed in school without specialized and intensive curriculum and modified means of communication including task performance. The above study narrowed down to communication whereas the present study looked at diverse areas such as: time allocation, objectives in the syllabus and co-curricular activities. Sherwood et al., (2005) states that, among the goals of the primary curriculum there should be a foundation for a long life learning and to create positive school experience for learners with disabilities.

They further suggest activities that promote self-esteem and assist learners in building their confidence and competence should be enhanced. According to Children, Sands and Tanner (2009) as cited in Spencer (2011), the type of curricular goals and teaching strategies used to differentiate instructions should be tailored to the learning environment. Therefore, considerations need to be given to the challenges and variables to be controlled by the teacher to elicit results (Lee, Wehmeyer, Palmer, Soukkup, & Little, 2008) as cited in (Spencer, 2011).

The IDEA amendments explicitly established the need of improving results and outcomes for learners with disabilities requiring that they have access to and make progress in the general education curriculum and participate in state and local assessment (Mitchell, 2005). In Uganda, progress has been made in regard to examination of learners with cerebral palsy. These learners take their examinations under the most comfortable manner which includes the use of communication charts and tape recorders under the supervision of Uganda National Examinations Board (UNEB) (Terre des Hommes, 2007). Benedict (2003), spelt out the different types of curriculum in Kenya, among them is the open curriculum which is based on the assumption that education ought to be open-ended in terms of the subjects matter and duration. For learners with disabilities such as CP, curriculum should be flexible in terms of content, educational resources, teaching and learning strategies. This study is in line with the present study.

In the absence of the open curriculum, learners with CP may not benefit from the Kenya's Free Primary Education. The government of Kenya is committed to

developing a diverse and flexible curriculum that meets the varied needs and learning environment for learners with disabilities (MoE, 2009). The MoE, (2003) further observes that, the 8-4-4 curriculum is rigid, demanding and with the same expectation from learners with disabilities as their none disabled peers. The current situation for special needs education in Kenya is being far from reality and perfection (Terre des Hommes, 2007).

GoK (2005) notes that the special schools and units continue to serve learners with special needs in the four traditional areas, leaving out other areas such as the CP. To respond to this, the government reaffirmed its willingness to implement appropriate and flexible curriculum for learners with special needs (MoE, 2009). However, MoE, (2003), asserts that, the national examinations are based on the central curriculum developed by the curriculum developers, which are terminal, summative with the main purpose of selection placement and certification.

The examinations measure academic achievement and use the mean score type of grading for all learners even those with CP. The examinations are responsive to some learners with special needs in education leaving out others especially those with CP. It is against this background that the study sought to establish the kind of curriculum which should be in use for learners with CP in special primary schools for the PD.

### **2.3 Facilities for Learners with CP**

The education for learners with CP should aim at making the learners independent and productive members in the community. According to WHO (2011), an environment can disable people with impairments or foster their participation and inclusion if reasonable adaptations and modifications are made. United Nations Convention for Rights of PWDs stipulates the importance of intervention to different domains of environment. Eileen (2009) adds that, learners with CP are in most cases denied critical moments since they have motor problems and are not able to explore their environment. Motor problems are accompanied by muscular weakness that interfere with head and trunk control. Maintaining sitting position becomes a problem as well as grasping and hanging on objects. Therefore, specially designed equipment such as wedges, prone boards and holsters are very crucial as suitable adaptations.

In addition, environmental and classroom adaptations are necessary if learners with CP are to have safe and appropriate learning. Space to manoeuvre wheelchairs during and after activities and turning it around, toileting areas must also be widened clear for the learner to wheel in and out of the bathroom easily and enable him or her position well to the toilet seat. Handrails should be mounted on the walls to enable the learner to transfer from wheelchair to the toilet seat. Ramps should be in place to facilitate movement within the school. Railing attached in strategic places, indoors and outside help learners with CP move about more independently as most of them lack balance and have faulty coordination. Crutches should also have non-skid tips in order to avoid falls which can easily cause injury to the learner with CP, and

subsequent school out. This study looked at the motor limitations while the present study delved deeper into instructional challenges facing learners with CP.

In Norway, special education is provided based on the assessment needs rather than categorized handicap. According to Randiki (2000), this came as a result of the Education Amalgamation Act, 1951 and the Compulsory Education Act, 1969. Classroom organization and appropriate modification are put in place to enable learners with disabilities to fully participate in school activities. High (2002), states that choosing educational resources for learners with CP demands prior knowledge and experience in identifying the needs of the respective learner.

Under the School Facilities Grant (SFG) and School Completion Fund (SCF) structural plans, modifications and adaptation have been put in place so as to cater for the learners with physical disabilities in Uganda (Terre des Homes, 2007) while this study mainly focused on facilities, the current study focused on SNE Curriculum, facilities, teaching strategies and PTE training. In Tanzania, despite the primary education plan which provided education for all, the overall quality of education remains poor and ineffective to the learners with CP. The situation of special education is poor due to lack of proper facilities, equipment and the teaching materials. Transport to the schools is also a problem especially to those with physical disability, leading to a high school dropout rate (Terre des Homes, 2007).

According to MoE (2003), learners with SNE require barrier free environment so as to maximize their functional potentials. This means that the physical environment

where such learners operate should be accessible or disability friendly. The Report highlights that the learners with SNE require more materials and resources which are adapted and modified for their education than their non- disabled peers.

Under the Free Primary Education initiative (FPE), additional capitation grants should be provided to learners who are physically challenged. This will allow them to enrol in special schools and units for appropriate learning with reasonable adaptation and modifications. Initial support has also been provided to each public primary school so as to remove the existing barriers that make the school environment unfriendly (GoK, 2005). These studies dwelt on environmental factors, while the study at hand looked at the teaching strategies and teacher training among other factors.

Ministry of Education, (2003) indicated that the state of some special schools and units is wanting. In support of this, GoK (2005) argues that access to special education for those with special needs remains limited. Programmes and buildings accessibility must go hand in hand with the requirements of the report. The report further suggests that in order for the severely challenged learners to cope with the expectations of the classroom work, it is essential that the need for adaptive and assistive devices be taken into account as an important consideration. The above studies concentrated on facilities and environment respectively, whereas the present study delved deeper into SNE curriculum, teaching strategies and teacher training.

## 2.4 Teacher Training

While we acknowledge the need to support and provide appropriate education for learners with CP, quality in terms of teacher training is imperative. The quality of training must be ensured to ensure that the teachers acquire quality training for quality education. Quality education starts with quality teachers.

The universal declaration of human rights states that every child has a right to education including those with cerebral palsy. Article 28 of the UN convention of the Childs' right emphasizes that education of learners with disabilities should be directed to the development of personality talents, mental and physical abilities to their fullest (UNCRC, 1989). Teachers who instruct individuals with physical disabilities must possess specific competencies that encompass instructions on the physical management and education environment, (Sherwood et al., 2005).

Daldo and Moon (2002) states that, the challenge of training for new and existing teachers for EFA calls for more school -based teacher education and professional development. According to Karen (2005), the establishment of a decentralized support system for students remains the greatest challenge for school-based teacher training and demanded an up-front attention. However, according to Mattson (2000), distance education should not be considered as the short-cut for an effective training for the teachers including skill acquisition.

In Singapore, training of pre-service teachers is supported by a ten-week Special Education Teaching (SET) practicum process in a special school setting. The

practicum forms a critical part of the training of especially the beginning teachers who get their first-hand experience in the real setting. During this time, they are able to test out new or different strategies and apply what they learn in theory to a real classroom situation. During this time, the teachers experience and learn how to cope with occupational stress (Nonis & Jernice, 2011). This study acknowledges that practicum are paramount for the first-time teachers.

In the United States of America, education students are required to take at least one general course to enable them to explore methods to identify learners with special needs. The US Bureau of Statistics notes that early identification of needs of the learner provides essential information to enable the teachers to prepare for the individuals' learning plan and remediation.

The teachers are also trained to use survey and utilize reporting forms which are mandated by the Individualized Education Program (IEP). According to the Federal Law, teachers dealing with learners with special needs and disabilities must complete reports which demonstrate that learners received recommendations. In some effort to develop special education, Uganda established Uganda Institute of Special Education (UNISE) which was to train teachers and other personnel for education and rehabilitation of persons with disabilities (Randiki, 2002).

According to Ndurumo (2003), in Kenya, training of special education teachers in specific areas started soon after independence. However, there was no programme for training teachers of the physically disabled until 1986, when a diploma

course was started in Kenya Institute of Special Education (KISE). The reason as advanced by Sir. Frank William, (1971) as cited in Ndurumo, (1993) was that:

*Teachers in this area should have intensive short course aimed at improving their knowledge of social and emotional problems of the children medial methods in the basic subjects, restricted hand/arm and the need for social as well as educational training.*

This clearly shows marginalization of learners with CP right from post independence. Currently, KISE offers both full-time and distance learning programmes. However, specialized areas are only offered to the residential students only. Kenyatta University offers special needs education at both bachelors and postgraduate levels. Other universities offering Special Needs Education are Maseno, Kenya Methodist, Nazarene and Nairobi universities. However, the University of Nairobi only exposes students to SNE through a unit designed to introduce them to SNE (MoE, 2003). According to the MoE (2009), teachers' need to be in-serviced on needs assessment is long overdue. This study intended to determine the kind of training offered to the teachers who instruct learners with CP.

