

# Teachers' use of Cooperative Learning Strategy for Enhancing Academic Performance of Students with Cerebral Palsy in Special Secondary Schools for the Physically Disabled in Kenya

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**Abstract:** The purpose of this study was to establish teachers' use of cooperative learning strategy in achieving academic performance of students with cerebral palsy in selected special secondary schools for the physically disabled in Kenya. Performance in Kenya Certificate of Secondary Examination amongst learners with cerebral palsy in special secondary schools for the physically disabled in Kenya has remained poor compared to those in regular secondary schools. The major reason being the teaching approaches adopted by teachers which are dominated by teacher-centered approach. The study was based on constructivist theory that states that learners obtain knowledge through self-direction and interaction with their environment. The study adopted descriptive survey design and mixed methodologies in both data collection and data analysis. Observation check list, interview guides and questionnaires were used to identify how the teachers used cooperative learning instructional strategies for academic performance. Qualitative data was analyzed using thematic approach while Quantitative data was analyzed descriptively using statistical tools and presentation given in visual displays. The study revealed that majority of the teachers preferred cooperative learning because all students get involved in the lesson. Major recommendations made were that there was need of spacious classrooms to accommodate students with Cerebral Palsy. There is also need to train more teachers in special needs education to use cooperative learning for academic performance. Special institutions should also be well funded to enable the teachers get relevant resources for better academic performance of students with Cerebral Palsy.

**Keywords:** Academic Performance, cerebral palsy, cooperative learning, instructional strategy, and learner centered instruction.

## I. INTRODUCTION

Academic achievement is a reflection of the extent to which learners have acquired the intended knowledge and skills. Poor performance could be attributed to the use of teaching methods that do not promote the acquisition of relevant skills. In order to help the learner achieve academically, the learning process has evolved so much so that it now shifts its focus on the learner and not the teacher. This is called learner-centered strategy. It is defined as an instructional approach in which students influence the content, activities, materials and pace of learning. This learning model, places the student (learner) at the center of the learning

process. Collins and O'Brien, (2003) explain that it is a model where the instructor provides students with opportunities to learn independently and from one another and then coaches them in the skills they need to do to be effective. Cooperative learning is one of the many learner-centered instructional strategies commonly used by teachers to enhance academic performance.

From a global perspective, countries such as Canada and Israel are increasingly investing in the "teacher in-service training" to improve quality and relevance of Education to the learners with disability (Ogwel & Kisangi 2009). Desimone (2009) enumerates some characteristics of professional development that are critical to increasing teacher knowledge and skills, improving their practice, and which hold promise to increasing academic achievement in students with special needs (cerebral palsy). These include content focus, active learning, coherence, duration, and collective participation. In Nigeria a study done on impact of teachers teaching methods on academic performance revealed that, often academic performance of students is linked to teaching methods and teacher's professional competence and skills applied to impart knowledge to learners (Adunola 2011)

Cerebral palsy (CP) is the neurological dysfunction caused by non-progressive injury to the immature brain that affects movement and co-ordination. These conditions are caused by problems in the brain, muscles and nervous system of the body. Specifically, cerebral palsy is caused by a problem in the parts of the brain responsible for controlling muscles. The condition can occur if the brain develops abnormally or is damaged before, during or shortly after birth, Smith (2012). This may eventually interfere with cognition making academic performance be at stake.

Individuals with this condition may experience problems in motor coordination which is necessary for academic purposes (Hallahan, 2012; Friend, 2008). Similarly Bottcher and Louise (2010) in Australia, carried out a study titled "Children with Spastic Cerebral Palsy, Their Cognitive Functioning and Social Participation" that revealed that many children with CP have average or above average IQs

and need to be provided with the same curriculum just as their non-disabled peers. In this regard, the learning ability of students with CP is approximated to range between below average to average and not above average. In reference to the above findings, it is possible to conclude that for good academic performance of students with CP, cooperative learning strategies should be effectively applied just as it is being done on students without any form of disability.

