

# Material Resources Adaptation and Implementation of Cbc for Early Years Learners with Disabilities in Primary Schools in Nairobi City County, Kenya

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**Abstract:** A competency-based curriculum has been adopted in the Kenyan education system. However, learners with disabilities in regular schools would be learning using two separate programs, that is an inclusive education program and a competency-based curriculum program. Implementing the two programs simultaneously to this category of learners could be challenging. Therefore, this study focused on the material resources adaptation influencing competency-based curriculum implementation for Early Years Learners with disabilities in primary schools. The study was premised on the theory of Complexity and Education by Davis and Sumara (2006), which holds that the fruitfulness and range of systems in which ambiguity and uncertainty occur, should be embraced, and accommodated during evaluation. The researcher employed a concurrent embedded design based on the mixed-method approach in data gathering. The study's location was Nairobi City County, Kenya. The target population was 368 participants and from this target, the study sampled 16 heads of schools, 48 teachers, and 2 Educational Officers who were the respondents. The instruments of data collection were semi-structured questionnaires, an observation checklist, and an interview schedule. The piloting of instruments took place in one school with a special unit. The instruments were only accepted as valid and reliable after the results of Cronbach's alpha coefficient of  $r=.75$ . Data were analyzed through descriptive and inferential statistics. In addition, data were prepared and organized using Statistical Package for Social Sciences into percentages, mean, Skewness, standard deviations, graphs, and tables. The researcher tested the hypothesis by use of the chi-square test at a significant level of  $\alpha < .05$ . Findings revealed that teachers with a high mean score on instructional methods adaptation for learners with disabilities also had high mean scores on implementation of CBC in a regular class. Only about 13(29.5%) of teachers occasionally adapted teaching materials to learners with disabilities. Most of the materials mentioned were missing in the class for the implementation of CBC TO learners with disabilities. Similarly, most of the materials such as tables, charts, graphics, and computers were those used in a standard classroom and therefore lacked adaptation for use by learners with disabilities in a CBC class. Most schools had inadequate knowledge of material resources for learning by learners with disabilities. Most school officials failed to understand the difference between the materials used in the standard classroom and the adapted materials for special instruction for learners with disabilities which hampered the proper implementation of CBC. Only about 2(5%) of the teachers from public schools had attended seminars and workshops on special needs education, while about 14(35%) belonged to private schools. Consequently, teachers who had attended the seminars and workshops in special needs education revealed that the knowledge gained during the training improved

their skills in material resource adaptation for learners with disabilities. The study recommended the need for mass training of teachers in the use of adapted material resources and adaptation of material resources for the accommodation of learners with disabilities in Nairobi, Kenya.

**Keywords:** Material resources, Special Needs Education, Competency-Based Curriculum, Early Years Learners with disabilities.

A competency involves the efficient routine of a function and the use of knowledge, skills, attitudes, and values (KICD, 2019), while a Competency-Based Curriculum (CBC) is a learning design that provides every learner with the opportunity to identify his/her potential through engaging in hands-on learning at school where the learner's potential is nurtured (Oroszi, 2020; KICD, 2019).

The modern Competency-Based Education (CBE) training movements began around the 1960s in the U.S.A. with the main aim of reforming teacher education and training (Brown, 1994). By 1965, a design was developed from the generative grammar Chomsky, to bring forth reforms in teacher training and vocational education (Ford, Vignare, Mulherrin, Davis & Cini, 2014; Butova, 2015).

## I. MATERIAL RESOURCES ADAPTATION AND IMPLEMENTATION OF CBC

Volt, Sims, and Nelson (2010, P. 76) indicated that:

materials commonly used to support learning in a standard classroom include textbooks, workbooks, manipulatives, number-line sets, globes, video software, and Internet resources. The book further maintained that when using these common supplies in a standard classroom, their alternative formats like Braille texts, large-print text, and CDs with audio output should be provided for learners with disabilities.