## **2.5 Teaching Strategies for Learners with Cerebral Palsy**

Effective teaching is based on development of positive teacher-learner relationships. These relationships should be developed over time as the teachers use developmentally and individual strategies that take into consideration the learner's differing needs, abilities, interests and styles (Gray, 2007). Scholars; Winnick, (2011); Graham, Halt, and Parker. (2006), Melodrama, (2006), Auxer, Pyfer, and Heuting, (2005) noted that the most effective strategy in meeting educational needs of

learners with disability is through the formulation and implementation of the IEP. Hallhan and Kauffman, (1997) argue that most of the learners with physical disabilities have erratic poor school attendance due to regular hospitalization, visit to the physician and regular bed rests as prescribed to them by the physician. In addition, while some of the learners may effectively learn with ordinary teaching method, others may require special methods due to the additional impairments which may prevail in addition to the physical disabilities. These studies focused on the IEP while the present study delved deeper in other strategies such as: task analysis, Conductive Education, group teaching among other strategies. The study focused on assessment and placement of learners with CP whereas the current study dwelt on teaching strategies.

In the People's Republic of China, teachers typically arrange tutoring schedules for learners with special needs. They organize peer tutoring and encourage cooperative activities so that learners with disabilities interact and study together with peers (Deng & Manset, 2002) cited in (Mitchel, 2005). Learners with special needs are set the same examinations as peers but are set lower pass mark and rather than receiving a mark, they are given a set of comments (Potts, 2002). This measure is to motivate them to be in school, despite the compulsory education law in China. The learning in regular classrooms is usually made available to learners with sensory impairment and mild retardation and not for those with CP and physical disabilities. Those with multiple and moderate disabilities do not attend school at all (Deng & Manset, 2000) as cited in Mitchel, (2005).

Teaching children with disabilities requires creativity and should be child-centred. Even when they are working on the same subject, they usually have different levels of understanding and functioning skills, hence each learner needs individual attention (Terre des Hommes, 2007). Learners with CP often have difficulty organizing a response, and therefore may take time to respond even if he understands the task. Teachers should therefore not assume that the learner cannot respond, instead allow enough time. Otherwise they may cause frustration and subsequent withdrawal by the individual learners. (Klein, Cook, Marrie & Gibb, 2011) Conductive Education (CE) approach recognizes that children with motor disorder such as CP have problems controlling and coordinating movement. The psychological and social effects that arise from the condition are amenable to teaching and learning. Conductive Education aims at assisting learners with CP to find ways of learning how to achieve personally formulated goals, to experience independence and exercise choice.

As a result of Kenya's commitment to Universal Primary Education (UPE), the declaration of Free Primary Education (FPE) and the demand for special needs education at all levels have increased. According to MoE (2003), the establishment of Educational Assessment and Resource Centres (EARC) have also increased due to the public awareness. Kithure (2010) posits that sensory integration is of great benefit to all learners and thus teachers should understand the needs of all learners and plan in a manner to ensure they benefit from such experiences without being ridiculed by others.

The teachers should encourage acceptance and love for these learners by other members of the class. This can be achieved through calling them by their individual names, using simple language, gestures as well as being physically near the learners as this will improve their participation and confidence in class. Learners with CP should be appropriately assessed and placed in schools in order to be provided with effective and designed teaching techniques (Mwendwa, 2010).

According to the MoE (2003), most of the EARC teachers lack knowledge and skills in assessment leading to mislabelling and wrong placement for the assessed individual. Recognition of CP as a category on its own, away from the four traditional ones, is a big step towards the inclusion of education of the learners with CP. MoE, (2003) recommends that the teachers ratio should be 1 to 1 for learners with CP. This is probably due to their diverse needs which in most cases call for individual attention.

Ogono (2008), in a study conducted in Kenya, at Joy town Special school for the PDs, sought to investigate how teachers individualized their teaching and learning environment to accommodate learners with CP. The descriptive case study was conducted in four schools which offered educational services to learners with CP; four teachers were selected using criterion sampling strategy. These were those who had SNE training at diploma level; and teaching lower primary grade three in special schools and had taught learners with CP for at least one year. While this study focussed on the study at hand focused on the learners.

According to (Borg & Gall, 2007), criterion sampling involves selection of cases that satisfy an important criterion and yield rich information about the aspects of the phenomenon. To obtain the data, the researcher used observation and conversations methods. It was found that instructing learners with CP demanded more than just teacher training in special needs education and argue that it called for commitment and creativity on the side of the teacher.

From the study, it was evident that large classes and high teacher ratio affected the individualization of instructions for learners with CP. In the study, it was suggested that teachers should be trained on how to individualize and adapt their teaching of learners with CP through refresher courses. The teacher training should include packages on basic teaching and writing skills to beginning learners and readers with CP. The training should encompass how to make classroom environment learner-friendly.

## **2.6 Summary of the Literature Review**

The literature review revealed that the ultimate aim of education for learners with CP is to make them independent in any community. It also showed that the quality education starts with the quality of teachers who do the instruction to the learners with CP. Learners with CP fall under the large category of persons with disabilities where their education is not streamlined.

Most of the literature has generally addressed learners with disabilities and especially those with physical disabilities at the expense of those with CP. It is worth noting that

there is limited documented literature on the education of learners with CP, especially in the developing countries. It is assumed that the general findings of other authors on learners with disabilities can be used to apply to learners with CP. In this regard, the findings of this study shall be used to add to the existing knowledge and close the gap on the education and services which are currently being offered to learners with CP.

The review indicated that there is much concern for the education of learners with CP. In addition, learners with CP have motor problems which may be accompanied by muscular weaknesses that hinder their participation in various regular school activities. Thus, these learners require specialized equipment, materials and barrier-free environment in order to benefit and access appropriate education.

The literature review showed that effective education for learners with CP involves teacher preparedness, specialized materials and equipment, flexible and modified curriculum and special instructional strategies by the teachers. The documented literature showed that Uganda, Tanzania, USA, China and Singapore governments are involved in special needs education including those with CP.

In Kenya, very little information has been documented in regard to education of learners with CP. The literature revealed that in most cases, learners with CP are eclipsed by those with physical disabilities at the expense of the learners with CP. The MoE, (2003) is viewed as the best foundation for education of learners with CP. Notably, the report suggested that the teacher ratio for learners with CP as one to one, flexible curriculum should be offered, appropriate materials, resource and barrier free

environment should be made available for learners with CP. The report also recommended school-based examinations for certification for the learners who may not be in a position to sit for the national examinations.

Several studies have been conducted on the education of learners with PD; however, very few have been conducted regarding the education of learners with CP especially on the instructional challenges facing learners with CP. It is critical that the education of learners with CP is put on the spotlight through regular studies to gauge their instructional achievement levels as well as other factors that influence the instructional intervention and remediation in order to come with effective approaches on how to improve on the instructional interventions. It is in the view of these existing gaps that this study is designed to find out instructional challenges facing learners with Cerebral Palsy in selected special schools in Kiambu and Machakos Counties.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter outlined the study design, study variables, location of the study, target population, sampling techniques and sample size, research instruments, piloting, validity and reliability, data collection techniques, data analysis and logistical and ethical considerations.

#### **3.2 Research Design**

For this study, a descriptive survey design was used to describe characteristics of subjects or phenomenal attitudes (Hugh, 2004). This study explored inner details and holistic understanding of social life, which involved capturing people's opinions, feelings and practices, their experiences and the kind of atmosphere and context in which they acted and responded (Wisker, 2001). The design suited this study in that it sought to describe things the way they were without necessarily measuring the relationships and investigated the instructional challenges faced by the learners with CP.

#### **3.3 Variables**

##### **3.3.1 Independent Variables**

The independent variables included, training offered to teachers, facilities available for the teachers and the learners, curriculum and the techniques used by the teachers in instructing learners with CP.

### **3.3.2 Dependent Variables**

The dependent variables are the instructional outcomes that can either have positive or negative outcomes as determined by the independent variables. When the independent variables are precise, reflective and effective, the dependent variable will have a positive outcome such as enhanced self-esteem and increased academic performance. If they are not effective, the dependent variables will have a negative outcome in which learners with CP lack motivation of learning and being in school, and subsequent result will be dropping out leading to dependent life on others.

### **3.4 Location of the Study**

The study was carried out in two special schools for the physically disabled in Kiambu and Machakos counties. Machakos is 64 Km South East of Nairobi, while Thika in Kiambu County, is 40 Km North of Nairobi. They are among the few counties in Kenya with established special schools for the PD where learners with CP receive educational and other related services. The schools admit learners from all over the country. This is what greatly influenced the choice of the schools for the study.

