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Instructional Methods Adaptation and Implementation of Competency-Based Curriculum 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 programmes, that is an inclusive education programme and a competency-based curriculum programme. Implementing the two programms simultaneously to this category of learners could be challenging. Therefore, this study focused on the instructional methods 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 α =<.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. Alternate instructional methods were lowly employed for teaching learners with disabilities in regular classes. Learners with disabilities were lowly accommodated and achieved less during learning in regular classes. Instructional methods were not adapted for learners with disabilities during the implementation of a competency-based curriculum for greater improvement in learning achievement in regular classes. Teachers were trained in special needs, primary teaching, or early childhood education and faced challenges in the adaptation of instructional pedagogies for learners with disabilities to implement the competency-based curriculum in the regular classes. The study provides information that will influence policy and practice in implementing competency-based curriculum among learners with disabilities

***Index Terms*— Instructional methods, Special Needs Education, Competency-Based Curriculum, Early Years Learners with disabilities.**

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I. INTRODUCTION

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 USA. 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).

Oroszi (2020) examined an alternative method of instruction at Boonshoft School of Medicine, Wright State University, USA. The study involved document review and desktop research. Findings disclosed that an all-inclusive approach to education was necessary for the Universities. The findings further revealed that traditional CBE problem-solving, capabilities, and approach, all were important in education according to the resources and the audience. The reported study was conducted with students from the school of medicine at the University, while the current study was conducted with teachers of learners with disabilities during the early years of education in a regular class. In the USA, Meidl & Meidl (2011) studied teachers' beliefs on teaching and learning for Learner-Centered Design (LCD). Three teachers and their learners from low-income-urban schools participated. A case-study methodology was used to gather data. Findings established that professional judgment was required to adapt curriculum activities. The study-investigated teacher believes in learner-centered design, while the current study focused on implementing CBC to EYL with disabilities in a regular class.

Hossain (2012) investigated using new communication technology to enhance education for learners with exceptionalities. A case study was employed in gathering data. Findings established that LSNs who learn in regular schools: attended special classes for half of the school day or attended distinct special classes with a different curriculum for a full day depending on the severity of the impairment. This study investigated the relevance of communication technology in learning among LSNs, while the study at hand focused on inclusive practices for implementing CBC to EYL in regular classes. Further, Bitter, Meylani, and Castaneda (2011) studied achievement in mathematics using the adapted curriculum. Descriptive, correlational, and comparative analyses were used to gather data Findings showed that Adaptive Curriculum improved learners' performance in mathematics in grades 6 and 8 respectively. Nonetheless, the reported study evaluated an adapted curriculum for mathematics achievements for grades six and eight, while the current study focused on the implementation of CBC among EYL with disabilities in a regular class.

In Australia, Sweller, Graham, Van, and Bergen, (2012) conducted an in-depth analysis of 13 years of enrollment data from the state of New South Wales. Findings indicated that the strategies and practices were unclear in instruction and evaluation. This study focused on enrolment, while the current study focused on teaching EYL with disabilities using CBC in a regular class. Further, Anderson and Boyle (2015) conducted a study on inclusive education in Australia: reality, rhetoric, and the road ahead. The study adopted an in-depth document analysis of the original intent of the IE movement. Findings revealed that there existed several barriers to the implementation of inclusive practices that had no quick fix, and no single path that could be followed to achieve the desired educational outcomes. The study further revealed that the Australian National Curriculum and Testing regimes lacked instructional adaptation for the accommodation of LSN. The reported study investigated the original intent of the IE movement, while the study at hand combined the implementation of both the IE program and CBC design for learners with disabilities during the early years level of education. Additionally, McMillan Et al., (2018) studied making sense of trial math. A national online survey was adopted to draw data from 151 educators of Students with Disabilities in special schools, mainstream schools, and schools with special units. It was evident that on-site planning, content demonstration, and feedback in the context of collegial learning were key. However, the study was conducted in secondary schools, while the study at hand was conducted among teachers of EYL in regular classes.