This is information gotten from a book and was not an empirical study. Aspen Institute (2018) surveyed improving access to high-quality instruction. The report revealed that instructional materials must be developmentally appropriate. This was a study conducted in the U.S.A., while the current study was conducted in Kenya. U.S.A. Department of Education (2015) investigated the use of computer instructions in a class with LSN. The study employed a case study design.

Findings revealed that the use of computer resources highly supported LSN. This was a case study conducted in the U.S.A, while the current study is mixed research and took place in Nairobi, Kenya.

Rennie, Goodrum, and Hackling (2001), conducted a study that focused on science teaching in Australian schools. The literature was gathered from an in-depth analysis of national and international reports. Teachers, students, and other Australian stakeholders in science education participated. The result indicated that curriculum resources were not field-tested for class suitability and for flexibility to meet the needs of individual learners before its rollout. The reported study focused on science teaching, while the current study focused on the implementation of CBC for EYL with disabilities in a regular class. AGDE (2013) reported that inadequate training, resources, time to use resources, difficulty in the use of individualized education, and minimal support were major barriers to inclusion. This was compiled report to the government to assess inclusive education, while the current is an empirical study. Further, Organization for Economic Cooperation and Development (OECD) (2016) reported that limited educational resources impeded learning in most schools. This study was conducted in OECD countries in Europe, while the current study was conducted in Kenya. Consequently, Griffith University (2020) indicated that national distribution and sharing of digital resources through education portals needed to be utilized to remedy the limitation of resources in schools. However, this study focused on a remedy to limited resources, while the current study focused on the implementation of CBC for EYL with disabilities in a regular class.

Hoadley (2012) adopted a cumulated literature review to study existing knowledge-based instruction in South African primary schools. Findings indicated that Oral discourse dominated teaching in South Africa and the material resources were inadequate. This study was involved in a literature search and could not give the status quo in the field, while the current study was based on an embedded mixed-method research design using a questionnaire, interview schedule, and observation checklist. Adewumi and Mosito (2019) investigated good practices in implementing the inclusion of LSN. A case study-qualitative approach was used in gathering data. Purposively eight teachers, 8 principals from 8 primary schools, 1 provincial officer, and 3 district officials participated. Findings reveal that teachers experienced multi-grade challenges and inadequate resources. Nonetheless, the study focused on good practices in implementing IE, while the current study focused on inclusive practices influencing the implementation of CBC among EYL with disabilities in regular classes.

Kabuta (2014) employed a mixed method to examine problems facing students with physical disabilities. The study took place in five institutions of higher learning in Tanzania. Employed as a documentary analysis in the examination of the infrastructure situation. Twelve learners with physical disabilities, 5 institutional heads, 21 lecturers, 40 guardians, and 82 learners

with impairments participated. Findings established that teaching-learning materials were inadequate, and there were limited special schemes. This study was conducted among the higher institutes of learning in Tanzania, and there was a need for a study that focused on EYL. Similarly, Kikungwe (2015) conducted a study on human and material resources concerning quality education. Data collection involved document review along with observation techniques and was analyzed using record review. Respondents included nine principals, nine storekeepers, and one education officer. Findings established that the expansion and improvement of school facilities were not in tandem with the increase in enrollment. This study focused on human and material resources, while the current study focused on the implementation of CBC for EYL with disabilities in a regular class. Mwajabu, Possi, and Milinga, (2017) focused on special and inclusive education by employing a case study using Peter's model. Findings showed that all schools had inadequate resources. It was also revealed that essential items like pens, eyeglasses, exercise books, white canes, pencils, textbooks, talking books, pictures, and teaching-learning maps were missed in schools. Other inadequate material resources include assistive devices such as crutches, orthopedic shoes, and photocopy machines for enlarged prints. The study employed a case study and focused on inclusive and special education, while the current study focused on inclusive practices used when implementing CBC or EYL with disabilities in a regular class.