### **3.5 Target Population**

The target population of this study included two (2) head teachers, 40 teachers and 272 learners from Salvation Army Joytown and APDK Masaku Primary Schools for learners with PD making a total of 314.

### **3.6 Sampling Technique and Sample Size**

#### **3.6.1 Sampling Techniques**

The SA Joytown and APDK Masaku Special Primary schools for the PD were purposively sampled because they were the only well-established primary institutions offering educational and related services to learners with CP in Machakos and Kiambu counties.

The institutions were among the first schools for PD to be established in the country and were likely to provide useful information for the study. The head teachers were also purposively sampled as they were the custodians of some of the vital information for the study. A total of 78 learners with CP from classes 4-8 were purposively sampled, whereby the researcher used the registers to pick all the learners who had CP as was indicated the subjects were also handpicked because they possessed the required visible characteristics such as involuntary movements, drooling, difficulty with precise motion such as grasping among others. All the learners with CP in upper classes were selected because they could read and comprehend questions in the research tool accordingly.

All the teachers in the 2 schools participated in the study, 27 from Joytown and 13 from APDK Masaku special schools for the Physically Handicapped, totalling to 40. They were purposively sampled due to their varied opinions and routinely interaction with learners with CP in their respective schools. The final Sample Size was 120 respondents.

### 3.6.2 Sample Size

The sample size for the study comprised two 2 head teachers, 40 teachers and 78 learners with CP from classes 4-8. The learners were sampled using 30% since it was appropriate for a survey study (Hugh, 2004).

**Table 3.1: Determination of sample size**

Category	Target Population			Sample	
	Schools		Total	Sample size	Percentage
	Joytown	Masaku			
Learners	179	93	<b>272</b>	78	30%
Teachers	27	13	<b>40</b>	40	100%
Head Teachers	1	1	<b>2</b>	2	100%

### 3.7 Construction of Research Instruments

Three research instruments comprising questionnaire, interview guide and observation checklist were developed by the researcher for the study.

#### 3.7.1 Questionnaires

A structured questionnaire containing close-ended and open-ended questions were used to gather information regarding the curriculum used, the kind of training offered to the teachers, facilities and equipment which were in place and the strategies used by teachers in teaching learners with CP, 20 items were administered to the SNE teachers and 13 to learners. The questionnaire was chosen as it gathers a variety of information from the subjects.

### **3.7.2 Interview Guides**

A standard interview guide with clear outline of instructions was used to capture the various aspects of the study. The interview guides were more helpful for the unstructured interviews especially where the head teachers were involved. Related semi-structured open-ended questions were also used to collect information and comparable data using 8 items for the head teachers.

### **3.7.3 Observation Checklist**

For further clarification, the researcher used two observation checklists for the two special schools to record what was observed as it was quite reliable, and unbiased source of information. The following was observed; instructional modifications and adaptations, adaptations of instructional materials and equipment, learners' involvement and participation in learning, and the environmental adaptation.

### **3.8 Pilot Study**

Instruments for the data collection were piloted at Dagorreti Special School for the PD in Nairobi County. The school was similar to the institutions where the main study was conducted in that it offered education and related services to learners with CP. One head teacher, three teachers and six learners with CP were used. The reason for piloting was to establish the reliability and the validity of the research instruments. Piloting modifies and removes any ambiguity detected in the instruments to be used for the study. After piloting some questions that were ambiguous to the learners were removed.

### **3.8.1 Validity**

A measure is said to be valid if it measures what it is intended to measure. Orodho (2008) states that content validity is determined by expert judgment. For this reason, the questionnaires, interview guides and observation checklist were scrutinized and the content was validated through item analysis. This was done by the supervisors at Kenyatta University before the actual data collection was done. They examined the questionnaires, interview guides and observation checklist individually and provided feedback to the researcher.

### **3.8.2 Reliability**

In this study, reliability of the questionnaire was established through test-re-test method. The questionnaires were administered to the subjects identified for piloting. The subjects for the pilot were not part of the actual study. The instruments were administered again after a period of one month to the same respondents. Scores from both testing periods were correlated. A correlation coefficient of 0.7 was enough to judge the instruments reliability for the study (Orodho, 2004). This established that the questionnaires were reliable.

## **3.9 Data Collection Techniques**

The researcher visited the sampled schools three weeks before the initial data collection date for the purpose of introduction and identification of the data collection date. The researcher worked on the logistics and arranged with the administrators on the logistics during data collection period. On the actual day of data collection, the researcher administered the questionnaires to the SNE teachers and the learners. The

semi-structured open-ended questions were administered to the head teachers by the researcher. The researcher sought prior permission to use a mobile phone recorder to capture all the information given. Finally, the researcher observed facilities in the schools, and the educational activities performed by learners with CP both in and outside the classroom. The gathered information were recorded through note taking. Collected data from the interviews was analyzed through narrative descriptions. Data were summarized into themes, which were the basis of answering the research questions which guided the study.

### **3.10 Data Analysis**

Data collected from the field was both quantitative and qualitative in nature. Descriptive statistics in statistical Package for Social sciences (SPSS) version 12.0 was used to analyse quantitative data and was presented in frequency tables. Qualitative data from the interview schedules and the open-ended part of the questionnaires were manually done and analyzed through narrative descriptions that produced themes, which formed the basis of answering the research questions that guided the study. The purpose of the descriptive study was to enable the researcher to meaningfully describe a distribution of scores or measurements using a few indices or statistics (Mugenda & Mugenda, 2003).

### **3.11 Logistical and Ethical Consideration**

Through an introduction letter from Graduate School Kenyatta University, the researcher went to the Permanent Secretary in the Ministry of Higher Education, Science and Technology to seek permission to carry out the research. The researcher

also sought permission from the County Directors of Education in Machakos and Kiambu Counties to collect data from their respective schools. The researcher respected the respondents and the sites for the research (Creswell, 2003). For this reason, the researcher got informed consent for voluntary information from the respondents. For security purposes the subjects remained anonymous. The reason for the study was explicitly explained to them and how the findings of the study would be used.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter presents the analysis and discussion of the data collected from a sample of 120 respondents from schools in Machakos and Kiambu counties. The data analysis entailed both qualitative and quantitative. The quantitative data were analyzed using SPSS and presented in a tabular form, results inferred and the findings discussed, while qualitative data were analysed through content analysis where items were grouped into the research themes for effective discussion. However, some of the responses from the learners with CP, teachers and head teachers were combined and discussed as a unit for clarity. The findings of the study were discussed under the following themes derived from the research questions:

- Suitability of the curriculum used by learners with Cerebral Palsy.
- The current status of the facilities for learners with Cerebral Palsy in schools.
- Whether the teacher training curriculum prepares the teachers to handle learners with Cerebral Palsy.
- Strategies used by teachers teaching learners with cerebral Palsy.

#### 4.2 Demographic Characteristics

The study considered the following demographic characteristics: gender, age professional qualifications and duration of stay in a learning institution. Their discourse is as follows.

### 4.2.1 Gender

The study required the respondents to indicate their gender and the results are as indicated in table 4.1.

**Table 4.1: Gender of the respondents (learners: N= 78; Teachers N=40)**

<b>Gender</b>	<b>Learners</b>	<b>Percentage</b>	<b>Teachers</b>	<b>Percentage</b>
Male	44	56.4%	28	70%
Female	34	43.6%	12	30%
<b>Total</b>	<b>78</b>	<b>100%</b>	<b>40</b>	<b>100%</b>

As shown in table 4.1, 44(56.4%) of the respondents were male learners and 34(43.6%) were female while male teachers respondents were 28 (70%), 12 (30%) were female. The findings concur with UNESCO (2002) which notes gender disparities in access to educational opportunities in developing countries. The Kenya MoE (2009) also contends that the national education system has been characterized by gender disparities at national level and across regions. The MoE reported glaring gender disparities in SNE which widens with every additional level of schooling. This is likely to affect the socio-economic empowerment of female learners with CP. The literacy levels for girls are generally lower than that of boys and this impacts on educational and economic activities of girls and women, the female learners with CP included.

### 4.2.2 Age of Teacher Respondents

The study sought to investigate the age bracket of the teachers managing learners with CP and the results are as shown in table 4.2.

**Table 4.2: Age bracket of the teachers who took part in the study**

<b>Age Bracket</b>	<b>Frequency</b>	<b>Percentage</b>
25-30 years	3	7.5%
31-36 years	22	55%
Above 37 years	15	37.5%
<b>Total</b>	<b>40</b>	<b>100%</b>

Table 4.2 shows that most of the teachers were in their productive age of between 31 years and 37 years. The 22 (55%) of the teachers have energy to work with the learners bestowed to them and do quite some good teaching and equip the learners with adequate skills. Fifteen (37.5%) of them could still perform their duties with some good vigour. There was a minimal percentage of teachers in their youthful years and this is presented by only 3 (7.5%).