In Australia, Novak (2013) in his work in the “systematic review of interventions for children with cerebral palsy” added that active engagement of children with CP would improve their communicative and interactive abilities which are very crucial tools in a learning process. This study is evident enough that the adoption of cooperative learning as one of the instructional strategies in special schools, especially for students with CP would be the best approach to provide the most desired academic performance.

Cooperative learning is an instructional strategy that emphasizes the importance of positive social interactions among students of mixed levels of ability engaged in a learning process working in collaboration in small groups on a given task or assignment related to a unit of study. This learning technique is utilized at virtually every educational level around the world. It is an extremely common and effective pedagogical tool. Robert, Roger, David, and Spencer, (1999) report that in the mid-1960s, cooperative learning was relatively unknown and largely ignored by educators. Currently, it is an accepted and often the preferred instructional procedure at all levels of education. It is difficult to find a text on instructional methods, a teacher’s journal, or instructional materials that do not discuss cooperative learning.

A study by Obinga (2011) in Kenya, stated that learners with CP are enrolled in schools for children with Physical Handicaps (PH) and they transit annually to subsequent higher grade depending on their good academic performance. Those with poor academic performance have to repeat class. However, information available in these schools shows that more than half of learners with CP repeated various classes between the years 2009 to 2011. In her study she analyzed the strategies that learners with cerebral palsy use to acquire literacy skills under mediated instructional strategies. The result revealed that learners with CP repeated grades because they experience difficulties with literacy skills which in turn impacts on their academic performance. However this study did not look at these strategies in secondary schools. Other studies in Kenya carried out by Obinga and Kochung (2011) and Obiero (2009) also focused on how teachers individualized their strategies and how they included learners with CP in reading and writing respectively in their classes. The population consisted of primary school children. Their studies did not look at specific strategies such as cooperative learning strategies used by students with CP in secondary schools in achieving academic performance. These are the gaps this study filled by looking at how teachers use

cooperative learning strategies to enhance academic performance because cooperative learning has a direct impact on academic achievement, self-esteem, confidence, inter-ethnic relationships, and overall attitudes toward the learning process.

A study carried out by the Kenya Institute of Curriculum Development (KICD) in 1980 revealed that among 896 children enrolled in special schools for the physically disabled, learners with multiple disabilities and those with CP were a majority (Ndurumo, 2013). The study further revealed that a higher number of these learners have not been given adequate educational attention due to inappropriate learning instructions amongst other challenges. Wairimu (2015) in her study confirms that some learners with CP tremble a lot. This condition interferes with coordination and performance of academic tasks. This state of affairs is detrimental to learners’ acquisition of successful education and denial of their rights to education. .

#### *Academic Performance of Students with CP*

Majority of students with CP are often enrolled in special schools for students who are physically disabled, while others are found in inclusive settings. The poor performance of candidates with CP as reflected in the KCSE Examination from special secondary schools results over the years, have continued to trigger a lot of concern among educationists and other stakeholders nationally. This poor performance is likely to undermine the attainment of the projected goals as envisaged in the Vision 2030 development strategic plan. A critical look at students overall performance at KCSE national examinations results for the last five years reveals a persistent decline in performance. Instructional strategy commonly used by teachers is a well-known crucial factor that may have a direct relationship with students’ motivation and consequently academic performance. Obinga (2011), maintains that lack of relevant instructional strategies in special schools may have great influence in performance and progression to higher levels of education for learners with CP. These challenges if left unattended might lead to high level of illiteracy, non-progression and overdependence of these students on parents, family and caregivers hence vicious cycle of poverty. This over-dependence strains the family income and the country’s economy at large.

#### *Purpose of the study*

This study sought to establish how teachers use cooperative learning strategies to enhance academic performance of students with Cerebral Palsy in special secondary schools for the physically disabled in Kenya.

