

**ANALYSIS OF PREDICTORS OF PARTICIPATION IN LEARNING  
AMONG LEARNERS WITH CEREBRAL PALSY IN SPECIAL AND  
REGULAR SCHOOLS IN THIKA MUNICIPALITY, KIAMBU  
COUNTY, KENYA**

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**MAY, 2015**

**DECLARATION**

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

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**DEDICATION**

To my dearest parents, father Joseph Kamau Gathia and mother Teresia Wagio Kamau who unselfishly saw me through my education. To my loving daughter Hope Wagio whose sacrifice and understanding gave me the peace of mind needed to complete the thesis.

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## OPERATIONAL DEFINITION OF TERMS

<b>Academic:</b>	Scholarly or theoretical not practical.
<b>Cerebral palsy:</b>	A condition marked by impaired muscle cord, typical caused by damage to the brain before or at birth.
<b>Early Intervention:</b>	When a special needs child is diagnosed at an early age, classified and offered the required services.
<b>Education:</b>	The process of receiving/giving systematic instruction school or university.
<b>Evaluation:</b>	Find or value something.
<b>Independent Living:</b>	When a person with CP is able to do things with mini assistance.
<b>Instructional Adaptation:</b>	Refers to any adaptation done while teaching, either changes in teaching methods, or materials.
<b>Occupational Therapist:</b>	A professional who adapts and improvises gargets to fit each individual needs of a child.
<b>Opinion:</b>	Belief based on grounds which do not provide proof, almost same as attitude.
<b>Participation in learning:</b>	Take part in something.
<b>Physical Therapist:</b>	A professional who helps the child with CP in exercises and trains how to use devices.
<b>Predictors:</b>	Factors.

- Regular schools:** Public school providing instruction and educational services that do not focus on primarily or special education or vocational.
- Special schools:** Schools catering for students who have special education needs.
- Teacher Aid:** A support staff to assist the child with CP on one –to-one during the lesson.
- Teamwork:** This involves different professionals working together to assist the children with CP become independent.

## **ABBREVIATIONS AND ACRONYMS**

ADA:	Americans with Disabilities Act
AU :	African Union
CP:	Cerebral Palsy
CPA :	Cerebral Palsy Africa
CWD:	Children with Disabilities/Child with Disability
DDA:	Disability Discrimination Act
EFA:	Education for All
EIP:	Early Intervention Program
FGD:	Focus Group Discussion
FAPE:	Free Appropriate Public Education
FPE:	Free Primary Education
G/T:	Gifted and Talented
IEP:	Individualized Educational Program
IDEA:	Individual with Disability Education Act
KCPE:	Kenya Certificate of Primary Education
KICD:	Kenya Institute of Curriculum Development
KNEC:	Kenya National Examinations Council
LRE :	Least Restrictive Environment
MoE :	Ministry of Education
MoEST :	Ministry of Education, Science and Technology
OAU:	Organization of African Union
OT:	Occupational Therapist
PT:	Physical Therapy

PWD:	Persons with Disabilities
SENDA:	Special Education Needs and Disability Act
TIQET:	Total Integrated Quality Education
UK:	United Kingdom
US:	United States

## ABSTRACT

The purpose of this study was to analyze predictors of participation in learning among learners with cerebral palsy in special and regular schools in Thika Municipality, Kiambu county, Kenya. Objectives of study were factors within the school that predict participation of learners with CP, opinion of teachers towards children with CP in a classroom and identify challenges faced by learners with CP in relation to participation in learning. The study was based on social learning theory which posits that, people learn from one another via observation, imitation and modeling. The study mainly employed qualitative and quantitative approach as this enabled the researcher to obtain data needed in clarification, and explaining the predictors. The research design was descriptive survey design. The target population was all learners with cerebral palsy in Thika Municipality. The sample of the study included 10 learners with cerebral palsy. Other respondents were 3 Headteachers and 22 teachers. Data collection was by use of questionnaire, interview guides, and observation. A quantitative approach was employed based on questionnaires containing closed-ended questions, which were administered to teachers and pupils. A qualitative approach was employed based on a semi-structured interview schedule containing open-ended questions which were conducted on Headteachers. An observation checklist was used to collect information about activities performed by the children with CP and facilities and equipment used in the schools. The data collected were coded and analyzed manually. The codes were fed into a computer and analyzed using Statistical Package for Social Sciences (SPSS) procedure to yield descriptive statistics such as frequency and percentages hence presented in tables, and figures. The findings established that the environment was not suitable for CP, there were few support staff, teachers had diverse opinion on CP learners and used regular curriculum. In conclusion there was lack of funds, personnel, adapted materials, trained teachers and the adapted curriculum. Recommendations are government to add funds, adapted curriculum by KICD, train teachers on CP and KNEC to modify exams.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

The chapter presents background to the study, statement of the problem, the purpose of the study, objectives of the study, research questions, and significance of the study, the limitation and delimitations of the study, assumptions, theoretical and conceptual framework and operational definition of terms.

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

The Special Educational Needs and Disability Act (2001) established legal rights for disabled and special educational needs for children in compulsory education. In conjunction with The Disability Discrimination Act (2005), the act ensured that public authorities were given a duty to promote and enforce equality for persons with disabilities. It also legislated that it is against the law for goods, services and facility providers to discriminate against people with disabilities including those with cerebral palsy (CP) by treating them less favourably due to their disability; however, it did not extend to encompass education providers.

IDEA which was enacted in 1975 and extensively amended in 1997 was the most influential law to affect a disabled child's right to education. It specifically mentions CP in its description of orthopaedic impairments. CP was recognized as a condition in 1861. During this time, William John Little, an English Orthopaedic Surgeon, published the first article containing a description of the neurological problems of children with spastic diplegia. As a doctor, he observed that spastic diplegia

manifested itself in the first year of childhood and children displayed stiff spastic legs and to a lesser extent arm muscles. The children had problem in crawling, walking and grasping objects, also they did not become worse nor did they improve as they grew up (National Institute of Neurological Disorder and Strokes 1993-2001). Spastic diplegia is a category in CP. The term cerebral palsy was invented by Sir William Osler, a British Medical Doctor in the 1800s.

United Cerebral Palsy Association(2007) defines Cerebral Palsy as a condition, sometimes thought of as a group of disorders that can involve brain and nervous system functions such as movement, learning, seeing and thinking, it is non-progressive. It may occur during early infancy as a result of several conditions including head injuries, infections in the mother during pregnancy. The severity may range from mild to severe, mild may only be noticeable when the person runs and moves in uncoordinated manner, while severe cases are unable to walk, sit support, feed themselves, chew food, pick up an object or speak. It is a life-long disorder, therefore, long-term care may be required, but the disorder does not affect expected length of life. Early intervention of CP can lessen developmental problems and lead to appropriate intervention where it helps the most. Early intervention programmes are family centred in which professionals and families work together with the child in specific activities.

The American laws, Education for Persons with Special Educational Needs Act EPSENA(2004) states that, a child with special educational needs including CP shall be educated in an inclusive environment with children who do not have such needs

unless, the nature or degree of those needs of the child is such that, to do so will interfere with other learners. IDEA (2004) states that, special education and related services should be designed to meet the unique learning needs of eligible children with disabilities pre-school through age 21.

In 1990, an education conference in Jomtien, Thailand, set on objectives that, all African countries should have achieved Education for All by the year 2000. On 3<sup>rd</sup> December 1999, OAU declared “The African Decade of Persons with Disability (1999-2009). The goal was “Full participation, equality, and empowerment of People with Disabilities in Africa.” On July 2000, it was adopted by OAU heads of states and governments in Togo. It was to catalyze the process of disability, mainstreaming and empowerment of the disabled population in Africa. The EFA Global Monitoring Report (2007) estimates that the majority of children with disabilities especially those with CP in Africa do not go to school at all, and of the 72 million primary aged children worldwide that are out of school, one third have disabilities. The OAU declaration is still being implemented in bits in Africa and Kenya.

The children’s Act 2001 section 12 states that, a disabled child including CP, shall have the right to be treated with dignity, accorded appropriate education and training free of charge or at a reduced cost whenever possible (GOK, 2001). The Persons with Disabilities Act (2003), forbids discrimination against children with disabilities to access education by solely based on their disability. The Act provides for establishment of special schools to cater for all categories of special needs including children with CP. The Kenyan government implemented Free Primary Education

Programme aimed at leading the country towards the goal of Education for All (EFA) by the year 2015, resulting to an influx of learners including CP in primary schools.

In 2003, a Task Force on Special Needs Education observed there was no policy/legal framework on Special Education. It observed that Inclusive Education required proper planning which needed accurate data, resource and legislative support. Sessional paper No.1 of 2005, launched by Ministry of Education outlines government policy on Education and Training. One of its objectives is the realization of universal access to basic education and training that ensures equitable access for all children including vulnerable like CP and disadvantaged groups. It affirms education as a human right as well as restating the government commitment to provide every Kenyan with basic quality education and training. Kenyan scholars such as Mwitiki (2010) have carried out studies concerning CP in relation to medical aspect, but none has been conducted regarding predictors in participation in learning among learners with cerebral palsy. It is this gap the researcher intends to bridge by investigating the predictors of participation in learning of CP.

## **1.2 Statement of the Problem**

A CP learner is put in the general category of PD who has no multiple disabilities. Due to their unique challenges, they require many programmes, a combination of various experts and equipments put in place, in order to educate and meet their individual needs. Children with disabilities including those with cerebral palsy have a desire to learn and they have the ability to do so. The CP Learners are expected to

cover the regular academic curriculum but due to their unique challenges, some cannot follow it fully or even sit for the exam.

Lack of curriculum adaptation and specialized services for children with cerebral palsy in regular schools further complicates the situation. Consequently, these learners may be unable to access quality education like their non-disabled peers, and their academic performance may lag behind. Diversity among learners with CP ranges from mild to severe; some have additional disabilities which include: sensory, cognitive, communication and physical.

For these learners to attain high academic achievement, they need one-on-one attention from teachers, adapted materials, trained personnel, and positive teachers' attitude. . The role of the teacher is not so much to teach as to prepare teaching, learning materials and encourage the child to learn for him/herself. However, education of students with disabilities especially learners with CP has been left to those teachers who are trained in SNE.

If well- provided for, they excel, but most schools lack manpower and equipment, enough teacher aids, Occupational Therapist, Physio Therapist also adapted computers, therefore, they are termed as uneducable. It is in this context that the researcher seeks to find out predictors of participation in learning among learners with cerebral palsy in three schools in Thika Municipality.

### **1.2.1 Purpose of the Study**

The purpose of this study was to investigate predictors of participation in learning among learners with cerebral palsy in two regular schools and one special school in Thika Municipality, Kiambu County, Kenya.

### **1.3 Objectives of the Study**

This study sought to:

- i. Establish factors within the school that predict participation of learners with cerebral palsy in class in special and regular schools in Thika Municipality, Kiambu County.
- ii. Establish the instructional adaptations used by teachers of learners with CP in special and regular schools in Thika Municipality, Kiambu County.
- iii. Determine the opinion of teachers towards children with CP in a classroom in special and regular schools in Thika Municipality, Kiambu County.
- iv. Identify challenges faced by learners with CP in relation to participation in learning.