#### **4.2.3 Professional Qualification of Teacher Respondents**

The study also investigated the professional qualification of teachers teaching learners with CP who took part in the study. The results obtained are presented in table 4.3.

**Table 4.3: Level of professional qualification (N=40)**

<b>Qualification</b>	<b>Frequency</b>	<b>Percentage</b>
Diploma	18	45%
B.ED level	22	55%
<b>Total</b>	<b>40</b>	<b>100%</b>

As presented in table 4.3, majority of the teachers 22 (55%) had Bachelors degree in SNE while 18 (45%) of the respondents had Diploma in SNE. This agrees with

Ndurumo (1993) who observes that training in SNE equips teachers with knowledge and skills to identify and assist learners with SNE. On this basis, teachers who are trained in SNE are likely to pay attention to educational needs of learners with CP because they can easily recognise their diverse needs.

#### 4.2.4 Duration of Service at the Institution

The amount of time a teacher spends in an institution matters in terms of being familiar with learners. Based on this, the study also sought to establish the duration of service by teachers in the respective schools that they are teaching and the results are shown in table 4.4.

**Table 4.4: Duration of teacher's stay in the institution**

<b>Duration</b>	<b>Frequency N=40</b>	<b>Percentage</b>
0-2 years	2	5%
3-5 years	8	20%
6-8 years	18	45%
9 and above	12	30%
<b>Total</b>	<b>40</b>	<b>100%</b>

Table 4.4 shows that majority of teachers 18 (45%) indicated that they had taught in the institution for between 6-8 years. This is time a learner enters the institution up to class 6 or 8. The teacher knows the individual learner well and can do much to assist them learn due to the length of time the teacher is with the learner. More than a quarter indicated they had taught in the school for more than 9 years and had adequate knowledge to make all the necessary adaptations both in the device and the

environment to enhance learning for learners with CP. The rest of the teachers with between 0-2 years and 3-5 years respectively at least have models they can imitate as they endeavour to make the learners with CP learn effectively.

### 4.3 Curriculum for Learners with Cerebral Palsy

Objective one of the study investigated various aspects of the curriculum use by learners with CP. Specifically; it investigated the suitability of the available curriculum, national examinations, subject-based challenges, completion of assignments and academic difficulties. The findings are shown in tables 4.5, 4.6, 4.7, 4.8, 4.9 and 4.10.

#### 4.3.1 Suitability of the Available Curriculum

This objective investigated the suitability of the available curriculum from the teachers and the findings are presented in table 4.5.

**Table 4.5: Suitability of curriculum for learners with CP**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	8	20 %
No	32	80%
<b>Total</b>	<b>40</b>	<b>100%</b>

The results in table 4.5 indicates that, majority 32(80%) of the respondents disapproved the suitability of the curriculum while 8(20%) approved it. The researcher probed the respondents further by asking them to give reasons for their earlier responses, and from the analysis of results a theme emerged that, the curriculum needed to be tailored to cater for the needs of learners with CP. This was

because, the content was broad, time allocated per lesson was not adequate and teaching and learning resources were unsuitable. In addition, the respondents indicated that the teaching of learners with CP need to be included in the PTE curriculum so that skills for the teachers get included in their training. The curriculum is perceived as not being friendly to the learners with CP in terms of time which is short and content which is wide. Hence, it should be reviewed with the learners in mind so as to make it friendly and also enhance performance. These findings support observations by other researchers such as Children, Sands and Turner (2009) as cited in Spencer (2011), who established that the type of curricular goals and teaching strategies used to differentiate instructions should be tailored to the learning environment. This means that curriculum development should take into account the challenges encountered by this special group.

#### 4.3.2 Rating the Achievement of the Curriculum Objectives by Learners with CP

The objective also sought to establish whether the objectives of the syllabus were achievable by learners with CP. The findings are shown in the table 4.6.

**Table 4.6: Achievement of the objective by learners with CP as reflected in the syllabus**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Highly achievable	0	0%
Achievable	6	15%
Achievable with adaptations	26	65%
Not achievable	8	20%
<b>Total</b>	<b>40</b>	<b>100%</b>

Table 4.6 indicates that more than two thirds 26 (65%) of the teachers sampled believed that the objectives in the syllabus could be achieved with adaptations. One fifth, 8 (20%) felt that the objectives in the syllabus cannot be achieved by learners with CP, while a negligible percentage believed that the objectives can be achieved as they were in the syllabus. It is important to note that none of the respondents believed in high achievement of the objectives in the syllabus by learners with CP.

### 4.3.3 National Examinations

**Table 4.7: Sitting for national examinations**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	40	100%
No	0	0%
<b>Total</b>	<b>40</b>	<b>100%</b>

Table 4.7 shows that all, 40 (100%) of the teachers agreed that learners with CP on reaching grade eight were expected to sit for national examination. This, therefore, means that teaching had to be effectively done so that the learners could take the examinations and effectively compete with their peers. It is important to note that all the national examinations are the same and therefore, the respective preparation should be the same if not better for the individuals with CP. The findings concur with Terre des Hommes (2007), who established that in Uganda, progress had been made in regard to the national examinations for learners with CP. The learners took their examinations in the most comfortable way possible, which included communication charts and use of tape recorders under the supervision of the Uganda National Examinations Board.

#### 4.3.4 Subjects Based Challenges in Class

**Table 4.8: Learners' Experiences in Various Subjects**

Subject	Frequency	Percentage
Mathematics	25	32.05 %
English	15	19.23 %
Science	13	16.67 %
Kiswahili	14	17.95 %
Social studies	7	8.97 %
CRE	4	5.13%
<b>Total</b>	<b>78</b>	<b>100 %</b>

Table 4.8. Shows that English had the greatest challenge, 32(19.23%) CRE posed the least4 (5.13%) challenge to the learner with CP. It is important to note that most subjects are interrelated and a challenge in one subject consequently affects the other. The reasons given by the respondents for the challenges they experienced was because most of the subjects involved a lot of writing which was not catered for in the subject time duration. So due to the nature and severity of the individual respondent's condition, thinking skills are also involved in the completion of the work and the cognitive deficits posed a challenge in the completion of the work.

#### 4.3.5 Completion of Assignments

**Table 4.9: Ability to complete work within the allocated time**

Response	Frequency	Percentage	Frequency	Percentage
No	71	91.0%	38	80%
Yes	6	7.7%	2	20%
No response	1	1.3%	0	0%
<b>Total</b>	<b>78</b>	<b>100%</b>	<b>40</b>	<b>100%</b>

As shown in table 4.9, majority of the learners 71 (90%) did not complete the work within the allocated time. The few who completed were however, challenged with difficulty in writing – the handwriting was quite poor. Those who did not complete indicated that some of the tasks such as composition writing required heavy and extensive writing which could not be completed within the expected time. Time factor, type of work and one's condition were the main causes of non-completion of task.

Performance of learners with CP is quite affected especially in achievement. This was clearly evidenced in their exercise books. Most of their handwriting was illegible and this was due to the lack of the adapted writing materials. The conditions of some of the learners were quite severe and this made them unable to write legibly. A majority of the teachers 38 (80%) reported that most of the learners with CP did not complete their work within the allocated time. Hence, there is need to create more time to attend to the individual needs of the learners. However, this remains a major challenge since no extra time was added to the allocated time by the curriculum developers. Although the teachers also indicated that the workload for both the learners and the teachers was too much, there was nothing much that could be done on this matter. Probably, the teachers could plan on how best they can manage these learners in order to attain some degree of work completion within the stipulated time.

Other reasons that were observed to contribute to learners with CP not completing their tasks within the stipulated time were inadequate space, and lack of special

resources designed to assist them work effectively. It was observed that some teachers commented on most learners' exercise books about them not completing their work.

#### 4.3.6 The Specific Academic Difficulties Learners with CP Encounter in Class

**Table 4.10: Specific academic difficulties learners with CP encounter in class**

<b>Academic area difficulty</b>	<b>Frequency</b>	<b>Percentage</b>
Pronunciation difficulties	5	6.41 %
Spelling difficulties	7	8.97 %
Writing difficulties	27	34.62 %
Reading difficulties	22	28.21 %
Drawing	12	15.38 %
Calculation	5	6.41 %
<b>Total</b>	<b>78</b>	<b>100%</b>

Table 4.10 showed that most of the respondents had evident multiple difficulties across the specific subjects. Writing posed the greatest challenge with one in every four learner with CP, (34.62%) had academic difficulties in writing which is key in learning and expressing the concepts across subjects. Other major academic difficulties were evident in reading (28.21 %), drawing (15.38%) and calculations while pronunciation and calculation had the least with (6.41%). respectively. It is important to note that all these difficulties which the respondents experienced were related to each other and hence a difficulty in one subject area was portrayed or reflected in another area of learning. From the lesson observation, learners with CP were observed to participate in the lesson; however, they seemed to take plenty of time to respond to tasks from the teacher. Most of the learners with CP were always quiet and withdrawn during the lesson. This concurs with Klein et al., (2011) who

warn that learners with CP may take time to respond to a task even when they know it, and unless the teacher is aware of this, and allows for enough time he or she may think that the learner does not know hence causing frustration which may lead to withdrawal by the learner.