## II. METHODOLOGY

The sampling techniques used were; purposive sampling and simple random sampling (Mugenda & Mugenda 2003). Purposive sampling was used on special schools because of the limited number of special secondary schools for the

physically disabled in Kenya. Quantitative data was analysed using frequency counts, percentages. Interpretational analysis method was used to analyse qualitative data because it examines data closely in order to find constructs, themes, and patterns that can be used to describe and explain the phenomenon under study (Gall & Borg, 2007).

### III. RESULTS AND DISCUSSION

#### *Demographic Information of the respondents*

In this study, a set of personal characteristics namely, gender, duration in the school, and professional qualification for teachers were established. The teachers were asked to state their gender, duration of service and professional qualification and the results were as presented.

Table 1.1: Demographic Information of the Teachers

Demographic information	Frequency	Percentage (%)
<b>Gender</b>		
Female	8	44.4
Male	10	55.6
<b>Duration in the current school</b>		
Between 1 – 5 years	7	38.9
Between 6 – 10 years	6	33.3
Above 10 years	5	27.8
<b>Professional qualification</b>		
Diploma	2	11.1
BED	13	72.2
MED	3	16.7

Out of 18 teachers, majority were male teachers accounting for 8(55.6%) and eight female teachers accounting for 8(44.4%) who responded to the questionnaires. This was in line with the researcher's expectations of sampling both male and female teachers in order to establish their opinion on the use of learner centered instructional strategies to enhance academic performance of student with cerebral palsy from the teachers' perspective. Majority 7(38.9%) of the teachers had been in their respective schools for 1-5 years, a quarter 6 (33.3%) for 6-10 years while less than a quarter 5(27.8%) had been in their schools for over 10 years. Majority of the teachers had been in their respective schools for a very short duration of 1 to 5 years. This may not have given them enough exposure on how to use cooperative learning strategies for students with CP in these schools. The findings agree with Goldhaber (2004) who said that, teachers' experience and exposure have strong attributes of teacher quality and quality of education in a school. This implies that the teachers had little knowledge in teaching students with CP to achieve higher academic performance. The findings revealed that very few teachers had sufficient skills on the ground of interaction with students with CP and experience with cooperative

learning as an instructional strategy necessary to enhance the academic performance of the students with Cerebral Palsy. This finding supports a number of studies done by other researchers like Harris and Sass (2007); Ladd (2008) and Sass (2007) who found out that, on average, brand new teachers are less effective than those with some experience.

Majority of the teachers 13(72.2%) had bachelor of education, 3(16.7%) had Master degrees in education while 2(11.1%) had Diploma in education. This implies that teachers in special schools had enough professional qualification to teach students with CP. This finding supports Desimone (2009) who observed that professional development and qualification of a teacher is critical towards increasing teacher knowledge and skills. These skills help in improving practice, thereby increasing academic performance of students with CP.

The findings of demographic information revealed that all the 18 sampled teachers had training in teaching students with special needs, but some of the teachers did not have relevant training to teach students with CP. This concurs with Murphy, Grey and Honan (2015) whose study reported that teacher's special training was an important prerequisite to the implementation of instructional strategies amongst them being learner centered instructional strategies. It is therefore important to have specially trained teachers in special areas particularly CP to teach these students.

#### *The use of Cooperative Learning Strategy*

To establish the use of cooperative learning strategy in enhancing academic performance of learners with CP in special secondary schools, the researcher used a questionnaire to find out teachers' views. The teachers were asked to state the extent to which they agreed with the statements based on the use of cooperative learning as a strategy to enhance academic performance. Findings are presented on Figure 1.

The responses given were based on the Likert scale where the respondents rated the extent to which they agreed with the given aspects which were indicators of the identified factor on a scale of 1 – 5 where (1- strongly disagree, 2-disagree, 3-neutral, 4-agree and 5 was strongly agree).