### **1.4 Research Questions**

To achieve the specific research objectives, the study sought to answer the following research questions:

- i. What are the predictors of participation in learning among learners with CP in both special and regular schools in Thika Municipality, Kiambu County?

- ii. What skills and content matter are children with CP capable of learning in a single lesson in both special and regular schools in Thika Municipality, Kiambu County?
- iii. What is the opinion of teachers towards teaching learners with CP in both special and regular schools in Thika Municipality, Kiambu County?
- iv. What are the learning needs of children with CP in special and regular schools in Thika Municipality, Kiambu County?

### **1.5 Significance of the Study**

The results of the study may provide insights to teachers in regular and special schools, on how to individualize attention and adapt environment for learners with CP, curriculum teaching methods to fit individual child. The parents and all stakeholders to participate in the provision of support services to educational needs of children with cerebral palsy, also to work together with the teacher in educating and creating awareness of the child.

The research may benefit the curriculum developers by providing an opportunity to adopt the curriculum to fit the CP learners. The study may be useful to the Ministry of Education in identifying the need for teacher aids and provision of adapted computers for the needy cerebral palsy children. This may assist the policy makers to effectively shape programmes that are relevant in the achievement of educational equity for all learners including those with cerebral palsy. The findings of the study might be valuable resource to future researchers by providing data to be used in the

development of education for learners with other disabilities. The study may find out predictors of participation in learning of CP learners.

## **1.6 Limitation**

There was limited availability of published literature on learning of children with CP.

### **1.6.1 Delimitation**

For more conclusive results, it would be prudent to study all the schools in Thika Municipality. However, this was not possible due to time constraints, finances and other logistics such as distance and inaccessibility.

## **1.7 Assumptions of the Study**

- i. Learners with cerebral palsy have the potential of ultimate success in a conducive environment and necessary intervention.
- ii. There are researches related to the study that have been conducted in Kenya.
- iii. Severe cases of CP are in special schools while mild cases are in regular schools.

## **1.8 Theoretical and Conceptual Framework**

### **1.8.1 Theoretical Framework**

The study applied the social learning theory which posits that, people learn from one another via observation, imitation and modelling. According to Bandura (1997), people learn through observing others' behaviours, attitudes, and outcomes of those behaviours. "Most human behaviour is learned observationally through modelling;

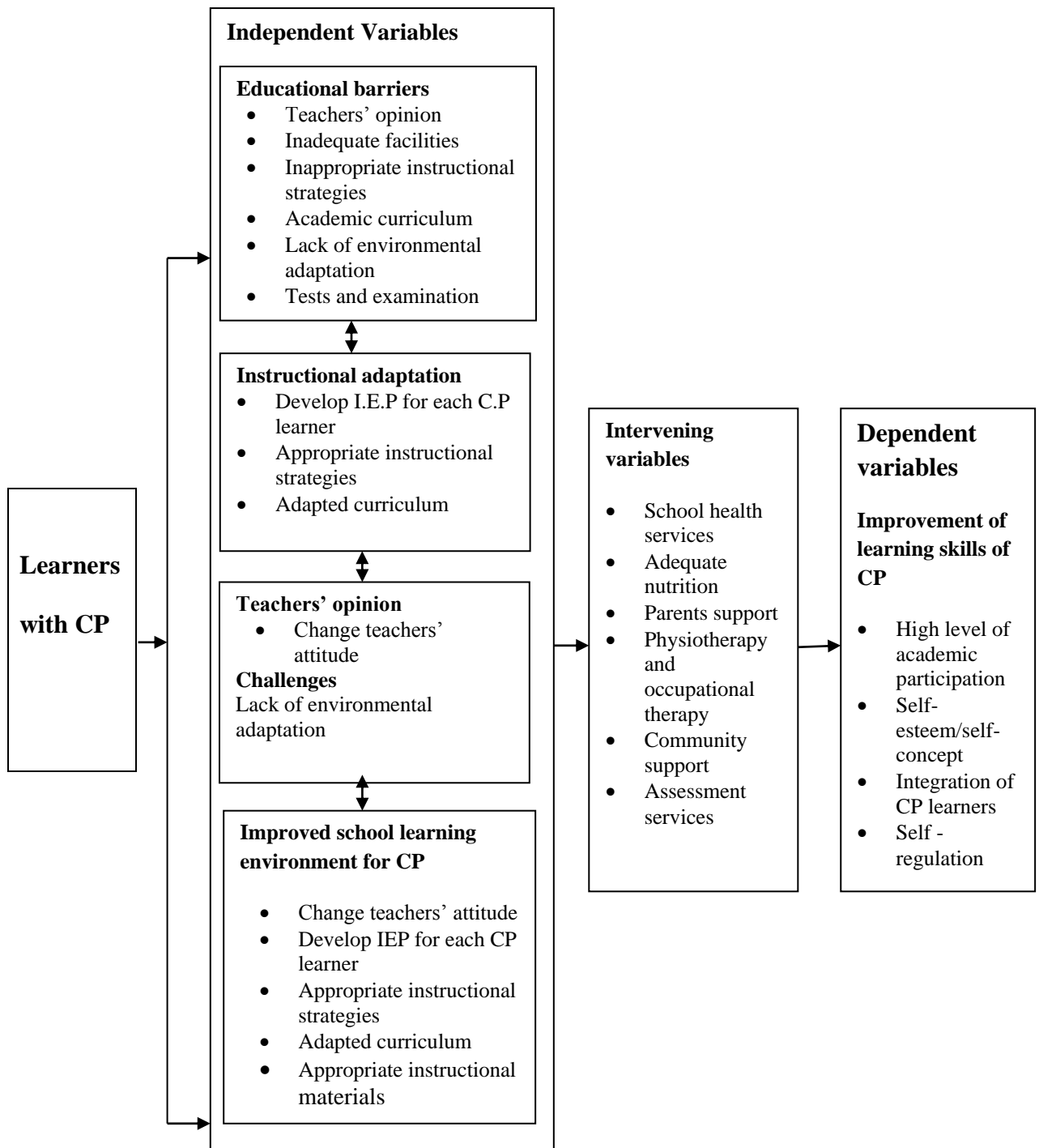
from observing others, one forms an idea of how new behaviours are performed, and on later occasions this coded information serves as a guide for action.” The social models of disability place a person’s impairment in the context of social and environmental predictors, which will create disabling barriers to participation (Oliver, 1990). This social model of disability approach suggests that the root of disability lies in the future of the environment to allow someone to function to his/her full capacity as much as in any functional impairment that the person may have (Crow, 1996).

This theory relates to the current study in the sense that, all stakeholders should observe and learn to accommodate learners with CP in class and should learn to assist them to achieve the best of their ability. Each CP child is unique and learns differently from the other; therefore, all stakeholders should first observe the strengths of the child then work on them. Some learners can learn by observing and imitating what others are doing especially which part of the body to use in writing. Students with disabilities may develop a style of avoidance to keep themselves from participation in class (Alland, Dodd & Peralez,, 1987). The social and environment factor may affect the child either way, if well-received and in accessible environment, the child can perform to his/her ability.

### **1.8.2 Conceptual Framework**

From the conceptual framework below, learners with CP face challenges which impact on their educational performance. Barriers such as teachers’ attitude, inadequate facilities, inappropriate instructional strategies, academic curriculum and lack of environmental adaptation can lead to lack of acquisition of knowledge and

skills. This can result to low level of academic participation and low self-esteem, poor performance hence discrimination. However, where there is positive teachers' attitude, adapted teaching methods and environment, use of I E P., collaborative teaching and availability of devices, the CP learner will access quality education, acquire knowledge and skills. Also, medical support, adequate nutrition, parental support, physiotherapy and occupational therapy services and community support will enable the learner with cerebral palsy to achieve high level of academic participation, self-esteem, and good performance resulting to integration.



**Fig.1.1: Determinants of Educational Achievement for Learners with Cerebral Palsy**

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.0 Introduction**

This chapter reviewed literature related to the research topic under the following sub-headings; overview of CP, predictors of participation of learners with CP in education, education for special needs, inclusive education, enrolment of CP in Kenya, teacher's opinion, attitude formation, instructional adaptation, evaluation and identifying challenges caused by CP on learning.

#### **2.1 Predictors of Participation of Learners with CP in Education**

Some of the earliest medical papers on CP were published by Doctor Sigmund Freud an Austrian neurologist well-known for his work in psychiatry. He strongly believed CP was caused by obstetrical complications at birth; some acquired it after complicated delivery which led to lack of oxygen to the brain tissues, which control movement. This differed with William's opinion. Freud wrote that in certain cases due to difficult birth, it was a symptom of "deeper effect that influences the development of the foetus" (Cerebral Palsy Facts, Information and Resource for Parents, 2002). In his article, he indicated that CP was accompanied by other problems; visual disturbances, intellectual impairment and epileptic seizures. He further suggested it might be acquired earlier in life during development of brain in the womb (CPF, RP, 2002). Parents, medical researchers and physicians held to the believe that, CP was acquired after birth regardless of Freud's work.

It was not until 1980s when intensive analysis of data from United States government, birth of more than 35000 births was conducted. It was observed that birth trauma which was believed to be the major cause of CP consisted of 10%. This led to the need to explore other predictors that caused CP (National Institute of Neurological Disorder and Stroke 1993-2001). Important advances have taken place in the last 15 years which have had a great effect on the long-term wellbeing of children with CP, advanced technology, including computers and engineering devices, has been applied to the needs of persons with CP. According to United Cerebral Palsy Associations (2007), technological innovations have been developed in the areas of speech and communication, self-care, and adapting living arrangements and work sites. The future may bring even more significant applications. An important development has been the increased ability of persons with disabilities, including those who have CP and other severe disabilities, to live independently in the community. Adults with CP are now living with/without assistance, in their own apartments (UCP, 2007).

Cerebral Palsy Africa (CPA1991), notes that, there are so many children with CP in Africa, because maternity services are often quite poor and mothers do not get enough care before and during the birth of a baby. Damage is caused by anoxia or little blood supply to the baby before birth. CP can be caused by meningitis or cerebral malaria soon after birth and these diseases are very common in most African countries. It further explains that, in African countries, if there are no services offering therapy for children with CP, their families may feel there is no hope for their children. It makes them feel ashamed that their children cannot move around normally and they may keep them indoors where they have little chance of learning to sit up and move

around. This puts them in great danger of developing the secondary problem of shortened muscles and deformed bones, and then it will be even more difficult to help them. A lot of research is needed in the area of educating a CP child.

American Federal regulations implementing section 504 of the Rehabilitation Act of 1973 and ADA established a law that, reasonable and appropriate academic accommodations must be provided to students with disabilities to allow the students equal access to educational opportunities. According to the Kenya National Council on Disability, a good education is a ticket to success in our society; it is a predictor of success in later life in terms of employment, income and independence (1989; 1). Despite the enforcement of the laws, several persistent barriers remain in the academic environment of a CP learner; lack of knowledge, misconception among students and teachers, negative attitudes towards students with disabilities and lack of effective educational tools to address disabilities from the student's point of view.