#### **4.4 Facilities and Services for Learners with Cerebral Palsy**

Objective two investigated the following: suitability of the classrooms, adaptive devices provided by the schools, mobility devices, whether the schools are equipped to accommodate learners with CP, and attendance of the physiotherapy services in the schools. The findings are shown in tables 4.11, 4.12, 4.13, 4.14 and 4.15.

##### **4.4.1 Suitability of Classrooms**

In this objective the study sought to explore whether the classrooms were suitable for learners with CP. The results of the findings are summarized in table 4.11.

**Table 4.11: Suitability of the classrooms for learners with CP**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	16	40.0%
No	24	60.0%
<b>Total</b>	<b>40</b>	<b>100%</b>

Table 4.11 shows that 24 (60%) of the respondents agreed that the classrooms were not suitable for learners with CP to learn effectively, while 16 (40%) felt that the classrooms were suitable enough. During an observation of a lesson, it was evident that instructional materials and adapted learning materials were lacking.

Environmental adaptations, curriculum adaptations and facilities were inadequate. This finding concurs with the findings by (Terre des Homes, 2007) who revealed that the situation of special education in Kenya is poor due to lack of proper facilities, equipment and the teaching materials.

#### 4.4.2 Provision of Adaptive Devices by the School

To establish the level of support learners with CP get in terms of adaptive devices, the respondents were asked to indicate whether they were provided with adaptive devices by their schools. The findings are shown in table 4.12.

**Table 4.12: Provision of adaptive devices by schools**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	12	15.38%
No	56	71.79%
No Response	10	12.82%
<b>Total</b>	<b>78</b>	<b>100%</b>

Table 4.12 indicates that majority 56 (71.79%) of learners with CP did not have adaptive devices and this was one of the major contributors to poor handwriting including non-completion of work within stipulated time. Poor performance in class is also associated with learners with CP lacking appropriate tools to assist them in learning. These findings are a departure from the literature reviewed in which MoE (2003) notes that for learners with CP to cope with expectation of classroom work, it is essential that the need for adaptive and assistive devices be taken into account to enhance learner's ability to work.

#### 4.4.3 Instructional Devices Used by Learners with CP

This section examined instructional devices used by learners with CP. Respondents were required to rank the devices in their classroom based on importance on 5 likert scale. The findings are as presented in table 4.13.

**Table 4.13: Instructional devices used by learners with CP**

Device	Very useful	Quite useful	Useful	Somewhat Useful	Not useful	Total
Positioning Device	44 (56.41%)	12 (15.38%)	5 (6.41%)	14 (17.95%)	3 (3.85%)	78 100%
Pen holder	36 (46.15%)	10 (12.82%)	16 (20.51%)	10 (12.82%)	4 (5.13%)	78 100%
Page turner	6 (7.69%)	41 (52.56%)	16 (20.51%)	15 (19.23%)	0 (0%)	78 100%
Book holder	1 (1.28%)	16 (20.51%)	37 (47.44%)	16 (20.51%)	8 (10.26%)	78 100%
Head pointer	0 (0%)	0 (%)	34 (43.59%)	24 (30.77%)	20 (25.64%)	78 100%
Adapted seat	41 (52.56%)	0 (0%)	11 (14.10%)	26 (33.33%)	0 (0%)	78 100%
Adapted desk	38 (48.72%)	16 (20.51%)	2 (2.56%)	4 (5.13%)	18 (23.07%)	78 100%

Table 4.13 shows that positioning devices were the most important 44 (56.41%) as tools for effective learning. Other devices highly ranked included adapted seats 41(52.56%), adapted desks 38 (48.72%), book holders 37 (47.44%),pen holders 36 (46.15%) and head pointers 34 (43.59%).Correct positioning requires an adapted seat and an adapted desk in most occasions. In terms of the positioning of learners with CP, motor problems can be accompanied by muscular weakness that may interfere with head and trunk control. Therefore, sitting position is critical because it can cause a challenge in grasping and holding onto objects. The findings concur with Eileen,

(2009) who established that specialized equipment such as wedges, prone boards and holsters support various positions for learners with CP.

During this study, it was observed that seating arrangement was quite poor and un-motivating. Most of the desks were squeezed, and most of the learners could not work independently due to overenrollment in the classes. Learners with CP did not have adequate space to enable them to manipulate the available learning resources.

#### 4.4.4 Adapted Text books for Learners with CP

The respondents were required to indicate whether there were adapted text books for use by learners with CP. The results of the findings are presented in table 4.14.

**Table 4.14: Availability of adapted textbooks for instructing learners with CP**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	0	0%
No	40	100%
<b>Total</b>	<b>40</b>	<b>100%</b>

As shown in table 4.14, all 40 (100%) respondents indicated that there were no adapted textbooks in use in the schools visited for use to instruct learners with CP. According to responses from the head teachers, all the teachers had to adapt their teaching and learning materials to suit the needs of learners with CP. This contradicts Anne, et al., (2011) who asserts that, the curriculum demands for reasonable accommodation and adaptation to be considered for individuals with CP. The curriculum should be adapted to form a foundation for long-life learning and to create

positive school experience for learners with CP. The adapted curriculum should also promote self-esteem while assisting the learners to build competence and confidence.

#### 4.4.5 Ranking of the Mobility Devices

The respondents were required to indicate their most useful mode of mobility devices used by learners with CP. The findings of the study are presented in table 4.15.

**Table 4.15: Most used mobility device by learners with CP**

Device	Frequency	Percentage	Frequency	Percentage
Wheelchair	25	62.5%	38	48.72%
Crutches	10	25%	30	38.46%
Walkers	4	10%	2	2.56%
Polio boots	1	2.5%	7	8.78%
No response	0	0%	1	1.28%
<b>Total</b>	<b>40</b>	<b>100%</b>	<b>78</b>	<b>100%</b>

Table 4.15 shows that wheelchairs were the most used mobility devices 38 (48.72%), followed by crutches 30 (38.46%). This means that the schools have to make sure that wheelchairs are accessible to learners who require them so as to facilitate effective movement and learning. The available crutches should have non-skid tips in order to avoid falls which can easily cause environmental insecurity and hurt learners with CP (Eileen et al., 2006).

The provision of these devices assists some of the learners with CP to get to school for those who attend day facilities. According to Terre des Hommes (2007), transport

to school is also a problem especially to those with physical disability, leading to a high school dropout. The role of each school is to make the school environment conducive for learning for all learners including those with CP.

#### **4.5 Effective of Training in Preparing Teachers to support Learners with CP**

Objective three of the study looked at the following aspects: relevance of the PTE training undertaken, in-service courses attended on teaching learners with CP, and special courses attended by teachers who teach learners with CP. The findings are shown in figure 4.16, 4.17, 4.18 and 4.19.

##### **4.5.1 Relevance of Primary Teacher Education Training Undertaken**

This objective sought to establish whether the PTE training curriculum prepares the teachers to teach learners with CP. The findings are presented in table 4.16.

**Table 4.16: Relevance of primary teacher education training undertaken**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	8	20%
No	32	80%
<b>Total</b>	<b>40</b>	<b>100%</b>

As presented in table 4.16, majority 32 (80%) of the respondents did not think that the PTE course had any impact on their current professional undertaking while 8 (20%) of them agreed that the PTE course had some advantages in their current undertaking. From the findings, it is evident that courses taken after the initial PTE had an impact on teaching learners with CP.

#### 4.5.2 Rating the SNE Course Taken in Regard to Teaching Learners with CP

This objective sought to establish the adequacy of the SNE. Courses taken by teachers in regard to teaching learners with CP. The findings are as shown in table 4.17.

**Table 4.17: SNE course undertaken to teach learners with CP**

Course	Response	Frequency	Percentage
Diploma in SNE	Highly adequate	0	0%
	Adequate	0	0%
	Inadequate	6	33%
	The course needs review	12	67%
	<b>Total</b>	<b>18</b>	<b>100%</b>
Degree in SNE	Highly adequate	0	0%
	Adequate	2	9%
	Inadequate	9	41%
	The course needs review	11	50%
	<b>Total</b>	<b>22</b>	<b>100%</b>

Table 4.17 indicates that majority 12 (67%) of the diploma teachers felt that the course needed review, while 6 (33%) believed that the course was inadequate. A small number 2 (9%) of the degree teachers felt that the course undertaken was adequate, 9 (41%) felt it was inadequate while 11(50%) of them believed in the course needing review.

#### 4.5.3 In-service Course on how to Teach Learners with CP

The respondents were required to state when they last attended an in-service course on how to teach learners with CP. The findings are presented in table 4.18.