As presented in Figure 1.1 the findings showed that majority (60%) of the teachers agreed that cooperative learning strategy enhances academic performance of students with CP. This was indicated by less than a half (33.3%) of the teachers strongly agreeing and majority 11 (61.1%) agreeing to this item. It was also found out that less than 7(38.9%) of the teachers strongly agreed that students with CP may find cooperative learning very interactive if used well. In their views, 4(22.3%) of the teachers felt that curriculum supports cooperative learning but does not indicate it separately as a strategy for enhancing academic performance of students with CP.

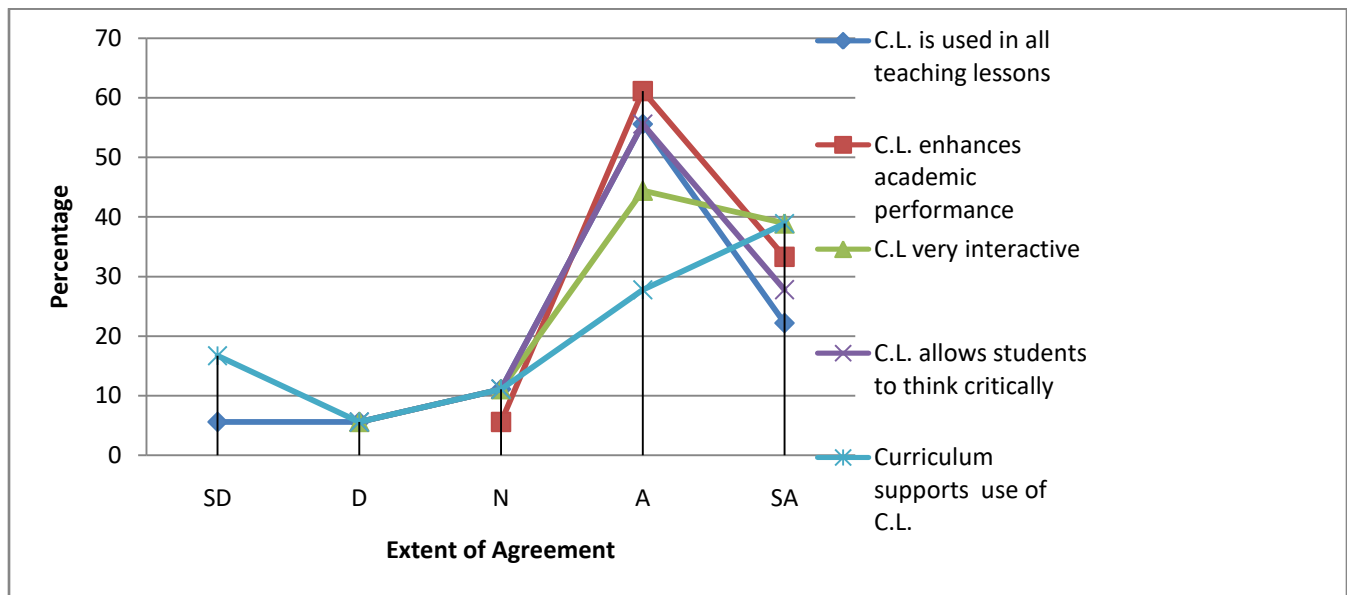


Figure 1.1: Teachers' views on use of cooperative learning to enhance academic performance of students with CP

The study adopted the use of alphabets A, B and C to stand for the sampled schools and acronyms HTA, HTB and HTC to stand for the three headteachers from Kisumu, Kiambu and Bungoma Counties respectively. One teacher from school A felt that cooperative learning was a good strategy as every student is free to air their views and ideas. Other two teachers from school B reported that cooperative learning may help students to improve academically, especially in technical and practical subjects like chemistry which needed a lot of manipulation and explanation.

This means that the use of cooperative learning was left at individual teacher's own discretion and therefore the use differs from one teacher to another. This current finding concurs with McMaster and Fuchs (2002) and Kelechi (2014) who observed that for cooperative learning strategies to improve achievement of students with disabilities, it must incorporate individual accountability and group rewards. The same authors also established that problems across the studies limit the conclusions to be drawn about the efficacy of cooperative learning.