According to SENDA (2001), in order for some disabled people to have access to an array of education services, they may need special provisions made. The SENDA (2001) would like to ensure that persons with disability are not suffering significant disadvantages in balance with other non-disabled people. To achieve this, reasonable adjustment is required which varies from individual to individual i.e. extra equipment, specialist, timetable adjustment, teaching aids. Due to financial constraint most of learners with CP are left out of education since most schools cannot afford the adjustment even with the FPE money.

ADA (Americans with Disability Act (1990) asserts that, students with special needs must be given the same opportunity to acquire and demonstrate their academic performance as students without special needs. In 19th July, 2004, Education for Persons with Disability Act, declared that, the education of people with special needs shall, wherever possible, take place in an inclusive environment with those who do not have such needs. To provide that, people with special educational needs including the CP shall have the same right to avail of, and benefit from, appropriate education as do their peers who do have such needs. To assist children with special educational needs to leave school with the skills necessary to participate to the level of their capacity, in an inclusive way in the social-economic activities of society and to live independent and fulfilled lives, to provide for the greater involvement of parents of children with special educational needs in education for their children.

A CP child is enrolled depending on severity and nature of the underlying cerebral injury, mild cases can fit in regular schools while severe cases can fit in special schools to get array of services. In the case of profound learning disabilities, a child's academic curriculum may focus more on mobility, life skills and self-care (UCP) United CP Research Fact Sheets (2002). There are no clear data of how many pupils with special needs are enrolled in our schools especially CP in both regular and special schools. According to the report of the Task Force on Special Needs Education (MoEST, 2003) there are no reliable statistics on the population of children with special needs in education which can be used by government for planning and intervention purposes. There was an influx of learners in primary schools after FPE was declared.

Many children quickly dropped out due to lack of support in terms of assistive/functional devices, learning resources, environmental adaptations, mandatory medication and unsuitable curriculum (MoEST, 2003). Most children with special needs the CP included, are locked at home due to;(a) poverty where a parent cannot afford to take the child to school, because he/she cannot afford materials needed for the child to learn. (b) Severity of the condition, most schools enrol students who have mild or moderate disabilities, those whose needs are not demanding. (c) Attitude, some parents may feel that their children will never amount to anything, hence any need to take them to school. In special schools where parents have to pay fees, they feel that their child is not benefiting academically at school due to teacher factor or unfriendly environment in school. In most of special schools especially for the physically handicapped CP cases are leading, but very few are enrolled with severe cases.

On 3rd December 1999, OAU (Windhoek Declaration) declared, The African Decade of Persons with Disability (1999-2009). It agreed to put disability and concerns of disabled within the development and human rights paradigm, to hasten and quicken the intellectualization of disability questions, to give it weight as a serious African issue, a major African subject, but more importantly, for the African leadership to prioritize it in all major initiatives to re-engineer the African continent. A continental plan of action was drawn as guideline for African Union (AU) member states, in formulation of their programme on disability issues to implement during the decade, in Addis Ababa 2002. It had twelve objectives, some of which are;

- (a) Formulate and implement national policies, programmes and legislation to promote the full participation of persons with disability.
- (b) To enhance support services for persons with disability.
- (c) Ensure and improve access to rehabilitation, education, training, and employment, sports, cultural and physical environment.
- (d) Provide special measures for children, youth, women and elderly persons with disability.

On 31st December 2008, Windhoek declaration was adopted, to empower and provide persons with disability with equal opportunity, safeguarding their rights and enlisting their participation and mainstreaming them in all development programmes. As a result, East Africa Community conference on persons with disability was organized among many things, to set a foundation for a policy and strategy for persons with disability. Many policies have been set for persons with disability, but they have never seen the light of the day, they are just paperwork. Especially in connection to education, a lot more is desired, to do away with attitude, provide necessary materials and personnel in order to achieve meaningful education.

A study by Kamere (2004) on development of special education for children with physical handicap in Kenya asserts that, society views the special needs individuals as less able and incapable. They are also viewed as lesser or non-productive citizens, who cannot contribute much to the development of a country. They are, therefore, stereotyped as those incapable of performing. As a result, the education given to them is one which is inexpensive, employing little skilled manpower and one which is

attained in the shortest time possible. In this case, it is geared towards manual training and acquisition of basic skills for survival. Training towards industry and business fields is rarely availed to these persons. She also suggests for need to carry out specific studies on other special groups. Until recently, the new policy of special need, cerebral palsy was not recognized as a special group on its own category, hence little research has been conducted on issues concerning them, and more so concerning predictors of their participation in learning.

A special needs education policy was launched at KIE by then the Minister for Education, Prof. Ongeru in 2010. During the occasion, he said, “The policy is to provide education in an inclusive setting at all levels”. The KIE which is the national curriculum developer is to adapt the school syllabus and learning materials to suit the special needs of learners. The document hints at the development of a specialized and regular curriculum to ensure sensitivity to the needs of learners. Learners with CP will have an adapted curriculum to meet their needs. The KNEC is to establish a special department charged with evaluation of the curriculum for learners with special needs including setting structured questions for learners with CP instead of writing composition. The council is to train invigilators and supervisors to enable them to provide special support especially learners with CP who are using computers or tape during exam. More teachers are to be trained in special education to meet the needs of each individual child. Since then very little has been done towards achieving this therefore more research and implementation is needed to allow a cp learner to participate in learning.

## **2.2 Instructional Adaptation of Learners with C.P**

Techniques for teaching children with CP varies, it involves a team of specialists, physical therapists are effective in teaching children to learn better ways to move and balance, walk, push wheelchair, stand by themselves or go up and down stairs safely. PT also works on fun skills like running, kicking and throwing a ball or even riding a bike when teaching children with CP. The speech and language therapist can teach communication skills, which means talking using sign language or using a communication aid, also to speak and talk more clearly and how to build their language skills, by learning new words, learning to speak in sentences, or improving their listening skills (UCP, 2007). This is essential to a CP learner in order to achieve academically, the researcher wanted to find out how much of this is practised in Kenya. Most of the schools lack the personnel needed, hence the CP child cannot benefit a lot in school programmes.

With today's technology, there are even computers that actually talk for the person (UCP 2007). Occupational therapists on the other hand can teach better ways to use their arms, hands and upper body. They can also teach better ways to write draw, cut with scissors, brush their teeth, dress and feed themselves or control their wheelchair. They can also help children with CP to acquire independence skills. The government does not employ OT in schools; also most of the schools cannot afford the required equipment to cater for the CP child.

Regardless of the severity of impairment, the child with CP requires special assistance in school. Certain aspects of learning are more difficult for the child with CP because

of his/her physical restraints. Special education for CP promotes individuals to achieve a substantial degree of independence, however, in some cases, some may need considerable assistance. Possible personal attendants may be included in programs aimed at special education for CP. Working with these specialists can help ease the difficulties of teaching children with CP. The techniques for teaching children with CP can be carried over into their homes to expand the child's learning environment as well. A supportive family working alongside the child can produce great results (UCP, 2007). In some special schools OT, PT teacher' aids are found but their effectiveness is what the researcher intendeds to investigate.

Many methods can be used to teach a child with CP. United CP foundation (2007) suggests that, a CP child should be included in all activities to avoid making him/her feel different. Give him/her ample opportunities to participate in class, include him/her in class discussion by the name. If he/she has no speech make him/her to make arts and crafts (that he /she is able to do), or by bringing in models and objects that he/she can touch so that he/she feels like he/she is participating in the lesson. It further suggests that, they should be given time for response especially if using devices. Also should be asked open-ended questions in which they can give a longer response to avoid yes/no or head nod or shake. Peer interaction should be encouraged by giving them problems to work in pairs, each child to have a partner; this will help in social skills as well as problem- solving skills. Special children.about.com, recommends for an IEP to be prepared by teachers, parents and therapists content containing detailed information on CP, the degree to which a child is affected by the

condition, a list of services and accommodations that the school can provide for mild with multiple handicaps.

Special children.about.com, observed that, while a large number of learners with CP receive specialized pull-out services such as physical, occupational or speech therapy, their regular education teachers will still need to ensure that the classroom is organized in a manner that does not create any significant physical obstacles for the children; adapt the environment for mobility, ensure safety, like no slippery ground, use assistive technological equipment in classroom for communication, modify assignments that require a good deal of writing/request the assistance of an aide or student mentor, demonstrate a great deal of emotional support and patience, encourage a child with CP with positive academic feedback, assist the student in developing friendships with general education peers. Communicating frequently with parents and therapists are all ways that teachers can inspire confidence and success in students with CP.

Teaching CP is often an unfamiliar circumstance for a regular teacher in a regular school, but with assistance from therapeutic programmes and access to modifications in the classroom, students with CP can thrive in general setting alongside peers. He/she also needs related services curriculum modifications and adaptation, assistive technology, like a child who lacks fine motor control in his hands, assistive technology is a must i.e. enlarged keyboard, voice activated computer programmes. For a younger child, a picture/word board might be appropriate and collaborative effort between home and school. The teacher should plan for short breaks, tape

lectures for students who cannot write, avail table type desks with adequate leg space for wheelchairs. Some may have poor memories, short concentration span and difficulty in retaining new vocabulary, they may learn better from visual stimuli like use of pictures. Regular reinforcement should be administered, after recalling a previous lesson. They can learn best from sensual experiences like games, pictorial worksheets, songs and rhymes. In Kenya, very little of this is practised in schools due to lack of resources, and implementation of policies. If implemented, it will assist to focus more on the ability of each child with CP.

When testing children with CP, [specialchildren.about.com](http://specialchildren.about.com) recommended, allocation of more time to allow the child to finish his/her work, if necessary to allocate a separate place for the test to take place. Give completely oral test or written if need be, as for those who cannot write, to tape record answers or type them, can also give oral test or provide writers. In case of group work developing a portfolio of the student work as an individual and as part of a co-operating group, quiz orally to establish the extent to which the student contributed to the group-based accomplishments. This is a very expensive exercise that most of our regular schools and special schools cannot afford. If all stakeholders put their energy towards this including KNEC, the child with CP will not be perceived as uneducable. KNEC is slowly implementing different forms of evaluation like use of computers during exams.

### **2.3 Teachers' Opinion towards Education of Learners with CP**

Teachers' attitude is one of the most important variables in determining the success of innovative programs in special education (Larrivee & Cook, 1997). Admission and placement of children with disabilities can only be possible with the positive attitude and assistance of classroom teacher. A child being accepted by an ordinary school doesn't mean that his problems are over, the attitude the staff take towards him/her is of enormous importance. UNESCO (2001) asserts that, upgrading teachers' skills is a developmental process that goes beyond workshops and other in-service training activities.