Okongo, Ngao, Rop, and Nyongesa (2015) employed a descriptive research design to investigate teaching-learning resources for the implementation of IE. The study was mainly conducted among the preschool centers in Nyamira North Sub-county. The target population comprised One hundred and thirty-four (134) head teachers in preschool centers, four hundred and two (402) Teachers, twelve (12) Education officers, and nine hundred and thirty-eight (938) parents. Findings established that learning resources at preschool centers were inadequate. This study was conducted in Nyamira County, while the current study was conducted in Nairobi City County. In a descriptive study, Mutagi (2018) investigated learning problems faced by LSNs in primary schools in the Mvita division, Mombasa County. The study targeted head teachers, teachers, parents, and LSNs. Findings established that the majority of schools lacked material resources and that there was a need to increase funding to acquire the same. However, this study was descriptively conducted in Mombasa County and focused on learning challenges, so there was a need for mixed research conducted in Nairobi City County that focused on the implementation of CBC for early years learners with disabilities. Makewa and Mutie (2018) conducted a study that focused on the availability and usage of assistive technology. The study locale was Makueni County. The findings disclosed that the use of assistive technology enabled teachers to develop effective teaching-learning resources. Findings also indicated that learners with learning disabilities had better technology skills than their teachers and were interested in computers and other gadgets to learn. This study focused on assistive

technology for the management of learning among learners with disabilities and not on inclusive practices for the implementation of CBC among EYL with disabilities in a regular class.

Odero (2016), in a descriptive research design, investigated teaching and learning media for learners with mental retardation. The location of the study was in the Nyanza region. Twenty-eight (28 teachers and twenty-eight principals) were randomly selected to participate in the study. Findings showed inadequate teaching material resources such as weighing scales, communication boards, Charts, picture boards, substitution tables, graphic materials, and Audio-visual materials were inadequate in schools. The reported study focused on teaching media for learners with mental retardation, while the current study focused on the implementation of CBC for all EYL with disabilities in a regular class. Mutembei (2014) investigated characteristics that influence inclusive education in public primary schools. The study locale was in Magumoni Division, Tharaka Nithi County, Kenya. Descriptive survey design informed data collection and analysis. The population targeted for this study was 2265. The sample size was 335 made up of 12 head teachers, 48 teachers, and 175 pupils. Findings established that the majority of the schools had inadequate teaching aids. Some schools had teaching aids but were not enough. This study was conducted in Tharakaniti County and not in Nairobi; secondly, the study employed a descriptive research design, while the current study used a mixed-method research design. Isaboke et al., (2021) explored the challenges preschool teachers faced in the implementation of the CBC in public pre-primary schools. The study locale was Nairobi City County. The study adopted the Concern-Based Model by Hall, Hord, and Rutherford (2006). The study targeted 225 public pre-primary schools in Nairobi City County, with a population of 675 comprising 450 teachers, and 225 Early Childhood Development Center Managers. The result showed that CBC implementation was greatly challenged due to inadequate material resources, infrastructure, and facilities. These findings could imply that ICT instruction was limited. This research was conducted among pre-schoolers and not lower grades primary, which was the focus of the current study.

## II. STATEMENT OF PROBLEM

The studies that have been conducted elsewhere and in Kenya indicated that CBC is quite beneficial to learners because it helps learners get hands-on skills. Equally, inclusive education has also been very beneficial to learners with special needs. Learners with disabilities can learn in the same class as their peers who are typically developing, hence access quality education. However, there were an insignificant amount of studies that have been conducted in Nairobi City County that focused on material adaptation in implementing CBC for EYL with disabilities in a regular class in Nairobi City County. Additionally, it was difficult to come by a study that combined both IE and CBC implementation for early years learners with

disabilities in the County. This gap of knowledge was purposed to be addressed by the current objective.

### Objectives

- I. To describe the association between an adaptation of teaching aids and implementation of CBC for Early Years Learners with disabilities in primary schools.
- II. To describe the association between the knowledge of teaching aids and implementation of CBC for Early Years Learners with disabilities in primary schools.
- III. To determine the association between the workshop attendance and implementation to Early Years Learners with disabilities in primary schools.