Similarly, the finding supports a study by Estebanez (2016) who reported that students using CL obtained better scores in final exams because they acquired a deeper understanding of the material. However the current finding differ with empirical studies of Murphy, Grey and Honan (2015) on CL, who generally indicated that cooperative learning appears to be more effective study findings on CL. The study recommended that to ensure a comprehensive evaluation of a cooperative learning program, a multi-component evaluation procedure should be used. Head teacher HTA (27<sup>th</sup> Sept.2017) reported that although the government assisted the special schools financially, proper strategies on curriculum

modification for students with CP were not nationally done to accommodate the recommended use of CL. This implies that if the government through the Ministry of Education recommends specific strategies for using CL to teach students with CP, then definitely teachers may use them well to enhance academic performance.

#### *Teacher's challenges in Implementing Cooperative Learning (CL)*

The researcher sought teacher's opinion on the extent to which they agreed with statements on challenges that hindered the implementation of cooperative learning as a strategy of enhancing academic performance of learners with CP.

As presented in Table 1.2, majority of the respondents 6(33.3%) strongly agreed that there were no spacious classrooms for students with CP to practice cooperative learning effectively, on the other hand 7(38.9%) also disagreed that class sizes in terms of population were too large to accommodate the use of cooperative learning for students with CP adequately. This means that the number of students per class was adequate to accommodate the use of CL. Majority 8(44.4%) of the teachers indicated that cooperative learning was not often used effectively by other teachers on students with CP. This could have been that either the teachers did not like using it or they lacked skills, while 10 (55.6%) of the teachers also agreed that sometimes lack of time made it difficult for using cooperative learning for students with CP. This current finding agrees with Jenkins, Antil, Wayne and Vadasy (2013), who found that teachers were generally positive about cooperative learning's efficacy for students with learning problems, while acknowledging that it worked better for some students than others.

Table 1.2: Teachers Views on Challenges of Implementing Cooperative Learning Strategies

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
No large spacious classrooms to undertake cooperative learning effectively	2(11.1%)	3 (16.7%)	2 (11.1%)	5(27.8%)	6 (33.3%)
Class sizes (population)are too large to accommodate use of cooperative learning for students with CP adequately	7(38.9%)	4 (22.2%)	4 (22.2%)	2(11.1%)	1 (5.6%)
Cooperative learning is not often used effectively by other teachers	2(11.1%)	2 (11.1%)	3 (16.7%)	8 (44.4)	3 (16.7%)
Sometimes lack of time does not allow the use of cooperative learning	1 (5.6%)	1 (5.6%)	-	10(55.6%)	6 (33.3%)

### *Pairing and / or Grouping During Cooperative learning.*

Observation made during teaching of mathematics in school C revealed that, in cooperative learning where the students were paired, there was improved performance regardless of whether the paired student had CP or not. In school B the students with CP were given individual attention then paired with higher achievers in mathematics. The outcome was that students with CP were able to solve mathematics problems well. Discussion by students with CP from school B revealed that they enjoyed being paired during learning, especially with those students who were academically better than them to help them understand the concepts. Majority of the students in school C confirmed that they also understood the concepts better when they discussed amongst their peers. This was also noted during chemistry lesson where the students with CP were seen enjoying the practical lesson while other students without CP assisted their peers with CP.

Findings from students' focus group discussions from school A revealed that, when the teacher grouped students with CP together with others, they benefit since they were able to combine many different ideas from other students to make a whole. Three students from school C reported that when they were in groups of five students consisting of mixed abilities during discussion, their academic performance was enhanced. This was observed during English lesson in form two in one school.