It may be becoming more socially appropriate for the public and for the employers, teachers to espouse positive global attitudes towards disability. However, specific attitudes if investigated may be found to be more negative (Hernandez et al., 2000). In a learning environment where a cerebral palsy child is enrolled, the teacher concerned does not give the child individual attention because high population in class makes it difficult for teachers to give individual attention to students. Leatherman (2007) states that, some teachers struggle with the concept of inclusion, feeling as though the students with special needs will slow down the progress of the class making it difficult to get through a lesson.

Genesi (2007) citing Scruggs et al., (1996), refers to evidence in the educational field that, while or philosophical level teachers agreed with inclusion programmes for children with disabilities, when it came down to their practical use in the classroom they express reservations. The presence of disabled children in the classroom is

perceived as making learning for others more difficult and discipline problems even worse. Norwich (2002) supports by adding, any inconsistencies in teachers' attitudes towards different types of disabilities are accredited to a teacher's perception of the additional instructional and classroom management skills required in order to accommodate these students.

According to a report in a survey of headteachers(2000) in, "the aims of special education schools and units in Kenya", for special needs students the attainment of basic literacy and numeracy skills is not viewed as an important objective of special education. Those working with children with physical and learning disabilities are more concerned with care and containment, while with sensory disabilities are more conventionally academic and vocational in their aims. It also found that, many teachers still expect people with mental and physical handicaps especially to spend their lives at home and not to move to employment, further education or training. Like many of their counterparts in developed states, Kenyan teachers emphasize the need to contain challenging behaviour and to promote obedience, spiritual development, personal care, domestic skills and cleanliness.

A Task Force on special needs education (2003), report released in November 2003, notes that, although inclusive was already going on indirectly, teachers were not clear on how it should be implemented. That only 20% had trained hence need for training and in-servicing. It observed teachers, physical facilities and learning materials were not appropriate hence recommended for barrier free environment. Another recommendation was inclusive education to be fully embraced as a strategy for

expanding access to education. It observed that the government would not be able to provide special education to all children with disability, unless it implemented individualized education (IE).

Teachers are part of the larger community so they also are affected by societal attitudes and behaviour. Teachers' attitudes towards students with CP have a significant impact on the educational experience (Kenny et al., 2000). Federal Regulations implementing section 504 of the Rehabilitation Act of 1973 and the ADA established a law that reasonable and appropriate academic accommodations must be provided to students with CP, to allow the students equal access to educational opportunity. Effective teachers are competent with a wide array of instructional strategies including teacher-directed, explicit instruction and are able to select the most appropriate strategies for individual students and specific content. Although there are some activities to include the special needs child in the class, little has been done to understand the attitude of the teacher who is supposed to handle this child in the class. His/her attitude can have a permanent impact or influence on the child's performance and success.

#### **2.4 Instructional Challenges of Cerebral Palsy**

Special education for CP includes early intervention programs (EIPs) that are family centred; they work together with the child in specific activities. It can consist of many different programmes; speech and language therapy, occupational and physical therapy, assistive technology and medical intervention. Also, teachers, psychologists, social workers, can assist families by providing information and education. The special education for CP promotes individuals to achieve substantial degree of

independence, however, in any case, some may need considerable assistance, and it depends/varies from individual to individual. Therapy community integration opportunity and recreation may be included in programmes aimed at special education for CP. Supportive factor is the key to education, which can lead to severe cases being functional and independent.

In a report by Bax et al., (2004), 1 in 500 babies born in UK are CP. It also notes that, the number of CP cases per year has not changed much over the last 50 years. Although the health and care of mothers has improved, decreasing some cases of CP, more and more babies born prematurely are surviving and a proportion of these will have CP. The fact that the cause of CP is unknown is also a factor of why the incidence of CP has not changed for the last 50 years. CP is not progressive but has secondary problems associated with it; half of CP has some degree of learning disability, the severity can vary. A child with learning disability has an average or above average level of intelligence, but has difficulty processing certain types of information. The other half will have 'normal' intelligence and above. Half will have speech problem, and at times such a child will be thought of as having low intelligence. They have limited ability to communicate, leading to be deemed as to have much less intellectual ability than they actually do. Teachers may not tell whether the child has understood or not. Due to this, many children with CP are placed in special education programmes, many of which focus much of the time on school on different therapies, to the detriment of academic progress.

There is a lot of common misconception of intelligence levels and cognitive ability among children with CP. About 1 in 3 people with CP will also have epilepsy which will interfere with their normal learning. Some children will have problems with hearing, vision, eating and drinking. Bax(2004) also observes that, children with CP should be under the care of specialist team which includes various healthcare professionals such as; doctors and nurses for treatment especially where surgery is needed or in case of epilepsy, physiotherapists to provide exercises to avoid contractures while occupational therapist to adapt seats, writing materials and train how to use them, where necessary.

Early intervention is very necessary; its goal is to minimize the physical, cognitive, emotional, and resource limitations of young children with disabilities. It takes a village to raise a child, US Senator Hillary Rodham Clinton (2001), quoting an African proverb. Children will thrive only if a society cares enough to support families. An individual alone is unlikely to achieve the success that might be possible through involvement and co-ordination of the community. Success to EI is two elements, family and community.

The special needs policy (July,2009), stipulates that, the implementation of FPE led to an influx and inclusion of new categories of special needs children such as autistic children, those with down syndrome, CP, maladjusted children, G/T, loco-motor impairment, multiple handicapped learners in public schools. These increased demands from parents and teachers overstretched the ministry's resources. Due to FPE, by 2008, there was an increase to 18,600 public and 1,839 private primary

schools, the enrolment shot to 18,563,821 pupils. This expansion has not been without major challenges, one which is equity especially, in relation to learners with special needs and disabilities.

The CP learners are part of the larger PWD, but they suffer more prejudice and discrimination because; they were recognized recently by IDEA (1997), the condition is diverse from mild to severe disability; little literature concerning them is available. Generalization of the condition affects them deeply and teachers lack enough skills and knowledge to deal with them. Also, the cost of providing educational services to learners with special needs and disabilities is relatively high and constitutes the single most limiting factor to increased enrolment, retention and transition of such learners within educational programmes, (Special needs policy of Kenya, July, 2009).

To increase the enrolment and retention of Learners with CP in schools, both public and private, to have positive attitude by the teachers, there is need to adopt the Vienna Declaration. The place of disabled persons is everywhere. Persons with disabilities should be guaranteed equal opportunity through the elimination of all socially determined barriers which exclude/restrict full participation in society?

#### **2.4.1 Facilities and Materials**

For the CP learners to participate in academics, they require the use of various braces or splits, known as orthotics, to help maintain alignment and decrease the development of contractures. Motoric problems are solved by use of wheelchairs and walkers. ADA Various forms of assistive technology are supposed to be used to

promote access to school materials and promote learning like augmentative communication device (an electronic communication device with voice output) for students who are unable to talk intelligibly. According to UNESCO (2001), low school budget leads to lack of appropriate facilities, inaccessible school buildings, high pupil-teacher ratios, and limited support for children with disabilities.

## **2.5 Summary**

Review of literature on encounter with people with disability indicates that there are various predictors that influence participation in learning among cerebral palsy children. The society has adopted norms that lead to discriminatory treatments which are widely accepted and practised though unrealistic. Children with CP are more affected because although CP is not a new case, it was identified recently as part of PH. It is diverse, from mild to severe, requires a team of professionals for the child to achieve his/her goals, and also a lot of adaptation in the environment and instructions. There is also lack of knowledge on the part of teachers, parents and the community regarding the CP. All this is very expensive making it almost impossible to achieve. Since the literature reviewed above indicates that most of it is from foreign sources, the proposed research intends to fill the gap by conducting the research in Kenya, with a view to predicting participation in learning of cerebral palsy children.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.0 Introduction**

The chapter described the methods that were used to achieve research objectives. It includes research design, variables, study locale, target population, the sample and sampling procedures, sample size, research instruments, piloting, validity and reliability, data collection technique, data analysis, logistical and ethical considerations.

#### **3.1 Research Design**

A descriptive survey design was employed, to investigate predictors of participation in learning among learners with cerebral palsy in three schools in Thika Municipality. The descriptive survey design was chosen because it allowed progressive analysis of data. Data were analyzed as information was collected in bits. It also gave the researcher more control over the research process by allowing multiple use of research instrument (Saunders & Thornhill, 2000).

The descriptive survey design entailed use of both qualitative and quantitative approaches; these enabled the researcher to obtain relevant data needed to capture the predictors of participating in learning among learners with cerebral palsy. Qualitative data were derived from observation schedule, interviews Quantitative data were derived from questionnaires and semi-structured questions.

### **3.2.1 Variables**

#### **3.2.1.1 Independent variables**

The independent variables in the research were predictors of participation in learning, instructional adaptations, opinion of teachers, challenges.

#### **3.2.1.2 Dependent variables**

Dependent variable was education of learners with CP. The intervening variables were medical support, adequate nutrition, parents support, physiotherapy and occupational therapy, community support and assessment services.

### **3.3 Location of the Study**

The research was conducted in Joytown Special School, Kenyatta Primary School and Mugumoini Primary School in Thika Municipality, Kiambu County. Thika Municipality constitutes Thika town and hosts some of the oldest national special schools like Joytown Special School, Thika School for the Blind and 5 units. Joytown is the only special school that accommodates CP as a category of PH in Thika Municipality with a population of 300 children, 90% of them exhibit different types of CP. It is also the only PH special public school that accommodates severe CP cases. Kenyatta Primary School has a population of 1000 regular students and 6 of them are learners with CP as a category of PH. Mugumoini Primary School has 5 students who are CP as a category of PH. Majority of the teachers both in special schools and regular schools are trained in special needs education.

These schools have both special needs education teachers and regular teachers, which made it easier for the researcher to conduct the study. Singleton (1993), observes that the ideal setting for any study is easy accessibility to the researcher, which justified choosing to conduct the study in Thika Municipality.

### **3.4 Target Population**

The target population comprised 281 learners with cerebral palsy, 42 teachers and 3 headteachers in Joytown, Mugumoini and Kenyatta Primary in Thika Municipality. Learners with cerebral palsy were chosen as the target population because educational opportunities for learners with special needs and disabilities, including the cerebral palsy, are a major challenge to the education sector with majority of the learners not adequately accessing education services (RoK, 2009).

### **3.4 Sampling Techniques and Sample Size**

#### **3.4.1 Sampling Technique**

The researcher purposively sampled three schools, Joytown Special School, Kenyatta Primary School and Mugumoini Primary School in Thika Municipality, Kiambu County. The three schools were selected on the basis of having learners with cerebral palsy. Both female and male teachers that teach learners with CP across all classes, Stds 1-8 from Mugumoini and Kenyatta Primary. Schools were purposively selected those that have learners with CP. Creswell (2005) cites that for qualitative inquiry, the intent is not to generalize to a population but to develop an in-depth exploration of a central phenomenon.

According to Best and Kahn (2002), the ideal sample should be large enough to serve as an adequate representation of the population about which the researcher wishes to generalize and small enough to be selected economically in terms of subject availability, time, finances and complexity of data analysis. The sampling procedure for Joytown teachers was randomly from all classes that have children with CP. The Headteachers of the three schools were also purposively selected. Learners with CP were purposively selected ranging from mild to severe.