Adu (2014) conducted a study on curriculum continuous change in South Africa. The researcher adopted an in-depth review of policies in gathering data. Findings revealed that teachers were uninvolved in curriculum change; had problems in Screening, Identification, and Assessment to Support LSN. This study majored in policy issues on curriculum change, while the study at hand investigated the implementation of CBC. Adewumi and Mosito (2019) maintain that teachers in South Africa were not in a position to modify different strategies of teaching without staff support. This study was conducted in South Africa and not in Kenya. Adewumi, Rembe, Shumba, and Akinyemi (2017) established that although a few teachers use diverse teaching approaches like individualized education, group work, and extra work, still the majority of teachers were unable to modify the curriculum for LSN. This study was of South African origin and not Kenyan. Riggall and Croft (2016); Miles, Westbrook, and Croft (2018), investigated the use of assistive devices in South Africa. Findings indicated that assistive devices provided basic strategies for adapting the teaching of an individual learner based on her impairment and that when teachers are supported; they co-plan, co-instruct, and co-assess. The study focused on the use of assistive technology in the adaptation of individualized learning, while the current study focused on the implementation of CBC to EYL with disabilities in a regular class.

Kabuta (2014) in mixed-method research examined the challenges that LSNs in higher learning institutions in Tanzania faced. Twelve (12) students, 5 school heads, 21 tutors, 40 parents, and 82 students without disabilities participated. Results identified high inadequacy of trained staff. This study was conducted in higher institutions of learning and not in the early years level of education. Miles, Westbrook, and Croft (2018) focused on inclusive education, where video lesson observations were employed in collecting data from fifteen (15) schools in four (4) districts in Tanzania. Results showed that an insignificant number of teachers adapted speech, seating, and posture and created instructional materials to facilitate the learning and participation of LSNs. The reported study used video observations in gathering data which could have not given reliable data, while the current study used a mixed research design employing both questionnaires, interviews, and an observation checklist to corroborate the findings. Lekule andBeckford (2016) conducted a study on school culture matters for student performance. The research was conducted in Tanzania and mainly reviewed literature and the findings reveal that varied programs of instruction and quality of teaching needed improvement. Nevertheless, the study investigated the school culture, which is quite different from the current study, which focused on inclusive practices for implementing CBC in a regular class.

National Gender and Equality Commission (NGECHS, 2016) investigated access to basic education by LSNs. The study locale was Kenya. Findings revealed that the curriculum itself was rigid making it difficult to monitor educational institutions for LSNs. The study investigated access to basic education, while the study at hand focused on implementing CBC to EYL with disabilities in a regular class. A descriptive study conducted in the Rift Valley region in Kenya focused on the integration of SNE in PTE. The findings noted that teachers had inadequate skills in the use of Individualized Education Plans (IEPs), the adaptation of learning resources, and the use of supplementary activities (Tabot & Too, 2017). This study was conducted in the rift

valley region and not Nairobi City County and did not focus on CBC. Further, Wanjiku (2010) conducted a study that investigated teaching strategies used by teachers for learners with multiple disabilities. The study was located in the counties of Baringo, Kiambu, Kisumu, and Nairobi where the study employed a triangulation mixed-method design. Nine (9) head teachers and 57 teachers participated. Findings revealed that instructional methods used by most teachers of deaf-blind were tactile Kenyan sign language, task analysis, and Tadoma. The majority of teachers of the autistic blind used braille, pre-braille activities, and oral methods. Majority of teachers of cerebral palsy and intellectual disability used task analysis, activities of daily living, and real objects. Further, the study revealed that it was only the needs of an individual learner that determined the choice of the instructional method. However, this study focused on instructional methods for learners with multiple disabilities, while the current study focused on inclusive practices influencing the implementation of CBC for learners with disabilities in an early-year class.

Makewa and Mutie (2018) conducted a study in Makueni County that investigated assistive technology for managing LSN. A concurrent mixed methods design that employed descriptive statistics and content analysis was adopted. The study findings established that the usage of assistive technology-enabled teachers develops effective teaching-learning resources. Findings also indicated that teachers faced challenges using the different instructional strategies for over forty students in a single class all with different educational needs. This study used a concurrent mixed-method design, while the study at hand used an embedded mixed-method design to investigate the implementation of CBC in a regular class with learners with disabilities. Similarly, Owino et al., (2019) revealed that primary schools in Awendo with special units had a combination of learners with various categories of learners with disabilities and that the classes were congested with a combination of learners both with and without disabilities. However, the study took place in Awendo in Migori County, while the current study was in Nairobi City County.