## III. METHODOLOGY

The study employed a concurrent embedded design founded on a mixed methodology. The study took place in both public and private primary schools in Nairobi City County. It targeted teachers of lower grades in public and private primary schools as well as headteachers of the respective schools in Nairobi City County. This comprised 50 headteachers, 300 teachers, and 17 sub-county educational officers. This gave a total of 368 target participants.

The research instruments used were questionnaires, interview schedules, and an observation checklist. Piloting of the study was conducted in one of the primary schools, which had a functional special unit, and aided in the validity and reliability determination. Quantitative data were analyzed using both descriptive and inferential statistics. Qualitative data from education officers and head teachers were transcribed, coded, and analyzed using Thematic Analysis.

## IV. FINDINGS

This objective had variables including an adaptation of teaching aids, workshops, and the relevance of teaching learners.

### 4.1 Adapted Material Resources in Schools

The head teachers were asked to mention the available adapted material resources in their schools, it emerged that some schools at least had materials for adaptation. The responses were as follows:

One of the head teachers from the public school said:

*'Charts, blocks, toys, skipping ropes, balls, Therapy balls'.*

Another head teacher mentioned:

*'We have a screen, radio,*

In the private schools, a head teacher mentioned:

*'Radios, smartphones, computers.*

Still another head teacher from a private school mentioned:

*Tables, chairs.*

Yet another head teacher mentioned:

*'We have screen, radio, and wall charts.*

The response of the educational officer (EO1) concerning the availability of adapted materials in the schools was as follows:

*'We have braille, balls, sitting volleyballs for PH'.*

Nonetheless, EO2 stated:

*I know that some schools have materials, especially in the special units though I am not in a position to remember all of them.*

However, data from the observation checklist showed contrary findings from the interviews with both the heads of schools and the Educational Officers. Most of the materials mentioned were missing in the class. It was also noted that most materials such as tables, charts, graphics, and computers were those used in a standard classroom, and did not have any adaptation. The observation checklist had the result as shown in Table 4.16.

Table 4.16: Materials Availability and Usage in Schools

Observation Checklist		Public		Private		Total	
		F	%	F	%	F	%
Diagrams/ Embossed diagrams	Available and used	4	26.7	1	6.7	5	33.3
	Not Available	4	26.7	2	13.3	6	40
	Available	0	0	1	6.7	1	6.7
	Available and used	4	26.7	4	26.7	8	53.3
Table/ Embossed Tables	Not available	1	6.7	2	13.3	3	20
	Available	0	0	1	6.7	1	6.7
	Available and Used	7	46.7	4	26.7	11	73.3
Teacher Made Resources	Not Available	0	0	2	13.3	2	13.3
	Available	0	0	1	6.7	1	6.7
	Available and used	8	53.3	4	26.7	12	80
Presence of Co- teacher/ Interpreters/ teacher Assistant	Not Available	7	46.7	4	26.7	11	73.3
	Available	0	0	1	6.7	1	6.7
	Available and used	1	6.7	2	13.3	2	20
Use of videos	Not Available	0	0	2	13.3	2	13.3
	Available	0	0	1	6.7	1	6.7
	Available and used	8	53.3	4	26.7	12	80
Computer-Assisted Instruction	Not Available	4	26.7	3	20	7	46.7
	Available	0	0	1	6.7	1	6.7
	Available and not used	1	6.7	0	0	1	6.7
	Available and used	3	20	3	20	6	40

Table 4.16 disclosed that a large number of different materials for use by LSNs were missing in both public schools like embossed diagrams 4(26.7%), use of videos none (0%), and computer assistive instruction 4(26.7%).

In private schools, observed were embossed diagram 2(13.3%), teacher-made resources 2(13.3%), and presence of co-teacher 4(26.7%). Similarly, most of the materials observed used were those belonging to the standard classroom for 'normal' learners. Some materials were never used despite their availability. These findings were not in conjunction with findings by Mwajabu, Possi, and Milinga, (2017) which revealed that most schools had no material resources to support individualized education for LSNs. However, the findings were similar to the findings by Odero (2016) which showed that most schools had inadequate material resources for learning.