#### 3.4.2 Table 3.4 Sample Size

Schools	Headteachers	Teachers	Learners With CP
Joytown Special	1	12	20
Kenyatta Primary	1	4	2
Mugumoini Primary	1	6	3
<b>Total</b>	<b>3</b>	<b>22</b>	<b>25</b>

#### 3.5 Research Instruments

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

##### 3.5.1 Questionnaire for Pupils and Teachers

Learners and teachers of special and regular schools were used to answer questionnaire. The groups were to meet after classes at 3.10 pm. The questionnaire was seeking to establish background information of the respondents, there was closed and open-ended items. The open-ended items captured a variety of perceptions from the respondents giving qualitative data, while the closed-ended items restricted respondents to suggested responses giving quantitative data. The questionnaires with

likert scale were used to seek opinion of teachers and pupils on teachers' opinions towards teaching strategies for learners with CP. The questionnaires were filled during free time like breaks.

### **3.5.2 Interview Guide for Headteachers**

The researcher conducted face-to-face interview for Headteachers, while research assistant took notes, in order to gather accurate information. According to (Kothari, 2003), direct personal investigation involves collecting information personally from the respondents concerned. The method is particularly suitable for intensive investigation.

### **3.5.3 Observation Schedule**

The researcher employed a non-participatory observation. The researcher observed how the learners with CP performed in tests and examinations from the mark list as compared with others; also, she observed the instructional methods, facilities and materials used by the teachers for a period of a month. This assisted the researcher to note whether learners with CP are withdrawn and whether the teachers included the learners with CP in class. The researcher collected information by use of both descriptive and reflective field notes. The notes recorded personal thoughts focusing on study themes. Descriptive field note recorded a description of events, activities and people. (Creswell, 2005).

### **3.6 Pilot Study**

Pilot study was done with 10 subjects, in Dagoretti special School, Dagoretti Division in Nairobi County which neighbours' Kiambu County, because it is the only school neighbouring Joytown dealing with CP as a category of PD. The objective was to establish whether the items are clear to the respondents, precise and comprehensive enough to capture the essence of research questions. Some questions in the tools were not appropriately set while there was spelling mistakes. Pilot runs help to feedback useful insights for finalizing the research instruments; this is suggested by Wiersman (1995). It serves as a check for ambiguity, confusion and poorly structured items. Pilot assisted to know whether the questionnaires used were valid or reliable.

#### **3.6.1 Validity of Instrument**

Content validity is determined by expert judgment Orodho (2008), for this reason, the questionnaires, interview guides and observation checklist were scrutinized and the content was validated through item analysis. Content validity was ensured through, the opinion of two experts in the area of study; they were two supervisors from Kenyatta University. They were consulted and their judgment considered.

#### **3.6.2 Reliability of the Instruments**

In this study, reliability was ensured by checking for consistency in theme development (Creswell, 2003) using a variety of instruments, namely; questionnaires, observation and interviews. The researcher triangulated data from different types of instruments e.g. questionnaires, interviews, open-ended questions etc to examine evidence from the source and using it to build a coherent justification for themes.

Digital audio recording of the interviews ensured raw data were captured accurately and was accessible for verification.

### **3.7 Data Collection Techniques**

The researcher visited the sampled three schools two and a half weeks before the initial data collection date for the purpose of introduction and confirmation 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. Learner's with severe cp were put in groups of six and guided on answering the questionnaires. The data were collected through interviews, questionnaires and observation schedules. The questionnaires were open and closed- ended type. The researcher scheduled an appointment with the respondents and guided them on how to fill the questionnaires. Where the respondents could not write due to their physical challenges, they were assisted by the researcher to write their responses to the instruments the interview was conducted to the head teachers by the researcher. The researcher took notes during interview. The gathered information was recorded through note taking. Later, the researcher collected the questionnaires and used interview notes for data analysis.

### **3.8 Data Analysis**

Data obtained in raw form through interviews and observations were coded, quantified, categorized and thematically analyzed using descriptive statistics such as mode, mean percentages and frequencies. Text from interviews and observation

analysis was by use of a computer programmer. This assisted in organizing text, audio and compared data segments of information according to (Creswell, 2005). It is easier to search, retrieve and browse all data segments and notes relevant to an idea. The open-ended items in the questionnaire were coded and responses categorized in emerging themes. They were categorized through coding and tabulation in order to draw statistical inferences. For the closed-ended items, the questionnaire analysis was done quantitatively using the statistical package for social sciences (SPSS).

### **3.9 Logical and Ethical considerations**

Through an introduction letter from Graduate School Kenyatta University, a research permit to conduct the study was obtained from the Ministry of Education (MoE). Before commencement of the main study, the researcher contacted the District Education Officer from Thika District and also the Municipality Education Officer of Thika Municipality. The researcher contacted the indentified schools to deliver copies of permit and letters of introduction to inform about the purpose of the study to the head of institution, teachers and parents. The respondents were assured of confidentiality and anonymity on all the information they would provide.

## **CHAPTER FOUR**

### **FINDINGS, INTERPRETATION AND DISCUSSION**

#### **4.0 Introduction**

This chapter presents data analysis and discussion of the study findings. The data was presented in the form of frequencies and percentages using graphs, tables, pie chart and figures. The data presented covers response rates for the questionnaire, interviews and what the researcher observed. The aim of the study was to analyse predictors of participation in learning among learners with cerebral palsy in special and regular schools in Thika Municipality, Kiambu County. The findings of the study were discussed in two parts. Part one covers demographic findings while part two covers findings of the study under the following themes derived from the research objectives-

- i. predict participation of learners with cerebral palsy,
- ii. instructional adaptations used by teachers,
- iii. opinions of teachers towards children with CP
- iv. Identify challenges faced by learners with CP

#### **4.1 Demographic Findings**

##### **4.1.1 Teachers' Demographic Information**

The researcher sought to establish the demographic information of the respondents and the results were as indicated in Table 4.1.

**Table 4.1: Teachers' demographic information**

<b>Demographic information of the teachers</b>		<b>f</b>	<b>%</b>
Sex	Male	4	18.2
	Female	18	81.8
Training in special needs education	Not trained	4	18.2
	Certificate	2	9.1
	Diploma	6	27.23
	Degree	9	40.9
	Masters	1	4.5
Highest academic qualification	KCSE	6	22.3
	"A" level	1	4.5
	Diploma	2	9.0
	B.Ed. Special educ.	12	54.5
	Masters	1	4.5
Training as a teacher	Trained	18	100.0

Source: Data 2013

The results in Table 4.1 show that majority of the sampled teachers were female. All the sampled teachers were trained. Half of the teachers had degree level of education, while one teacher (4.5%) had masters' education. Eighty-one point nine per cent of the teachers were established to have undergone training on special needs education whereas 18.1% had no training on special needs.

#### **4.1.2 Learners Demographic Information**

Learner's demographic information was also established and the findings were as in the following: (Table 4.2).

**Table 4.2: Learners demographic information**

<b>Demographic information of the learners</b>		<b>f</b>	<b>%</b>
Sex	Male	19	76.0
	Female	6	24.0
Learners' ages	10 years or less	3	12.0
	11 – 15 years	14	63.6
	16 – 20 years	8	36.4%

Source: Data 2013

According to the findings, three quarters of the learners sampled were boys. The learners were mainly between 11 – 15 years of age in the three sampled schools. Older learners (16 – 20 years) were a third. Most learners with disabilities join school while older than their peers and majority are boys, according to observation.

## **4.2 Predictors of Participation in Learning**

Objective One, sought to find out predictors of participation in learning and the findings were as:

### **4.2.1 Learners' Age**

The findings observed that, the age of the learners significantly affected the manner in which the classmates volunteer to assist in case of a task they cannot perform ( $r = -0.535$ ,  $P = 0.006$ ). Older learners were found to agree that their classmates volunteer to assist than the younger learners. In the class significantly higher number of younger learners felt lonely than older learners with CP ( $r = 0.622$ ,  $P = 0.001$ ). This was shown by having younger learners than the older learners agreeing that they feel lonely in the class like nobody cares about them.

The findings are in support of observation done by ADA (1990), in order for the younger learners to interact with peers and not to be lonely as observed, Americans with Disability Act (ADA, 1990) suggested that, peer interaction should be encouraged by giving them problems to work in pairs, each child to have a partner; this will help in social skills as well as problem- solving skills. Also

(Specialchildren.about.com), suggested that learners should be assisted in developing friendships with general education peers. Communicating frequently with parents and therapists are all ways that teachers can inspire confidence and success in students with CP. High self esteem will develop from social skills and this can hence high performance for the CP learner and also ask freely for assistance to meet individual needs. The older learners have acquired social skills compares to their juniors.

#### 4.2.2 Gender of the Learners

The researcher sought the opinions of learners about the workload given to them and the results were as indicated in Table 4.3.

**Table 4.3: Learners' opinions about the work given to the learners**

Gender	Feel the work given is too much for the learner to complete		
	Strongly agree	Agree	Total
Boy	9 (47.4%)	10(52.6%)	19 (100%)
Girl	6 (100%)	0 (0.0%)	6 (100%)

Source: Data 2013

When considering the response of the learners based on their gender, the study showed there was a significant relationship in the feeling about the workload given to the learners ( $r = -0.459$ ,  $P = 0.021$ ). Female learners strongly agreed that the work given is too much for the learners to complete.

The researcher sought to find out some of the challenges faced by Headteachers and teachers while handling learners with CP, in their schools, the findings were:

### **4.2.3 Challenges Faced by the Headteachers**

The findings established that the Headteachers faced the following challenges, while handling learners with CP: lack of enough funds, bulky curriculum, limited facilities and materials, lack of enough manpower and support staff, environmental challenges and communication adaptation. The children's Act 2001 section 12 states that, a disabled child including CP, shall have the right to be treated with dignity, accorded appropriate education and training free of charge or at a reduced cost whenever possible (GOK, 2001). This is in support of UNESCO (2009), which asserts that, low school budget leads to lack of appropriate facilities, inaccessible school buildings, high pupil-teacher ratios, and limited support for children with disabilities.

SENDA (2001) would like to ensure that persons with disability are not suffering significant disadvantages in balance with other non-disabled people. To achieve this reasonable adjustment is required which varies from individual to individual i.e. extra equipment, specialist, timetable adjustment, teaching aids. The grant and the set fees by the government is not enough to buy the aids, adapt materials to meet individual needs of a CP learner in order to achieve academically. The school also needs adaptation of the environment for the learner to manipulate it freely.

### **4.2.4 Challenges Faced by the Teachers**

The researcher sought to find the challenges faced by the teachers while handling learners with CP, the results were: They lacked adequate equipment and resources to follow the curriculum. They also lacked enough time, had inadequate man power and poor handwriting.

The teachers however, had various opinions towards learners with CP in their classes, some felt that, while teaching children with cerebral palsy, the following major challenges they encountered, should be dealt with: The lack of adapted learning and teaching materials, mobility aids, limited time allocated per lesson and communication difficulties. No time for IEP due to the number of learners, and lack of sufficient time to cater for individual needs. Also, lack of proper coordination e.g. eye -hands coordination, poor handwriting, pronunciation of words in Kiswahili and English and learners getting sick.