**Table 4.18: In-service course on how to teach learners with CP**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Last three months	0	0%
Last six months	0	0%
A year ago	4	10%
More than a year ago	15	37.5%
I have never attended	21	52.5%
<b>Total</b>	<b>40</b>	<b>100%</b>

As shown in table 4.18, more than half of the teachers 21 (52.5%) had never attended any in-service course after the training. Only 4 (10%) had an in-service course a year ago, while less than half 15 (37.5%) had an in-service course more than a year ago. None of the respondents had any form of in-service course in the three and six months ago respectively. These results present a huge gap in line with the need for continuous professional development. According to Ndurumo (1993), training in SNE equips teachers with knowledge and skills to identify and assist learners with CP. On this basis, teachers who are trained in SNE are likely to pay attention to educational needs of learners with CP because they can easily recognise their diverse needs. In-service courses are very crucial especially for specific areas in SNE. This is an area which is ever growing and therefore, teachers must be exposed to such in-service courses so as to know and understand the new trends in the field of SNE.

#### 4.5.4 Special Course Taken by Teachers with Regards to Teaching Learners with CP

This objective also sought to establish from teachers whether the special course they had taken prepared them adequately to support learners with CP. The findings are presented in table 4.19.

**Table 4.19: Effect of special courses taken by teachers who handle learners with CP**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	15	37.5%
No	25	62.5%
<b>Total</b>	<b>40</b>	<b>100%</b>

Table 4.19 shows that less than half 15 (37.5%) of the respondents indicated that the special courses such as Inclusive education as well as specialized areas taken prepared them adequately, while more than half 25(62.5%) of the respondents did not think the courses were adequate for them to teach learners with CP. The reason could be, despite the teachers having taken a special course, the ingredients of the course did not adequately address the needs of learners with CP. Training of teachers and in servicing them for skill upgrading is very crucial for the teachers after the initial training either in PTE or SNE training. The training is meant to support and provide education for learners with CP. The quality of training is important because it should be geared towards what is important to the respective learners. The findings deviates from Sherwood, et al., (2005), who noted that teachers instructing learners with physical disabilities must possess specific competencies that encompass instructions, physical management and educational environment.

This is supported by Ndurumo (1993), who states that teachers in the area of SNE should have intensive short courses which are aimed at improving their knowledge of social and emotional problems of the children remedial methods in the basic subjects, restricted hand/arm and the need for social as well as educational training.

#### **4.5.5 Some of the challenges that the Teachers Encounter While Teaching**

##### **Learners with CP**

Seating positions are not proper for some of the learners with CP and this can make them develop other conditions making them ail more and acquire other health complications. Poor seating position also contributes to poor handwriting. Most of the learners with CP have difficulties manipulating writing equipment. Some of the learners also get easily fatigued due to their conditions. In addition, some learners may feel frustrated due to stigmatization.

Learners with CP are prone to ailments which make them miss school frequently thus not covering the syllabus content which is important for understanding academic concepts. Most of the learners with CP are slow in grasping content and therefore, teachers need to structure the learning situations to cater for the learners with CP appropriately. This can be possible with adapted materials which are not currently adequate.

Learners being too slow, lack of relevant materials to enable them to do their work effectively, leading to poor coverage of the syllabus. They need extra time to accomplish their tasks since most of them indicated that there is inadequate time for

them to cover the lessons. Most of them do not enjoy learning since some have chronic ailments and see no need to continue learning and therefore, the teachers are unable to meet their targets. This also makes them very irritable most of the time.

Most of the time, these learners are in and out of school and easily give up because even the schools are not accommodative to their needs. The curriculum developers should also adapt the curriculum for these learners so as to experience success. The developers should take into consideration time allocation for study and the examination time.

#### **4.6 Teaching Strategies for Learners with Cerebral Palsy**

Objective four sought to establish the strategies teachers used in teaching learners with CP. It looked at the following aspects: Instructional strategies teachers used with learners who have CP, teachers support to learners with CP, and the frequency in reviewing learners' progress by the IEP team. The findings are shown in tables: 4.20, 4.21, 4.22 and 4.23.

##### **4.6.1 Instructional Strategies Used to Instruct Learners with CP**

In this objective teachers were required to indicate the strategies they used in teaching learners with CP, the findings are as presented in table 4.20.

**Table 4.20: Instructional strategies used to instruct learners with CP**

<b>Instructional strategy</b>	<b>Frequency</b>	<b>Percentage</b>
IEP	1	2.5 %
Task Analysis	12	30 %
Conductive Education	0	0 %
Diagnostic Prescriptive Teaching (DPT)	1	2.5 %
Group Teaching	4	10 %
Cooperative Teaching	2	5 %
Direct Instruction	20	50 %
<b>Total</b>	<b>40</b>	<b>100%</b>

As shown in table 4.20, teachers used varied approaches to teach learners with CP. Majority of the teachers 20(50 %) used direct instructional approach, followed by task analysis with 12 (30 %). Other methods the respondents used included DPT which comprised 1(2.5%). Although these are the key approaches which can be used in combination, other approaches included group teaching, with 4 (10 %), IEP at 1 (2.2%). The choice of the instructional strategies for learners with CP is important for both the teacher and the learner. The findings are in contrast with Winnick,(2011) Graham et.al (2006) and Auxter et al., (2005) who noted that IEP was the most appropriate strategy in meeting the needs of learners with disabilities. However, in this study, IEP was not popular with teachers. This could be due to lack of enough time, high enrolment and the amount of work they needed to cover in a given time.

During direct observation by the researcher in a lesson, the teacher did not involve learners with CP. The teacher seemed not to be aware of the learners' diverse needs.

The teacher also used direct instruction throughout the lesson. It was clear that the lesson was teacher-centred rather than being learner-centred.

#### 4.6.2 Teachers Support to Learners with CP

The researcher also established from learners whether teachers were supportive enough during instructions. The findings are presented in table 4.21.

**Table 4.21: Teachers support to learners with CP**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	21	26.92%
No	48	61.54%
No Response	9	11.54%
<b>Total</b>	<b>78</b>	<b>100%</b>

Table 4.21, reveals that most learners 48 (61.54%) did not receive adequate support from their teachers. Only 21 (26.92%) indicated that the support they got from the teachers was adequate. Some of the reasons given for non-support are that teachers did not understand why some learners did not finish their work on time. Most of the teachers did not give the respondents adequate time to read and learn how to read especially to the non-readers and this becomes a challenge in all other subjects. The findings are in contrast with Gray (2007) and Hallahan and Kauffman(1997) who posits that effective teaching was based on positive teacher-learner relationships, also the MoE, ( 2003) which states that the teacher ratio for learners with CP should be 1 to 1, in order to cater for their diverse educational needs.

### 4.6.3 Reviewing Learners Progress

Teachers were required to state how often they reviewed learners' progress as a team.

The findings are summarized in table 4.22.

**Table 4.22: Frequency in planning for IEP and reviewing learners progress as a team**

Response	Frequency	Percentage
Every school term	16	40%
Yearly	6	15%
Seldom	11	27.5%
Never	7	17.5%
<b>Total</b>	<b>40</b>	<b>100%</b>

Table 4.22 shows that there was some notable evidence of review but not satisfactory with almost half 16(40%) of the teachers reviewing learners' progress every term which was not adequate if the learners with CP had to benefit from instruction. It was unacceptable for a teacher to review learner's progress yearly as indicated by 6 (15%). Some teachers 7 (17.5%) did not review the progress at all. Reviews are what make the teachers to know whether learners are benefiting from instruction and if it is not done then, anything can happen to the learning of learners with CP. This contrasts with Kithure et al., (2006) who states that IEP should be reviewed monthly depending on the performance level of the learner. Although there are documented procedures on how and when to review IEP, there is great need to frequently review it if the learners with CP have to perform well in their national examinations and general education.

#### 4.6.4 Forms of Adaptations/Modifications Used During Lessons to Accommodate Learner with CP

The objective sought to establish whether teachers used any form of adaptation/modifications of lessons as a teaching strategy to learners with CP. The findings are shown in table 4.23.

**Table 4.23: Forms of lesson modifications/adaptations used as teaching strategy**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
No	32	80%
Yes	8	20%
<b>Total</b>	<b>40</b>	<b>100%</b>

As shown in table 4.23, majority of the teachers 32 (80%) did not modify their lesson experiences to learners with CP, only a few of them 8 (20%) modified their lesson experiences in order to influence success in their classes. Some of the reasons given were that resources and time were not adequate as they were required to cover a lesson within a stipulated duration of time. The situation deviates from Gray (2007) who stated that teachers should use individual strategies that take into considerations the learner's differing needs and abilities.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter summarizes the findings from the data analysis and outlines the implication of the study. The chapter also gives recommendations of what should happen to streamline the education for learners with CP. It suggests areas that the researcher feels need further research to close the gaps since the education of learners with CP is rapidly growing.