Majority of the students reported that for them to benefit academically, a group should have a maximum of 4 or 5 students. They explained that this can enable or to give each and every student ample time to tackle the task at hand. This finding supports Jenkins, Antil, Wayne and Vadasy (2003) who carried an interview on twenty one (21) general education classroom teachers on the use and benefit of cooperative learning. This was done to special education and remedial students and especially among the Sub-Saharan special schools by selecting for them suitable partners during a CL. On the other hand the finding concurs with Centra (2003) who confirmed that not all students enjoy large group interactions, so students should be encouraged to engage in

small groups during cooperative learning. This was also confirmed by a study done in Kenya by Kamau (2015) on effects of Cooperative learning approach on students' achievements in mathematics. He reported that attitude of students towards mathematics changed when they were working in small groups. The major implication here therefore is how cooperative learning should be implemented and used to enhance academic performance. This means that when teachers are using cooperative learning they should be careful while creating groups for students. Sometimes it would be necessary to let the students form their own groups that they are comfortable with.

### *Challenges and Benefits of CL to Teachers*

Implementation of CL poses challenges to teachers because its use is often left open to teachers to implement it the way they understand it.

Teachers from school A had the following to say;

*“There are problems of communication from students with CP when grouped with other students without CP. Poor articulation of words which are never audible is common among these learners. Teachers have therefore to participate more in guiding the student due to their limited speech ”*

Teachers from school B said

*“Sometimes we have to rely on other students to explain what students with CP are communicating. This may not give the original meaning to what they intend to say.”*

**HTC (23<sup>rd</sup> October 2017)** made the following remarks;

*“The students have poor articulations that are never audible and these makes teachers simply guess what they say they also have slow speech.”*

*“Some trained teachers simply have negative attitude on the use cooperative strategy and so they teach the students with CP without modifying their teaching methods”*

In order to accommodate the use of cooperative learning to achieve academic performance of students with CP, teachers were asked to mention skills they needed. A teacher from school C reported that they needed induction and in-service on approaches in teaching students with CP. Another teacher added that they needed skills in speech and divergent communication skills. All teachers from school B reported that they needed intensive Special Needs training to understand students with CP well.

The researcher found out that all the head teachers knew what cooperative learning was and were able to highlight some of its benefits and challenges. **HTC** (23<sup>rd</sup> October 2017) reported that it was a good strategy as it encourages all students to participate and students with CP could use in enhancing their academic performance. However, **HTB** (10<sup>th</sup> October 2017) remarked that the major challenge was lack of facilities. She added that proper facilities and skills to enable the teachers to use cooperative learning effectively were lacking. She confirmed that classrooms were not spacious enough to enable students with CP use cooperative learning during the lesson. The study sought to establish other barriers against use of cooperative learning as a strategy in achieving academic performance of students with CP in special secondary schools. The head teachers stated other barriers they experienced in their respective schools as follows;

**HTB** (10<sup>th</sup> October 2017) made the following sentiments;

*“The bigger the group the more reserved the students become and the more impatient they become” A bigger group makes most students with CP to be withdrawn and limits group participation hence low academic performance. Since teachers deal with all categories of learners with physical disabilities and those with multiple disabilities, it calls for special training and skills to be able to teach them.”*

*“Students with CP have poor handwriting due to poor coordination of fine motor” “They also have speech problems that make them be withdrawn and limit their classroom participation”*

During the interview, the head teachers made the following sentiments on the importance and use of co-operative learning as a strategy for enhancing academic performance of learners with CP;

**HTA** on (27<sup>th</sup> September 2017)

*“Cooperative learning is important because it boosts students’ morale and triggers their participation thus enhances academic performance.”*

*“Cooperative learning enhances academic performance in that there is full interaction between teacher and learner creating conducive environment for learning”.*

**HTC** (23<sup>rd</sup> October 2017) remarked that:

*“Cooperative learning strategy increases students’ self-esteem which enables them to critically think amongst others, and progressively improve in academics. It greatly benefits and boosts self-esteem among students with CP.”*