These findings could imply that most schools did not have special material resources for learning by learners with disabilities. This could also mean that instead, most schools had the material resources that were just meant for a standard classroom. It could also imply that most school officials failed to understand the difference between the materials used in the standard classroom and the adapted materials for special instruction for learners with disabilities. Limited material resources available in both public and private schools could therefore hamper the proper implementation of CBC for learners with disabilities.



4.2 Adaptation of Teaching Materials for Implementation of CBC

This section looked at the rate of the adaptation of teaching materials. This has been presented in Table 4.17.

Table 4.17: Adaptation of Teaching Material by Teachers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undecided	9	20.5	20.5	20.5
	Never	11	25.0	25.0	45.5
	Sometimes	8	18.2	18.2	63.6
	Occasionally	13	29.5	29.5	93.2
	Always	3	6.8	6.8	100.0
	<b>Total</b>	<b>44</b>	<b>100.0</b>	<b>100.0</b>	

The result in table 4.17 indicates that the majority 13(29.5%) of teachers occasionally adapted teaching materials to learners with disabilities. This is followed by teachers who never 11(25%). Similarly, data from the observation checklist observed some pockets of the use of the individualized educational plan. This was observed in some schools where class teachers were spotted helping the learner with disabilities as the lesson progressed. These findings contradicted the findings by Mwajabu et al., (2017) which indicated that teachers lacked the knowledge to use Individualised Education Programme (IEP)for LSN. These findings could imply that some teachers were trained in SNE and were competent in the use of IEP.

The data from the interview with the educational officer (EO1) also had similar findings to those from the teachers' questionnaire, and the observation checklists. It indicated that teachers faced challenges in the adaptation of the material resource because schools had limited material resources. Yet, EO2 stated that they lacked expertise and sought help from other institutions like KISE, and in terms of materials, they sought support from other players like the woman representative of Nairobi County.

These findings were in conjunction with findings by Tabot & Too (2017) who noted that most teachers had inadequate skills in the use of Individualized Education Plans (IEPs), adaptation of learning resources, and use of supplementary activities. These findings implied that the majority of teachers could be incompetent in the adaptation of the teaching materials.

4.3 Effects of the Various Level of Knowledge on the Usage of Teaching Aids in Class

When teachers were asked to state how their level of knowledge in the adaptation of teaching materials affected their teaching of learners with disabilities, the teachers' responded as follows.

T3 said:

*'I have to be very careful in selecting any teaching aids'*

Another T3 said:

*'Helps the learners with learning difficulties master the concept'*

T1 also said:

*'It helps me in teaching children with special needs and the regular ones'*

These findings confirm the findings by Makewa and Mutie (2018) who noted that the use of assistive technology enabled teachers to develop effective teaching-learning resources. However, the findings contradict the findings by Adewumi and Mosito (2019) which disclosed that most teachers were incompetent to modify the teaching strategies for LSN. The findings were also not in tandem with findings by Hoadley (2012) which indicated that oral discourse still dominated teaching CBE in the South African schools and the material resources were inadequate in schools. Similarly, the findings were parallel to findings by Kabuta (2014) which indicated that teaching-learning materials were inadequate and there were limited learning schemes. Additionally, the findings were not in line with the findings by Mutagi (2018) which revealed that the majority of the schools lacked material resources, and funding needed to be increased to acquire the same. Finally, the findings were not in conjunction with the findings by Mwajabu, Possi, and Milinga, (2017). Which revealed that material resources were inadequate in schools.