#### **5.2 Summary**

##### **5.2.1 Suitability of the Regular Curriculum**

The study established that majority of teachers were of the opinion that the current curriculum was not appropriate for learners with CP since they were exposed to the same examinations undertaken by their peers in regular schools. The learners should, therefore, be prepared like their peers using adaptive curriculum so as to be able to tackle the examination at the end of instruction. The study also established that the curriculum was too rigid and only can cater for the regular learners. The curriculum be tailored to cater for the needs of learners with CP and SNE in general. In addition methods of teaching of learners with CP should be included in the PTE curriculum so that teachers may acquire necessary skills for teaching learners with Special needs in their training.

### **5.2.2 Status of Facilities**

The study found that most of the teachers indicated that the classrooms for learners with CP were not suitable for effective learning. During an observation of a lesson, it was evident that instructional materials and adapted learning materials were not adequate. In addition, environmental adaptations, curriculum adaptations and facilities were also inadequate. The study established that majority of learners did not have adaptive devices and this was one of the major contributors as to why most learners failing to complete tasks given to them in time, and their hand writings were almost illegible. Thus, performance in class poor due to not giving the learners with CP the appropriate tools to assist them in learning.

### **5.2.3 Teacher Training Curriculum**

In relation to the teacher training, it was evident that the respondents felt that the training content in PTE should include a CP component. In addition, the traditional area of physical disability is emphasized. The findings also showed that some teachers had not attended any seminar since leaving college and this was a big challenge to them and even to the learners.

### **5.2.4 Teaching Strategies Used**

With regard to the teaching strategies, the findings indicated that the teachers used the teacher-centred approaches rather than child-centred approaches and this may not be applicable and appropriate to learners with CP. Each learner should be taught as an individual and not collectively. Most teachers indicated that they used multiple approaches to teach learners with CP. Majority of teachers mainly used direct

instructional approach for learners with CP. The choice of the instructional strategies for learners with CP is important for both the teacher and the learner. Winnick (2011), Graham, et al. (2006) and Auxter et.al (2006) noted that formulation and implementation of IEP was the most effective strategy in meeting the educational needs of learners with physical disabilities, which was not the case in this study. .

### **5.3 Conclusion**

In the light of these findings, the study concludes that the current curriculum is not adequate for learners with CP because this category of learners are considered under the major classification of learners with physical and motor disabilities. The curriculum is too rigid and can only cater for the regular learners. The curriculum should, therefore, be tailored to cater for the needs of learners with CP.

In addition, the facilities currently in use do not benefit the learners with CP because, the facilities including the environment for their learning does not have any reasonable adaptation to meet their social and physical needs. Most of the learners with CP have conditions which call for adapted equipment for them to function efficiently.

Finally, the study concludes that the training of the human resource should be re-structured so as to enable the teachers to acquire skills which can benefit this group of learners. Currently, most of the teachers do not offer tangible support to learners with CP and this could be a shortcoming from their training and failure for some of them to attend seminars and workshops after the initial PTE training. Most of the teachers also

may not adequately use a strategy which is beneficial for the learners probably due to pupil-teacher ratio, and hence need for a manageable number of learners per class. In addition, there is need for refresher courses to teachers so as to become compliant with emerging trends in SNE and more so to the needs of learners with CP. The teachers should also make some initiatives to acquire effective skills which can enhance the effective learning of learners with CP.

#### **5.4 Recommendation**

From the study findings, it is evident that the facilities and equipment for use are inadequate for learners with CP. Thus for education of learners with CP to be effective, they should be provided with specialized equipment which are adapted for effective learning. The learning environment should also have facilities which allow them to manoeuvre the environment with ease.

The researcher found that most of the teachers had not attended refresher courses to upgrade their teaching skills. The MoE should organize for frequent refresher courses and seminars where the teachers can upgrade their skills and get to know the appropriate new trends in the area of SNE. While learning from the other teachers and specialists.

There is also a shortage of the trained human resource. Most of these teachers were trained to teach learners with physical disability and therefore, when a learner with CP is admitted in the school, the teachers tend to use the already acquired skills to teach a learner whose needs are different. When this happens, there is under-provision of the

required services especially for a learner with CP. The study recommends that Kenya Institute of Curriculum Development to develop teacher training curriculum for teachers of learners with CP.

### **5.5 Suggestions for Further Research**

From the findings, it is necessary for further research so as to:

- identify how the curriculum can be re-structured to adequately cater for learners with cerebral palsy. The current curriculum leans more on learners with physical disabilities in general;
- find out how best the learners with cerebral palsy can be evaluated after the end of instruction. There should be assessments for finding out the effectiveness of the current procedures, identification and how referrals are done;
- establish what adaptations can be done on the resources so as to enhance the instruction of learners with cerebral palsy; and
- determine the effective strategies which the teachers can use for maximum output for learners with cerebral palsy.

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**APPENDICES****APPENDIX I****INTERVIEW GUIDE FOR THE HEADTEACHERS**

*This interview is part of an educational study that the researcher is conducting in your institution. The information you give will be treated with confidentiality during and after the study.*

1. What academic difficulties do learners with CP face in your school? How can these challenges be minimized?
2. Are there teachers trained specially to teach learners with CP?
3. Do the teachers have knowledge of adaptations required for instruction of learners with CP? If no, what are your recommendations?
4. Do learners with CP drop out of school? If yes why? What would you recommend to ensure retention?
5. Comment on the adequacy of the facilities available in the school.
6. What adapted devices does the school provide to be used by learners with CP during instructions? (Probe for pen holders, head pointers, book holders, weights, page turners) among others.
7. Does the school have special facilities to be used by learners with CP? (Probe for weights, gymnasium, walkers, wheel chairs, parallel bars stands, prone wedges) among others. If no, what are your recommendations?
8. In your opinion, how can academic achievement of learners with CP be improved?

**Thank you for your time.**

## APPENDIX II

## QUESTIONNAIRE FOR TEACHERS

*This questionnaire seeks information on instructional challenges faced by learners with CP. The information you will give here will be used strictly for research purposes. It will be treated with confidentiality during and after the study. Kindly answer as accurately as possible. Do not write your name on any part of the paper. For questions with options, tick where appropriate.*

## SECTION A: GENERAL INFORMATION

1. a) Male [  ] Female [  ]
- b) Age: [25 -30 years] [31 – 36 years] [Above 37years]
- c) Highest professional qualification: PTE certificate [  ] Diploma in SNE [  ]  
Degree in SNE [  ] Masters in SNE [  ]
- d) Duration of stay in the institution: 0 - 2 years [  ] 3 - 5 years [  ]  
6- 8 years [  ] 9 and above [  ]

## SECTION B:

2. Do learners with CP take national examination in your school?  
Yes [  ] No [  ]
3. Are the classrooms in your school suitable for learners with special needs especially for those with CP?  
Yes [  ] No [  ]  
If no, what would you recommend? -----
4. Rank the mobility device in order of 1 to 4 as used by learners who have CP in your school.(where 1 is the most used and 4 is the least used)
  - A) Wheelchair \_\_\_\_\_
  - B) crutches \_\_\_\_\_

C) walkers \_\_\_\_\_

D) polio boots \_\_\_\_\_

5. Is your school adequately equipped to accommodate learners with CP?

Yes [ ]                      No [ ]

6. How often do you plan and review learners progress as a team?(IEP)

- a.) Every school term
- b.) Yearly
- c.) Seldom
- d.) Never.

7. When did you last attend an in-service course on how to teach learners with CP?

- a) Last 3 months
- b) Last six months
- c) A year ago
- d) More than a year ago
- e) I have never attended

8. Did the Special need education course you took prepare you adequately to handle learners with CP?

Yes [ ]                      No [ ]

If NO what do you think can be done to upgrade your skills to teach learners with CP

9. What are some of the instructional strategies that you use with learners who have CP? Tick all that are appropriate.

- \_\_\_\_\_ Individualized Educational Program (IEP)
- \_\_\_\_\_ Task Analysis
- \_\_\_\_\_ Conductive Education
- \_\_\_\_\_ Diagnostic Prescriptive Teaching (DPT)
- \_\_\_\_\_ Group teaching
- \_\_\_\_\_ Cooperative Teaching
- \_\_\_\_\_ Direct Instruction

10. Do you have adapted textbooks specifically for learners with CP which you use for instruction?

Yes [ ]                      No [ ]

12. Do you think the available curriculum for use caters for the needs of learners with CP?

Yes [ ]                      No [ ]

13. How would you rate the school environment as regards to learners with CP?  
(1 for friendly, 2 for not friendly, 3 for needs adaptation and 4 for unable to decide)
- A) Friendly \_\_\_\_\_  
 (B) Not friendly \_\_\_\_\_  
 (C) Needs adaptation \_\_\_\_\_  
 (D) Unable to decide \_\_\_\_\_
14. Do you have any forms of adaptations/modifications of any kind during your lesson to accommodate learners with CP?  
 Yes [ ] No [ ]  
 If YES what forms do you have? \_\_\_\_\_
15. How would you rate the SNE course you took in regard to teaching learners with CP? (Rate as follows 1 for highly adequate, 2 for adequate, 3 for inadequate and 4 for the course needs review).
- A. Highly adequate \_\_\_\_\_  
 B. Adequate \_\_\_\_\_  
 C. Inadequate \_\_\_\_\_  
 D. The course needs review \_\_\_\_\_
16. I would consider time allocated per lesson for learners with CP as:  
 A) Highly adequate B) Adequate (C) inadequate. D) Unable to decide.
17. How would you rate the achievement of the objectives by learners with CP as it is reflected in the syllabus?  
 A) Highly achievable B) Achievable C) Achievable with adaptations D) Not achievable.
18. Did the PTE teacher training you undertook prepare you with skills for teaching learners with CP?  
 Yes [ ] No [ ]  
 If NO, what would you recommend? -----?
19. Are learners with CP able to finish their work within the allocated time?  
 Yes [ ] No [ ]  
 If NO briefly explain what adjustments can be put in place to facilitate completion of the work by learners with CP -----?