The researcher sought for solutions for the complaints received by the Head teachers, which were; addition of government grants per child and Donors/well wishers support, provision of devices, medical team and therapists, adapted materials and equipments Adaptation of the curriculum, employment of more teacher aids and support staff for individual attention, use of computers and to add more time was suggested.

The findings are in agreement with a special needs education policy launched at KIE by then the Minister for Education, Prof. Ongeru in 2010. During the occasion, he said, “The policy is to provide education in an inclusive setting at all levels”. The KIE which is the national curriculum developer is to adapt the school syllabus and learning materials to suit the special needs of learners. The document hints at the development of a specialized and regular curriculum to ensure sensitivity to the needs of learners. Learners with CP will have an adapted curriculum to meet their needs. The KNEC is to establish a special department charged with evaluation of the curriculum for

learners with special needs including setting structured questions for learners with CP instead of writing composition. The council is to train invigilators and supervisors to enable them to provide special support especially learners with CP who are using computers or tape during exam. More teachers are to be trained in special education to meet the needs of each individual child. With the introduction of laptops in the year 2014 by the Jubilee government, this might be of help to the CP learners who cannot use any limb to write, if they are adapted to fit the individual needs. Most of the learners with CP are in class without participating but attend an after class session to learn how to use computer the time is not enough.

#### 4.2.5 Headteachers' Findings

Headteachers from the three schools were also involved in this study. The researcher used the demographic information to find out whether they had enough experience and skills to deal with CP learners in their schools.

**Table 4.4: Headteachers demographic information**

<b>Headteachers demographic information</b>		<b>f</b>	<b>%</b>
Professional qualification	P1	1	33.3
	Diploma	1	33.3
	A-Level	1	33.3
Experience in teaching in primary school	16 years	1	33.3
	30 years	1	33.3
	24 years	1	33.3
Special education training related to cerebral palsy	Yes	2	66.7
	No	1	33.3

Source: Data 2013

The Headteachers' demographic information revealed that one of them was a P1, Diploma holder and an A – Level holder. As a head, the respondents had taught for 16 years, 30 years and 24 years respectively.

According to the findings they were experienced but one of the Headteachers had no special training related to CP. Most teachers including head teachers according to a task force on special needs education (2003) are not trained in SNE and more so in the area of CP. The headteacher without the CP knowledge was unable to answer some questions regarding learners with CP hence he cannot implement programmes for learners with CP due to lack of knowledge.

#### **4.2.6 Staffing of the School (availability of teachers trained in SNE)**

The researcher sought to find out whether the teachers dealing with the CP learners were trained in SNE.

**Table 4.5: Number of teachers and the streams in the three schools**

School	Number of streams	Learners with CP	Number of Teachers	Trained teachers	Trained special needs
School A	2	5	24	22	2
School B	3	6	30	30	10
School C	2	200	30	30	28

Source: Data 2013

This affirms a report by (A Task Force on special needs education (2003), report released in November 2003,) which noted, that only 20% of teachers had trained hence need for training and in-servicing. The researcher found that, in the three schools there was an average of 2 streams. The number of teachers trained on special needs education were few in school A (2 teachers) but more in school B and school C.

UNESCO (2001) asserts that, upgrading teachers' skills is a developmental process that goes beyond workshops and other in-service training activities. Most of the teachers in schools A and B are not SNE trained just like in the report by the Taskforce on special needs. The case is different in the special school because most of the teachers are SNE trained.

#### **4.2.7 Involvement of Parents**

Parents are major stakeholders in the education of the CP learners, so, the researcher intended to find out how much they are involved. The research findings indicated that: Parents of children with cerebral palsy were involved by the Headteachers in counselling, referral, and early intervention on placement and seminar meetings. This is not enough since they should be also involved in preparing IEP according to (Special children.about.com), which recommends for an IEP to be prepared by teachers, parents and therapists, since education is a continuous process which should continue even at home.

#### **4.3 The Instructional Adaptations Used by Teachers of Learners with CP in**

##### **Special and Regular Schools in Thika Municipality**

Objective two, sought to find out the instructional adaptations used by teachers of learners with CP in special and regular schools in Thika Municipality.

Table 4.6 shows the findings:

**Table 4.6: Instructional Adaptation used**

<b>Adaptation</b>	<b>S. agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>S. disagree</b>
Modify the work they give in case learner is unable to complete	11 (44.0%)	9 (36.0%)	-	2 (8.0%)	3 (12.0%)
Teachers do not ask learners a lot of questions in class	8 (32.0%)	10 (40.0%)	-	4 (16.0%)	3 (12.0%)
Learners not given responsibility	13 (52.0%)	3 (12.0%)	-	2 (8.0%)	9 (28.0%)
During exams, learners are added more time to complete their work	11 (44.0%)	13 (52.0%)	1 (4.0%)	-	-

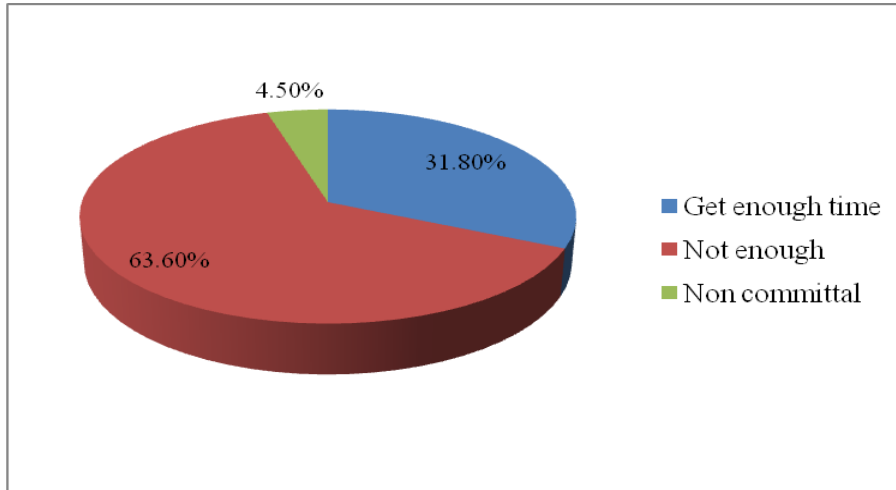
Source: Data 2013

The Table 4.6 above, indicates that, in their instructional adaptation, teachers modified the work they give to the learners who were unable to complete their work. They do not ask a lot of questions to these learners in class. During exams, learners are added more time to complete their work.

The findings are supported by; (United CP Foundation 2007), which suggests that, a child with CP should be included in all activities to avoid making him/her different. Give him/her ample opportunities to participate in class, include him/her in class discussion by the name. It further suggests that, they should be given time for response especially if using devices. They should be asked open-ended questions in which they can give a longer response to avoid yes/no or head nod or shake. Teachers are expected (Special children.about.com) to modify assignments that require a good deal of writing/request the assistance of an aide or student mentor, demonstrate a great deal of emotional support and patience, encourage a CP child with positive academic feedback.

### 4.3.1 Time to Administer IEP

The researcher sought to investigate whether IEP was administered by the teachers; the results are as in Figure 4.3.2



**Figure 4.3.2: Teachers getting enough time to administer IEP**

Majority (63.6%) of teachers were not getting enough time to administer IEP, an indication that learners were not adequately catered for. Only 31.8% of the teachers stated that they had enough time to administer IEP, 4.50% of the teachers declined to indicate their use. (Special children.about.com), recommends for an IEP to be prepared by teachers, parents and therapists content containing detailed information on CP, the degree to which a child is affected by the condition, a list of services and accommodations that the school can provide for mild or with multiple handicaps. The report indicates that most of the learners with CP do not benefit academically, also their individual needs are not met by all stake holders. This affects the performance of a CP learner whose needs should be wholistically met.

### 4.3.2 Learning Materials in the Schools

The researcher was interested in verifying whether learning materials were used in teaching;

**Table 4.7: Facilities in the schools**

School	Materials in the school	Number in school
School A	Teacher aids	2
School B	Teacher aids	1
School C	Teacher aids	2

Source: Data 2013

The findings were: teaching aid was present in all the three schools. The number was less in school B but the same in school A and C which had 2 teaching aids.

The findings indicate that there is little use of teaching materials, this can lead to poor learning for the learners with CP, which can further lead to drop out as observed by (MoEST, 2003), Many children quickly dropped out due to lack of support in terms of assistive/functional devices, learning resources, environmental adaptations, mandatory medication and unsuitable curriculum. The findings are in support of a report by SENDA (2001), which asserts that, in order for some persons with disability to have access to an array of educational services, they may need special provisions made. To maintain and benefit learners with CP academically, teachers should be provided with learning materials. The materials should meet the individual needs of the learners since CP is diverse.

**4.4 Determine the Opinion of Teachers towards Children with CP in a Classroom in Special and Regular Schools in Thika Municipality, Kiambu County**

The third objective sought to find Teachers' opinions towards children with CP in a classroom. The questionnaires distributed to the teachers revealed their opinion as presented in table 4.8.

**Table 4.8: Teachers' opinions towards children with CP**

Teachers' opinions	SA	A	UD	D	SD
Learners with CP should stay at home	3 (13.6%)	-	-	7 (31.8%)	12 (54.5%)
Children with CP increases the teacher's workload	9 (40.9%)	7 (31.8%)	-	5 (22.7%)	1 (4.5%)
All children with CP have an element of mental retardation	3 (13.6%)	3 (13.6%)	2 (9.1%)	7 (31.8%)	7 (31.8%)
Parents of children with CP are difficult to deal with	6 (27.3%)	3 (13.6%)	2 (9.1%)	8 (36.4%)	3 (13.6%)
It is not the teacher's duty to assist children with CP	-	-	1 (4.5%)	4 (18.2%)	17 (77.3%)
It is a waste of money to educate the learners with CP	-	-	-	3 (13.6%)	19 (86.4%)
Teachers do not like marking the wet books due to saliva	-	2 (9.1%)	2 (9.1%)	7 (31.8%)	11 (50%)
Children with CP will amount to nothing even after learning	-	-	1 (4.5%)	5 (22.7%)	16 (72.7%)
I do not adopt instructional methods to meet the needs of the children with CP	1 (4.5%)	1 (4.5%)	-	5 (22.7%)	15 (68.2%)
I am an advocate of children with CP in creating awareness	15 (68.2%)	5 (22.7%)	1 (4.5%)	-	1 (4.5%)
Children with CP are attention seekers	1 (4.5%)	4 (18.2%)	1 (4.5%)	9 (40.9%)	7 (31.8%)
Children with CP should learn in their own class	4 (18.2%)	3 (13.6%)	1 (4.9%)	6 (27.3%)	8 (36.4%)
Class peers interact freely with children with CP	5 (22.7%)	7 (31.8%)	2 (9.1%)	4 (18.2%)	4 (18.2%)
The teamwork involving children with CP is time consuming	3 (13.6%)	5 (22.7%)	2 (9.1%)	4 (18.2%)	8 (36.4%)

Source: Data 2013

The findings showed that majority of the teachers felt that, it is not a waste of money to educate a CP learner (86.4), it is the work of the teachers to assist the CP learner (77.3), they also believe the CP learners will not amount to nothing after learning (72.7); they are their advocates (68.). Most of them adapt learning materials (68). Learners with CP should not stay at home, as the society would expect, also they have no problem marking wet books due to drooling. Few responses showed that teachers had different opinions regarding learners with CP. They had diverse opinions on, all children with CP have an element of mental retardation, class peers interact freely with children with CP, parents of children with CP are difficult to deal with, children with CP should learn in their own class, and the teamwork involving children with CP is time consuming.