Nevertheless, head teachers were asked about the challenges their schools face during the adaptation of material resources. The following were some of the responses:

From the public schools: A head teacher maintained:

*'The inadequacy of the resources.'*

Another head teacher maintained:

*'We are not trained on their uses'.*

Still, a head teacher remarked:

*'The workloads, marking books, and preparing lessons make it difficult.'*

From the private schools: a head teacher maintained:

*'Yes, making instructional materials is impossible.'*

Still, a head teacher remarked:

*'CBC requires the cooperation of the parents, and some parents are less cooperative making it very challenging.'*

Furthermore, the head teachers were asked to state how they mitigated the challenges their schools faced in the usage of materials for learners with disabilities while implementing CBC. Here were some of their responses:

A head teacher from a public school said:

*'We ask for a resource person (technician) to teach us how to use the materials.'*

Still, a head teacher maintained:

*'Talking to the sub-county director to add more teachers.'*

Another head teacher maintained,

*Our teachers avail time to make them.*

Yet, a head teacher said:

*'We normally send them to seminars for training'.*

From the private schools, a head teacher maintained:

*'We are still looking for an expert to guide us on the usage of the material'.*

Still another head teacher maintained:

*'Sourcing for funding'.*

Yet, a head teacher maintained:

*'Talking to the sub-county director to add more teachers*

These findings imply that the head teachers could be supportive of CBC implementation, but they face the challenge of inadequate training in SNE. These findings could also imply that schools had limited resources for adaptation for learners with disabilities. It also meant that some schools are making efforts to include learners with disabilities.

#### 4.4 Attendance of Workshop for the Adaptation of the Learning Materials for the IE Implementation

When teachers were asked whether they had attended any workshop on the adaptation of the teaching materials for the IE implementation, teachers' responses were as shown in Figure 4.9.

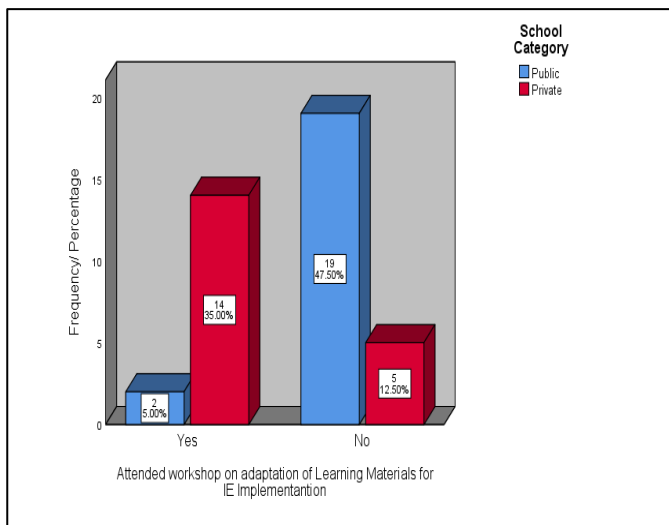


Figure 4.9: Attendance of workshop on the Adaptation of Learning Materials for IE Implementation

Figure 4.9 shows that the minority 2(5%) of the teachers who had attended seminars and workshops belonged to public schools, while the majority 14(35%) belonged to private schools.

However, the data from the open-ended questionnaires revealed the following concerning those teachers who had not attended the workshops/seminars:

T1 said that:

*'I have never been given a chance*

Another T2 had this to say:

*'I never handled pupils with special education*

Still, T2 said:

*'I had one but I have trained in the adaptation of learning materials in KISE'*

However, T3 said:

*'There has not been any to attend*

These findings were inconsistent with the findings by Owino et al., (2019). The reason for the inconsistency was that the findings revealed that most of the teachers in public primary schools with special units attended the SNE training through workshops and seminars. These findings implied that the number of teachers attending the seminars/workshops could be limited per school. It could also imply that majority of teachers both in public and private schools were still incompetent in working with learners with disabilities. These findings could also imply that the Ministry of Education had not been organizing workshops specifically for teachers to learn about material alteration and adaptation for learners with disabilities. Hence were unable to adapt and use alternate material resources.

Further, the teachers who attended the workshops were asked about the relevance of their training to classroom management.