20. What are some of the challenges that you encounter while teaching learners with CP?

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## APPENDIX III

## QUESTIONNAIRE FOR THE LEARNERS

*This questionnaire seeks information on instructional challenges faced by learners with CP. The information you give here will be used strictly for research purposes. It will not in any way be used against you and will be treated with confidentiality during and after this study, so please answer as accurately as possible. Do not write your name on any part of the paper. For questions with options, tick where appropriate.*

1. In what subjects do you experience challenges in class? Multiple responses allowed.

- Maths [ ]

-English [ ]

- Science [ ]

- Kiswahili [ ]

- Social studies [ ]

- CRE [ ]

Give reasons for your answer \_\_\_\_\_

2. Do you finish class work within the allocated time?

Yes [ ] No [ ]

Give reasons for your answer \_\_\_\_\_

3. Are your teachers supportive enough in class?

Yes [ ] No [ ]

Briefly explain your answer \_\_\_\_\_

4. What specific academic difficulties do you encounter in class?

- Pronunciation difficulties [ ]

- Spelling difficulties [ ]

-Writing difficulties [ ]

- Reading difficulties [ ]
- Drawing [ ]
- Calculation [ ]

5. Does the school provide any adaptive devices?

Yes [ ] No [ ]

6. What instructional devices do you require?

- Positioning device [ ]
- Pen holder [ ]
- Page turner [ ]
- Book holder [ ]
- Head pointer [ ]
- Adapted seat [ ]
- Adapted desk [ ]

7. Do you complete the assigned tasks within the lesson time?

Yes [ ] No [ ]

Briefly explain your answer \_\_\_\_\_

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8. What co-curricular activities do you participate in? Multiple responses allowed.

PE [ ]

Music [ ]

Drama [ ]

[Games i.e. football, netball, volleyball, table tennis scribbler]

9. What difficulties do you encounter as you go about your daily school routine?

- Mobility difficulties [ ]
- Feeding [ ]
- Dressing [ ]
- Bathing [ ]
- Playing [ ]

Give reasons for your responses

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10. How often do you attend physiotherapy services?

-Daily [ ]

-Weekly [ ]

- Monthly [ ]

- Once in a Term [ ]

- Not at All [ ]

11. What mobility device do you use?

i. Wheelchairs ( B) crutches( C) walkers( D) polio boots (callipers and boots)

11. How would you rate the school environment as regards to your mobility?

(1 for friendly, 2 for not friendly, 3 for needs adaptation and 4 for unable to decide)

A) Friendly \_\_\_\_\_

(B) Not friendly \_\_\_\_\_

(C) Needs adaptation \_\_\_\_\_

(D) Unable to decide \_\_\_\_\_

13. Do you finish class work within the allocated time?

Yes [ ] No [ ]

Give reasons for your answer \_\_\_\_\_

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**APPENDIX IV**  
**OBSERVATION CHECKLIST**

<b>Area</b>	<b>Adequate</b>	<b>Inadequate</b>	<b>Available</b>	<b>Not available</b>
Instructional materials				
Adapted learning materials				
Environmental adaptations				
Classroom adaptations				
Facilities				

**APPENDIX V**

**LESSON OBSERVATION SCHEDULE**

School: \_\_\_\_\_

Class: \_\_\_\_\_

Time: \_\_\_\_\_

Topic: \_\_\_\_\_

1. Participation of learners with CP in class during lesson

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2. Varying teaching methods during the lesson to accommodate learners with CP

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3. Sitting arrangement

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4.Tasks

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5. Effects of CP on academic achievement of the learners

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Motivation.

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**APPENDIX VI**  
**RESEARCH AUTHORIZATIONS**

REPUBLIC OF KENYA



**NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY**

Telephone: 254-020-2213471, 2241349, 254-020-2673550  
Mobile: 0713 788 787 , 0735 404 245  
Fax: 254-020-2213215  
When replying please quote  
secretary@ncst.go.ke

P.O. Box 30623-00100  
NAIROBI-KENYA  
Website: www.ncst.go.ke

Our Ref: **NCST/RCD/14/013/680**

Date: **15<sup>th</sup> May, 2013**

Judy Naomi Kanana  
Kenyatta University  
P.O Box 43844-00100  
Nairobi

**RE: RESEARCH AUTHORIZATION**

Following your application dated 30<sup>th</sup> April, 2013 for authority to carry out research on "*Analysis of instructional challenges facing learners with cerebral palsy in selected schools in Machakos and Kiambu Counties, Kenya.*" I am pleased to inform you that you have been authorized to undertake research in Machakos and Kiambu Counties for a period ending 30<sup>th</sup> September 2013.

You are advised to report to the County Commissioners and County Directors of Education, Machakos and Kiambu Counties before embarking on the research project.

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

*SAID HUSSEIN*  
**SAID HUSSEIN**  
**FOR: SECRETARY/CEO**

Copy to:

The County Commissioner  
The County Director of Education  
Machakos County  
Kiambu County

*"The National Council for Science and Technology is Committed to the Promotion of Science and Technology for National Development".*

## MINISTRY OF EDUCATION

Telephone (067) 31398 / 31272 (D.L)  
 FAX: (067) 31272  
 When Replying please quote



DISTRICT EDUCATION OFFICE  
 THIKA WEST DISTRICT  
 P.O. BOX 262,  
 THIKA.

Thk/adm/250/1/10

3<sup>rd</sup> September 2013

**The Head teacher  
 Joy Town Primary School**

**RE: RESEARCH AUTHORIZATION- JUDY NAOMI KANANA**

The above mentioned is as student at Kenyatta University  
 The office has authorized her to carry out research on  
**"Analysis of instructional challenges facing learners with cerebral palsy in selected schools in Machakos and Kiambu Counties, Kenya"** for a period ending 30<sup>th</sup> September 2013.

Please accord her the necessary assistance.

*[Signature]*  
 For  
 DISTRICT EDUCATION OFFICER  
 P. O. BOX 262  
 THIKA

**PURITY NGURE  
 FOR DISTRICT EDUCATION OFFICER  
 THIKA.**

REPUBLIC OF KENYA



## NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telephone: 254-020-2213471, 2241349, 254-020-2673550  
 Mobile: 0713 788 787, 0735 404 245  
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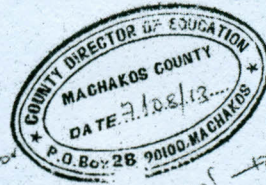
You are advised to report to the **County Commissioners and County Directors of Education, Machakos and Kiambu Counties** before embarking on the research project.

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

*Said Hussein*  
**SAID HUSSEIN**  
**FOR: SECRETARY/CEO**

Copy to:

The County Commissioner  
 The County Director of Education  
 Machakos County  
 Kiambu County



*For*  
 Authorized to do research  
 at Mwasiku Special School.  
*[Signature]*

APPENDIX VII

RESEARCH PERMIT

PAGE 3


PAGE 2

Research Permit No. **NCST/RCD/14/013/680**  
 Date of Issue **15<sup>th</sup> May, 2013**  
 Fee received **KSH 3,000**


**THIS IS TO CERTIFY THAT**  
**Prof./Dr./Mr./Mrs./Miss/Institution**  
**Judy Naomi Kanana**  
**of (Address) Kenyatta University**  
**P.O. Box 43844-00100, Nairobi**  
**has been permitted to conduct research in**

**Location**  
**District**  
**Machakos**  
**Kiambu**  
**Counties**

**on the topic: Analysis of instructional**  
**challenges facing learners with cerebral**  
**palsy in selected schools in Machakos**  
**and Kiambu Counties, Kenya**  
**for a period ending: 30<sup>th</sup> September, 2013.**



**For Secretary**  
**National Council for**  
**Science & Technology**

  
**Applicant's**  
**Signature**

KENYATTA UNIVERSITY LIBRARY