The study supports (Kenny et al., 2000) findings that teachers are part of the larger community so they also are affected by societal attitudes and behaviour. Teachers' attitudes towards students with CP have a significant impact on the educational experience. The findings established that some teachers especially in regular schools felt that teamwork is time consuming, especially when they are expected to raise the performance of their class. This attitude can have a negative impact on the learner. The study supports Norwich (2002), any inconsistencies in teachers' attitudes towards different types of disabilities are accredited to a teacher's perception of the additional instructional and classroom management skills required in order to accommodate these students. Some teachers avoided asking the learners with CP questions because they took time to respond, while some learners were comfortable with some teachers. Federal Regulations implementing section 504 of the Rehabilitation Act of 1973 and

the ADA (1990) established a law that reasonable and appropriate academic accommodations must be provided to students with CP, to allow the students equal access to educational opportunity.

#### 4.4.1 Favourite Subjects

When teachers were asked to state their favourite subjects, the teachers stated mainly; Mathematics, Sciences, English, Social Studies, Kiswahili and CRE. The results are as in Table 4.9.

**Table 4.9: Teachers' favourite subjects**

<b>Favourite subject</b>	<b>f</b>	<b>%</b>	<b>Rank (1-most favourite – 5 less favourite)</b>
Math's	9	40.9	1
Science	7	31.8	2
English	2	9.1	5
Kiswahili	4	18.2	3
Social studies	5	22.7	3
CRE	1	4.5	6
ADL	2	9.1	4

Source: Data 2013

More of the teachers (40.9%) had their favourite subject as Mathematics. According to a report in a survey of Headteachers in, “the aims of special education schools and units in Kenya”, for special needs students, the attainment of basic literacy and numeracy skills is not viewed as an important objective of special education.

The researcher observed that mathematics was a challenge to most of learners with CP. Some could not use their upper limbs to carry out some of the tasks, such as

construction and graphs, due to their jerky movements. These findings are supported by (Special children.about.com.), which observed that, certain aspects of learning are more difficult for the child with CP because of his/her physical restraints. Therefore as much as the favourite subject was mathematics, most of the learners with CP do not excel in the subject, not because they cannot comprehend, but they are disadvantaged by their physical condition.

If one compares ADL with Mathematics, ADL has the least, while in the case of learners with CP learn ADL is more appealing than Mathematics.

#### **4.5 Challenges Faced by Learners with CP in Both Special and Regular Schools in Thika Municipality, Kiambu County.**

The fourth objective, sought to find out the challenges faced by CP learners and the results are as indicated by Table 4.10

<b>Learners' opinions</b>	<b>SA</b>	<b>A</b>	<b>UD</b>	<b>D</b>	<b>SD</b>
It is better to be in a special school	17 (68%)	-	8 (32%)	-	-
It is better to be in a regular school	6 (24%)	1 (4%)	18 (72%)	-	-
Learners enjoy being in school	18 (72%)	-	1 (4.0%)	3 (12.0%)	3 (12.0%)
Learners perform like the classmates in class	4 (16%)	2 (8.0%)	1 (4.0%)	7 (28%)	11 (44%)
Learners sit next to non-disabled children	2 (8.0%)	2 (8.0%)	-	5 (20%)	16 (64%)
Classmates volunteer to assist learners in case of a task learner cannot perform	8 (32%)	8 (32%)	2 (8.0%)	2 (8.0%)	5 (20%)
Learner feel the work given is too much to complete	15 (60%)	10 (40%)	-	-	-
Learners feel lonely in class, like nobody cares about them	5 (20%)	5 (20%)	2 (8.0%)	4 (16%)	9 (36%)
Learners can move freely in the whole school	5 (20.0%)	8 (32%)	1 (4.0%)	3 (12.0%)	8 (32%)
Teachers attend to learners needs whenever they ask for assistance	9 (36%)	15 (60%)	-	1 (4.0%)	-
Learners books are marked along with others	8 (32%)	15 (60%)	-	-	2 (8.0%)
The school has provided learners with assistive devices they need for learning	9 (36%)	7 (28.0%)	-	2 (8.0%)	7 (28.0%)
Learners know they will perform better than most of their peers	9 (36%)	2 (8.0%)	8 (32%)	5 (20%)	1 (4.0%)
Learners not ashamed when other pupils stare at them	-	3 (12.0%)	-	6 (24%)	16 (64%)
Parents assist learners in homework	2 (8.0%)	4 (16%)	-	4 (16%)	15 (60%)
Learners feel can perform better if put in a class with only those who are like them	16 (64%)	7 (28%)	1 (4.0%)	1 (4.0%)	-
During exam learners are added more time to complete their work	11 (44.0%)	13 (52%)	1 (4.0%)	-	-
Teachers modify the work they give in case a learner is unable to do it	11 (44.0%)	9 (36%)	-	2 (8.0%)	3 (12.0%)
Learner is more comfortable with some teachers than others	9 (36.0%)	8 (32.0%)	-	2 (8.0%)	6 (24.0%)
Teachers do not ask learners a lot of questions in class	8 (32.0%)	10 (40%)	-	4 (12.0%)	3 (16.0%)
Learner not given responsibilities	13 (52%)	3 (12.0%)	-	2 (8.0%)	7 (28%)

Source: Data 2013

**Table 4.10: Learners opinion towards children with CP**

In the views of the learners, two thirds of the respondents felt that it is better to be in special schools while three quarters were not decided whether it is better to be in regular school or special school. When at the school, three quarters of the learners enjoy being in school.

Challenges of the learners were, therefore, found to be mainly on the workload. All learners felt the work given was too much to complete, two thirds felt they were more comfortable with some teachers than others. This finding is supported by (specialchildren.about.com), a child with learning disability has an average or above average level of intelligence, but has difficulty processing certain types of information. The other half will have 'normal' intelligence and above. Half will have speech problem, and at times such children will be thought of as having low intelligence. They have limited ability to communicate, leading to be deemed as to have much less intellectual ability than they actually do. Teachers may not tell whether the child has understood or not. Due to this, many children with CP are placed in special education programmes, many of which focus much of the time in school on different therapies, to the detriment of academic progress.

Most of the learners with CP due to the nature of their disability took time to perform a task, and the workload should be minimized to the amount they can handle instead of being given the same amount with their peers. This is as recommended by (specialchildren.about.com), when testing children with CP, allocation of more time to allow the child to finish his/her work, if necessary to allocate a separate place for

the test to take place. Give completely oral test or written if need be, as for those who cannot write, to tape record answers or type them, can also give oral test or provide writers. In case of group work, develop a portfolio of the students' work as an individual and as part of a co-operating group, quiz orally to establish the extent to which the student contributed to the group-based accomplishments. This is a very expensive exercise that most of our regular schools and special schools were not afford. If all stakeholders put their energy towards this including KNEC, the child with CP will not be perceived as uneducable. KNEC is slowly implementing different forms of evaluation like use of computers during exams and tapes for composition and insha writing for the learners with CP.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

This chapter presents the summary of analysis of predictors in participation in learning among learners with cerebral palsy. The key study findings and the conclusions made were based on the study findings in connection with objectives, recommendations and suggested areas for further studies.

#### **5.1 Summary of the Findings**

The first findings established that, the age of the learners affected the way they interacted with their peers, the older were assisted by their peers. This encouraged social skills which are important for the learning of the learners with CP, because some are dependent due to the nature of their disability, they need one-on-one attention. The researcher observed that some learners needed somebody to write for them since they can read and comprehend but cannot use any part of the body to write, while others have to use computers to do their homework. The researcher observed that, in Joytown Special School, the computers are in a laboratory, the learner has first to attend the class then later shift to the computer laboratory to do the home work. The time is limited because the laboratory is closed at 4.30 pm; also the computers are not enough for each child. At times, there is a challenge of power failure which affects the finishing of homework.

The Headteachers highlighted some of the challenges they go through as not enough funds, the grant given by the government per head is not enough to meet individual

needs of the cp learners. This includes books, adapted materials, computers and devices. Some due to spasticity or poor eye-hand coordination take more time. Lack of adapted environment, time allocated for each lesson is not enough for a learners with CP to do and finish the exercise given. The normal time per lesson is 35 minutes which the teacher is supposed to balance between teaching the rest of the class and assisting the learner. The three schools including the special school follow the normal curriculum which is not adapted.

The findings established that the curriculum is not adapted to suit the learners with CP. Some aspects of learning are more difficult for the child with CP because of his/her physical restraints, the jerky movements, the grip and poor eye-hand coordination. Construction in mathematics, map work in social studies and experiments in science are some aspects that the child cannot achieve. Some learners cannot use any part of the body to write but can learn orally, this type of learning is not catered for by the curriculum. Due to different individual needs, it is hard for a teacher to comprehensively and in time cover the syllabus. The teachers also highlighted the challenge of poor handwriting which is not legible. The teachers could not read some compositions or insha due to the poor handwriting, this affects the awarding of marks, and results. Teachers could not tell whether what was written was right or wrong.

In Joytown Special School the headteacher observed that shortage of manpower was hindrance to proper participation in learning for the learners with CP. The school has only two teacher aides against 200 learners with CP. In the regular schools, there was

no teacher aide, so the learner with CP has to depend on other students to assist. The shortage of manpower affected the learners with CP, because some learners with CP need one-on-one attention. They need teacher aid to assist them in writing in case they cannot use their upper limbs.

The findings showed that in the three schools, there were not enough adapted materials for learning, which is crucial for better learning of the CP. This means that the learning of the CP is wanting hence cannot perform like peers. The researcher found out most of the teachers and one head teacher were not trained it means that, they lacked the skills to handle learners with CP, affecting effective delivery of services. In school A and B the environment was not adapted for easy access and manipulation of the environment by the learners with CP.

In the second finding, the teachers modify the work given to the learners with CP in order for them to perform the task as their peers. The researcher observed that not all concepts can be modified, so the teachers left out some topics that the learners with CP cannot perform, thus affecting the performance of the learner. The findings showed that some teachers avoid asking the learners with CP questions in class, because the learner would take long to respond, or the speech was impaired such that the teacher would not understand. Although learners were added more time during exams, it was never enough to complete their work. This results to poor performance. The findings established that in the regular schools only 20% of the teachers were trained in SNE; therefore they did not have the skills to deal with the learners with

CP. In the special schools, majority of the teachers were trained in SNE but only a few had trained in the area of CP.