T3 maintained:

*'It has equipped me with more knowledge and knowledge sharing amongst teachers.*

T2 maintained that:

*'Has helped in knowing materials used for teaching learners with disabilities*

Still, T1 said:

*'If I come across learners with disabilities in my class, I can assist them'*

Yet, T1 said:

*'It has helped in building concentration as the learners with disabilities enjoy learning.' it has also helped me to know how to handle the learners*

Another T2 also maintained that:

*'It is relevant because it assists in the understanding of learners with special needs*

T3 had this to say:

*'The learners can integrate well with others and also maintain good social skills*

A T3 said:

*‘Through creativity and imagination, learners with a disability can be incorporated in CBC and learn without a problem’*

These findings showed that teachers who attended seminars received the requisite basic knowledge and skills that could help them in supporting learners with disabilities. The findings also implied that there could be a need for more seminars/workshops for the mass training of teachers that would work with learners with disabilities.

At this point, the third hypothesis was tested. The null hypothesis stated ‘H<sub>0</sub>: There is no association between material resources adaptation and competency-based curriculum in primary schools. The Chi-square test was done at a significant level of P=<.05. The results were as shown in Table 4.18.

Table 4.18: Illustration of the Association between Material Methods Adaptation and Competency-Based Curriculum

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.857 <sup>a</sup>	8	.044
Likelihood Ratio	17.406	8	.026
Linear-by-Linear Association	5.603	1	.018
N of Valid Cases	44		
a. 13 cells (86.7%) have an expected count of less than 5. The minimum expected count is .68.			

Table 4.18 shows the results of the chi-square test. It shows that there is a significant association between material methods adaptation and CBC implementation for early years learners in primary schools ( $\chi^2 = 15.85$ , DF = eight, P<zero. The null hypothesis, which stated ‘H<sub>0</sub>: There is no association between material resources adaptation and competency-based curriculum implementation for EYL in primary schools was therefore rejected, and instead the alternative hypothesis, which stated H<sub>a</sub>: There is a significant association between material methods adaptation and competency-based curriculum implementation for early years learners in primary schools was adopted.

These findings meant that material resources adaptation and competency-based curriculum implementation co-varied. Hence the more materials were adopted, the better the implementation of CBC. Therefore, there was a need to adapt and use alternate material resources for CBC implementation for learners with disabilities during the early years.

## V. CONCLUSION

The objective was to describe material methods adaptation and the levels of CBC implementation in primary schools. The study compared the scores of material resource adaptation and CBC implementation in primary schools. Results showed that high mean scores on material methods adaptation also had high mean scores on CBC implementation in the early years level of education for learners with disabilities. A low number of teachers 13(29%)occasionally adapt material resources for use by learners with disabilities. Glaring inadequacy in the material

resources and material resources adaptation for learners with disabilities hampered the quality of education for this category of learners. The majority of teachers were trained in PTE and ECE and had limited knowledge and expertise in the development and use of alternate material resources. Only a few teachers attended seminars and workshops on the adaptation of material resources, due to a lack of knowledge, lack of sponsorship, or busy schedules in the schools. The level of significance was further proven by the calculation of the Pearson Chi-square test. The results indicated that there was a significant association between material methods adaptation and CBC in primary schools ( $\chi^2 = 15.85$ , DF = eight, P<zero). The null hypothesis was therefore rejected.

Since there was a significant positive association between material methods adaptation and CBC implementation in primary schools at P=<0.05, a conclusion could be made that low adaptation of material resources for LSN also showed the low implementation of CBC among learners with disabilities in regular classes. It could also be concluded that most regular schools had scarce alternative material resources for use by LSNs in a regular class, and the teachers and most teachers had inadequate knowledge of the adaptation of materials for use by the learners with disabilities in regular schools in Nairobi, Kenya. Additionally, it could be concluded that teachers who had inadequate training in SNE faced challenges in developing and use of alternative material resources and media for learning.

## VI. RECOMMENDATION

First, the Ministry of Education could set aside part of the budget to acquire materials for adaptation and adapted materials in regular schools. The Ministry of Education in Liason with TSC could consider employing itinerant/peripatetic teachers in every Sub-County to train individual schools on the development and usage of alternative material resources in the regular classes.

Second, the Ministry of Education in liaison with other stakeholders like the NGOs could organize workshop/seminar training for teachers in the development, adaptation, and usage of alternative teaching aids and teaching media for LSN.

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