*“Cooperative learning is a strategy that helps the learner with CP to adequately involve in the learning process. With cooperative learning each learner feels free and gets motivated in the lesson.”*

The researcher found out that head teacher **HTB** (10<sup>th</sup> October 2017) had similar sentiments but added that;

*“Cooperative learning enables students with CP to exhibit higher academic achievement, better high level reasoning and critical thinking skills. It is an interactive method and helps to raise the self-esteem of the students.”*

Sentiments from head teachers show that when students are engaged in CL they become part and parcel of their groups and also benefit from others. In addition when students with CP are involved in CL it gives them a conducive and accommodative environment which allows them to interact freely with their peers.

*Skills Required by Teachers to Accommodate Students with CP*

When the head teachers were asked to comment on the skills that teachers needed in order to use CL effectively,

**HTA** (27<sup>th</sup> September, 2017) reported that;

*“New teachers especially those not trained in special needs education may require induction in order to help them acquire the skill of patience. They also need skills on how to identify the characteristics of each category of children with special needs.”*

**HTA** (27<sup>th</sup> September 2017) added that;

*“There is need to train more teachers on special needs education. The teachers need to have intensive training on how to teach all categories of learners with special needs”*

**HTB** (10<sup>th</sup> October 2017) also reported;

*“There is need to train the teachers on the use of cooperative teaching for learners with C.P since cooperative learning ensures that the learners are actively involved in class activities. Learners benefit a lot if the strategy is effectively used”.*

**HTC** (23<sup>rd</sup> October 2017) had this to say;

*“Teachers need to be patient and wait for the student for a long time to give him /her chance to articulate a word.”*

This implies that though teachers may be using CL there are no clear instructions and direction as to how it should be implemented or used, so this calls for further training on the use of CL. The head teacher HTC (23<sup>rd</sup> October 2017) explained that teachers needed induction to gain skills that would help them to accommodate the emotional state of all students with CP. He also gave the following sentiments;

*“For teachers to accommodate students with CP they have to learn to give students adequate time to communicate”.*

Head teacher HTB (10<sup>th</sup> October 2017) added that,

*“Teachers have to learn to read the learners’ handwriting since they have poor fine motor skills hence poor handwriting.”* She added that, *“some of the students are passive learners and can easily succumb to harassment due to low self-esteem so teachers need to work with them very closely in order to help them overcome some of their challenges.”*

This finding concurs with Putman (1988) who noted that implementation of CL vary greatly depending on the variables assessed and the type of evaluation procedures used. This is what makes the teachers have different attitudes in CL use because they are not sure of what they were expected to do in order to implement the use of cooperative learning. Teachers may also be lacking experience and skills in teaching students with CP.

Other issues that emerged from head teachers reports HTC (23<sup>rd</sup> October 2017) were that;

*“when students with CP are harassed, both fine and gross motor skills get affected and this interferes with their writing. Therefore teachers need to be very patient with them and also use the appropriate methods ”*

HTA (27<sup>th</sup> September 2017) added that;

*“Teachers have to learn to read and get the relevant information from the students’ written work and these calls for patience”*

More information from all head teachers interviews showed that students usually score low grades mostly witnessed during national exams because of their poor handwriting. The head teacher from school HTB (10<sup>th</sup> October 2017) reported that her teachers usually take time in guiding the students in class and in marking of scripts. She wondered whether those contracted to mark national examinations were also trained and could be keen in marking. This is what she thought could be making the students have low grade in academics. Head teacher HTC (23<sup>rd</sup> October, 2017) reported that his students perform well in class but poorly in national examinations. This he also attributed to poor marking of examinations. Head teacher HTA (27<sup>th</sup> September, 2017) confirmed that his trained teachers usually inducted other teachers on instructional areas they were not conversant with.

Teachers from school C reported that, students with CP were sometimes allowed to use other modes of giving response apart from writing. The students therefore use CL comfortably even if they cannot write. Poor handwriting may lead to low academic performance among to other factors and not necessarily instructional strategies. The teachers therefore need to have non-verbal or physical attention skills.