For effective learning of a learner with CP to take place, individualized learning must be practised, through IEP. The study established that only a few teachers prepared I.E.P to cater for individual needs, due to the high number of students per class, and lack of enough time. The parents of the learners with CP are not involved in the preparation of the IEP which is essential for the learning of the child with CP to continue at home. The findings revealed that, there were teaching materials in the three schools but they were very few to cater fully for the learners with CP due to lack of enough funds. The money allocated for each child by the government was not enough to buy the learning materials to meet individual needs. For some learners, the pens used are small in size for the grip of the learners with CP.

Third, teacher's opinion is very important in the effective learning of the learners with CP, most of the teachers supported facilitation in learning of the learners with CP, but they had diverse opinions on the element of mental retardation on learners with CP. The researcher established that a good number of teachers believed that learners with CP have some elements of mental retardation which affected learning. Some also felt the parents of the learners are difficult to deal with.

The researcher observed that the teachers felt that learners with CP consume a lot of time in learning and yet the time to finish up the syllabus was short. There are those who felt that the learners should be in their own class, to receive individual attention.

Although they agreed that the teacher should assist the learner, they felt that the learner should be assisted by a teacher aide who should be permanently in class. This was a challenge because the schools have a shortage of manpower. In regular schools, the researchers observed that the teachers felt that the learners with CP should be handled by a special need teacher.

The study established that, most of the teachers preferred mathematics to other subjects, but it has some concepts that are difficult for learners with CP. In higher classes, the findings established that most of the concepts need use of hands, cannot be done orally. For a learner with CP, ADL is essential but few teachers picked it as a favourite. This means that ADL is not well-taken care of. It makes it difficult to give them the necessary individual attention. A reasonable number of teachers thought that children with CP have element of mental retardation, particularly due to poor communication. They could not tell whether the child understood the taught concepts or not since they could not express themselves. Further it was observed that some of the learners with CP given time to express themselves, provided with the right materials and assisted in the difficult tasks performed better than their peers.

Finally, the researcher established that most of the CP preferred special schools to regular schools, from observation; the findings established that the learners with CP felt accepted in special school by peers than in regular school. They can manipulate the environment and access many places because the environment is adapted.

The findings revealed that the learners with CP were overworked; the workload was too much for them. Due to the nature of their disability, they took time to complete a certain task; they also could not perform certain tasks on their own. Some learners have to use computers to do their work, which are in a computer laboratory. The learner has to attend all lessons then finish the homework after classes. Some learners felt they were comfortable with some teachers but not with others, because some teachers ignored them.

The researcher observed that the curriculum used was the regular one which has some concepts that cannot be performed by the learners with CP. The learners did not enjoy some topics because they could not participate. During exam time, they also could not answer all questions especially the ones requiring them to use their limbs, they felt that they could perform better if the curriculum was tailored to meet their individual needs. The findings established that KNEC adds only 30 minutes to those students who cannot finish national exams in the given time. The time added to them was not enough, therefore, the exam is collected before they finish, leading to performance that does not reflect their full potential. Some questions are a challenge during national exams, like construction in mathematics, writing a composition and insha. Some learners have to leave out some questions not because they are not capable but disadvantaged by their disability. This affects the outcome of the exams.

## **5.2 Conclusion**

Based on the findings, the study makes four main conclusions. First, with regard to participation in learning, the learners with CP can perform like or better than the peers

if the enough funds are allocated to adapted environment and required personnel are put in place, to meet individual needs. Second, the learners with CP should be equipped with learning materials like a laptop adapted to meet the individual needs, and also to use it in class so that the learner can work at the same time with peers. The timetable should be adjusted to allocate more time for the learner. Third, the teachers should be trained in special needs and more so in the area of CP. While preparing IEP all stakeholders should be involved in order for learning to continue even at home.

Finally, the findings established that the curriculum should be tailored to meet the individual needs. The learners with CP should be given important and manageable concepts to work on. The learner should be given small tasks to test the concept learnt. During exams, the learners should be tested on concepts they can handle and given enough time to complete. The learners should be assisted to perform in exams.

### **5.3 Recommendations**

It is on the basis of the study findings that the following recommendations have been made:

#### **5.3.1 Policy Implications**

- i. This study recommends that the Ministry of Education reviews the financial allocation within the education budget so as to cater for the education for all persons with disabilities at all tiers of education especially in the area of bursaries, provision of aides, adapted gadgets, provision of mobility and adaptive devices and environmental modifications.

- ii. Kenya Institute of Curriculum Development should develop curriculum models that integrate learners with cerebral palsy; should modify the curriculum to meet the needs of the learners with CP. Instructions in such curriculum should be individualized-based learning. This suggests that policies designed to enhance student outcomes may need to consider the abilities of learners with disabilities, including learners with CP. Some concepts should be tailored to meet the individual needs.
- iii. All teachers should be trained and in-serviced because most of them are not SNE trained just like in the report by the Taskforce on special needs, in order to have skills to deal with the learners. Teachers with the skills will have positive attitude towards the learners and will facilitate smooth learning
- iv. The government and well wishers should provide a conducive environment with adequate resources, trained manpower and adapted materials to facilitate qualitative learning for a learner with CP. Students with disabilities including the CP should be prepared for further education, employment and independent living. Children with CP should be taught how to use a communication aid which might be a book or a poster with pictures that show things the child might want or an alphabet board they can use to spell out their message.
- v. The Kenya National Examinations Council (KNEC) should modify exams to meet individual needs of the learners with CP. Time should also be adjusted to give them ample time to complete exams. Depending on the individual, they can be allowed to sit for one exam in a day. The council should provide adapted materials for the learners with CP, a private room and an aide to assist those who cannot write independently.

### **5.3.2 Recommendations for Further Research**

- i. This study focused on learners with CP in Thika District. There is need to carry out a similar study in other districts so as to establish if learners with CP go through similar experiences in accessing education.
- ii. The study focused mainly on participation in learning of learners with CP in primary schools. A study focusing on and participation in learning in secondary schools should be carried out.

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**APPENDICES****Appendix A:****Introduction Letter**

Dear Sir/Madam,

My name is Wairimu Kamau, a post-graduate student at Kenyatta University. I am conducting a research on predictors influencing participation in learning among cerebral palsy children in Thika Municipality. My concern is learners with cerebral palsy, who are in school. The purpose of the study is to find out predictors influencing the participation in learning among learners with cerebral palsy in schools. This exercise is very important to learners with cerebral palsy and their future programmes. I assure you that all information given here will be treated with utmost confidentiality and will only be used for research purposes. Please spare your precious time to respond to the questions.

Thank you in advance,

WAIRIMU KAMAU

Student, Special Needs Education Department,

Kenyatta University

Date; November, 2011



		S A	A	U D	D A	S D
1	It is better to be in a special school than in a Regular school					
2	I enjoy being in school					
3	I perform as my classmates in class					
4	I sit next to a non-disabled child					
5	My classmates volunteer to assist me in case of a task I cannot perform					
6	I feel the homework I am given is too much for me to complete					
7	I feel lonely in class, as if nobody cares about me					
8	I can move freely in the whole school					
9	Teachers attend to my needs whenever I ask for assistance					
10	My books are marked alongside with the others					
11	The school has provided you with assistive devices that you need for learning					
12	I know I will perform better than most of my peers					
13	I am not ashamed when other pupils stare at me					
14	My parents assist me in my homework					
15	I feel I can perform better if put in a class with only those who are like me					
16	During exams I am added more time to complete my work					
17	Teachers modify the work they give me in case I am unable to do it					
18	I am more comfortable with some teachers than with others					
19	Teachers do not ask me a lot of questions in class					
20	I am not assigned responsibilities in school					

Thank you for your participation

### Appendix C:

#### Questionnaire for teachers

This questionnaire is designed to obtain information on the teachers' opinion of learners with cerebral palsy (CP). The information which you will supply will be treated as confidential.

This questionnaire consists of 2 sections, section I and section II. For each section, instructions are given on how to respond.

#### Section I

Answer the entire questions in this section;

Name of the school .....

Sex: male ----- female -----

1. Are you a trained teacher? Yes----- No-----
2. Are you trained in special education? Yes----- No ----- if yes, up to what level? -----
3. What is your highest academic qualification? .....
4. Do you get enough time to administer I.E.P? Yes.....No.....
5. Which are your favourite subjects?
6. Which are the major challenges you encounter while teaching children with cerebral palsy?
  - i. \_\_\_\_\_
  - ii. \_\_\_\_\_
  - iii. \_\_\_\_\_

**SECTION 11**

In this section tick ( ✓ ) the most appropriate answer

SA - Strongly Agreed

A - Agreed

UD - Undecided

D- Disagree

SD - Strongly Disagree

		SA	A	UD	D	SD
1.	Learners with cerebral Palsy should stay at home					
2	Children with cerebral palsy increases the teachers' workload					
3	All children with CP have an element of Mental Retardation					
4	Parents of children with Cerebral Palsy are difficult to deal with					
5	It is not the teachers' duty to assist children with cerebral palsy					
6	It is a waste of money to educate the learners with CP					
7	I don't like marking the wet books due to saliva					
8	I do not involve learners with CP in class participation					
9	Children with cerebral palsy will amount to nothing even after learning					
10	I do not adapt instructional methods to meet the needs of children with cerebral palsy					
11	Am an advocate of children with CP in creating awareness					
12	Children with cerebral palsy are attention seekers					
13	Children with cerebral palsy should learn in their own class					
14	Class peers interact freely with children with cerebral palsy					
15	The team work involving children with CP is time-consuming					

Thank you for your participation

## Appendix D

### Interview Guide for use with Headteachers

#### Section I:

Personal details

1. Name of the institution -----
2. Your title in the school -----
3. Highest professional qualification -----
4. Experience in teaching in primary school -----
5. Experience as a Head teacher -----
6. Have you received any special education training related to the cerebral palsy?

If yes,

- (i) What was the nature of training?
- (ii) When did you receive the training?
- (iii) How long was it?

#### Section II:

Please, provide me with the following information

##### **Staffing of the school**

1. How many streams are there in the school?
2. How many teachers do you have in your school?
3. How many are trained?
4. How many are trained in special education?
5. How many have ever attended any seminar related to cerebral palsy?
6. How many teacher aides are there in the school?

7. How many Para medics are there and how many offers para medics' services?

8. Is the school modified to accommodate children with cerebral palsy?

### **Section III**

Please, provide me with the following information

#### **Education**

1. How many students with cerebral Palsy are enrolled in the school?
2. Identify 3 challenges encountered while handling children with cerebral palsy?
3. How do you involve parents of children with cerebral palsy?
4. Do you receive any complaints from teachers regarding handling children with cerebral palsy?
  - (a) If yes ,state 3 common complains
  - (b) Suggest 3 common solutions
5. Does the school receive any grants from the government to assist children with cerebral palsy?

If yes, do you consider it is enough?

Feel free to add, comment or ask some questions around the issues we have been discussing.