#### *Contribution to Knowledge and Practice*

The study findings may benefit the following major stakeholders; students with CP, the parents, teachers, special schools, the Ministry of Education and researchers. The findings may be of paramount importance to the Ministry of Education who are the policy makers because they are currently transforming the education system and curriculum to include all learners. Findings may be infused into the university curriculum to train student teachers, especially those taking special needs courses. The findings may be incorporated in teachers’ training curriculum by Kenya Institute of Curriculum Development (KICD) and used by Teacher training colleges to train teachers on the effective strategies to use in teaching students with Cerebral Palsy (CP). Schools may then be able to apply cooperative learning strategies from this study to train students better for academic purposes. The school administrators may also find the results necessary in providing relevant resources to teachers to use to plan and implement relevant instructional strategies. This may help in improving the academic performance of students with Cerebral Palsy in secondary schools.

Since teachers are viewed as agents of change in the education sector, the findings may empower them with relevant strategies to make their delivery of service to students successful. The students with CP may benefit by acquiring relevant skills that may help them compete favorably, academically with their typically developing peers. The students may eventually be able to acquire relevant skills for high production of goods and services to the economy of the country. The parents of students with CP may benefit when their children are able to be independent and eventually end up securing jobs upon completion of their education.

Literature on use of cooperative instructional strategies for CP in Kenya is very scanty. Most of empirical studies reviewed were from foreign countries. They also solicited information on instructional strategies used by students without disabilities. This current study may help to bridge the knowledge gap in literature on the use of cooperative learning instructional strategies for students with CP in Kenya. The findings may be relevant and beneficial because they may add to National or local knowledge in this field. The recommendations from this current study may also enable other researchers who would wish to carry out research on areas not addressed by the study. Thus the results may also help to uncover critical areas in the educational process that many researchers had not explored.

The result showed that cooperative learning enhances academic performance of students with Cerebral Palsy. Even though the study established that cooperative learning enhance academic performance, it was a complete departure from other studies which indicated that cooperative learning appears to be more effective when assessed on measures of social engagement rather than academic performance. Therefore, cooperative learning is a good strategy as each and every student gives out their views and ideas. Cooperative learning helps students to improve academically, especially in science and technical subjects which need a lot of explanation. The reviewed literature did not show any empirical relationship in regard to the influences of the application of the various cooperative instructional strategies on the academic performance of the students with cerebral palsy in secondary school. It also confirmed the hypothesis that there is a relationship between teachers' use of cooperative learning and academic performance of students with CP. This led to the conclusion that the uses of cooperative learning strategy are not only related to academic performance of students with CP but also to other variables. Similarly, result from the observation during teaching of Mathematics topic revealed that use of cooperative learning where the students were paired enhanced their performances. It also enabled the students to solve Mathematics and Science problems. In conclusion, teachers were generally positive about cooperative learning's efficacy for students with CP, while acknowledging that it worked better for some students than others.

#### IV. RECOMMENDATIONS

- Teachers should be empowered to acquire enough skills to enable them use relevant cooperative learning to enhance academic performance of students with CP.
- The government should build more spacious classrooms to accommodate students with CP who use assistive devices to learn effectively.
- The government should provide funding to schools for the physically disabled to enable teachers use cooperative learning strategies effectively.

#### *Recommendation for further research*

The current study on use of cooperative learning strategy for enhancing academic performance of students with Cerebral Palsy in special secondary schools for the physically disabled in Kenya could be the first of its kind.

- There is need to sufficiently describe the exact types of cooperative learning strategies that are being implemented or the methodologies used in implementing them in order to adequately address the strategies that can be beneficial to students with cerebral palsy in the Kenyan context
- There is need of a comparative study between students in special institutions and those in regular

institutions on the use of cooperative learning strategies for academic performance.

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