Mutagi (2018) conducted a study in public primary schools in the Mvita division, Mombasa County. The study investigated learning challenges faced by LSNs. Descriptive-survey research design was employed. The study targeted all head teachers, teachers, parents, and pupils with special needs. Findings established that schools lacked the instructional resources for use by LSNs. This study used a descriptive design and focused on the challenges LSNs faced in regular schools, while the current study focused on the implementation of CBC to EYL with disabilities in the regular class and used an embedded mixed-method research design. Further, Gitari (2018) examined the role of assistive technology on the performance of the Kenya Certificate of Secondary Education (KCSE) among visually impaired students. The locale of the study was Thika School for the Blind. The study targeted 133 students and 10 teachers. Findings established that braille was the most preferred reading and writing mode to revise and do assignments. However, computers and iPads were the least used. The assistive devices available limited their access to various digital content formats. Most teachers and learners were illiterate in the usage of computer technology. This study focused on performance in KCSE among learners with visual impairments, while the current study focused on the implementation of CBC by teachers for EYL with disabilities in a regular class.

II. STATEMENT OF THE PROBLEM

The reviewed studies showed that CBC has been successful in several countries across the world. It has enabled learners to acquire the requisite skill which is in tandem with the work change demands of the 21st Century. However, the majority of these studies were conducted outside Nairobi City County in Kenya. Secondly, the studies concentrated on special education separately from the competency-based curriculum. Finally, scarce studies were found in Nairobi City County that focused on instructional methods adaptation to implement both IE and CBC for LSN in the county. These gaps in knowledge informed the choice of the current objective.

Objectives

i. To describe the association between appropriate instructional methods and implementation of CBC for Early Years Learners with disabilities in primary schools.
ii. To describe the association between the use of systematic instructional methods and implementation of CBC for Early Years Learners with disabilities in primary schools.
iii. To find out the association between the use of assistive technology and implementation to Early Years Learners with disabilities in primary schools.
iv. To determine the association between the appropriateness of assistive technology 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 analysed using both descriptive and inferential statistics. Qualitative data from education officers and head teachers were transcribed, coded, and analysed using Thematic Analysis.

IV. FINDINGS

The variables, which were measured in this objective, included appropriate instructional methods, the use of systematic instructional methods, the use of assistive technology, and the appropriateness of assistive technology.

A. Alternate Instructional Methods Appropriate for Learners with Disabilities

In this section, the researcher sought to find out the various instructional methods, which were appropriate for the learners with disabilities in the class. The results were as shown in Table 1.

Table 1: Alternate Instructional Methods for Learners with Disabilities

Instructional methods		Public		Private		Total	
		F	%	F	%	F	%
Oral Instruction	No	8	20	6	15	14	35
	Yes	13	32.5	13	32.5	26	47.5
Written Instruction	No	10	25	8	20	18	45
	Yes	11	27.5	11	27.5	22	55
Group Work	No	6	15	5	12.5	11	27.5
	Yes	15	37.5	14	35	29	72.5
Individual Work	No	5	12.5	5	12.5	10	25
	Yes	16	40	14	35	30	75
Reading aloud from text together	No	7	17.5	6	15	13	32.5
	Yes	14	35	13	32.5	27	67.5
Class Discussion	No	8	20	5	12.5	13	32.5
	Yes	13	32.5	14	35	27	67.5
Use of Models	No	5	12.5	5	12.5	10	25
	Yes	16	40	14	35	30	75
Mediated Learning	No	7	17.5	6	15	13	32.5
	Yes	14	35	13	32.5	27	67.5
Audio Taping of Text books	No	13	32.5	9	22.5	22	55
	Yes	8	20	10	25	18	45
Graphic Organizers	No	10	25	7	17.5	17	42.5
	Yes	11	27.5	12	30	23	57.5
Peer Tutors/ Child to child approach	No	4	10	6	15	10	25
	Yes	17	42.5	13	32.5	30	75
Doing or Manipulation	No	6	15	7	17.5	13	32.5
	Yes	15	37.5	12	30	27	67.5
Collaborative Teaching/ Co-teaching	No	6	15	5	12.5	11	27.5
	Yes	15	37.5	14	35	29	72.5
Self-directed Learning	No	9	22.5	8	20	17	42.5
	Yes	12	30	11	27.5	23	57.5

Table 1 indicates that the most appropriate instructional method used by teachers in Public schools was the peer tutors/child-to-child approach 17(42.5%). The most popular instructional method in private schools was group work/collaborative teaching/co-teaching at 14(35%). On the other hand, the least popular instructional methods for public and private schools included the audiotaping of textbooks by 13(32.5%) and 9(22.5%) of the respondents respectively.

However, data from the observation checklist disclosed a parallel finding. It was observed that teachers just taught using the standard instructional methods for 'regular' learners and did not employ special alternate instruction for LSN.

When the head teachers were asked how the adaptation of instructional methods influenced CBC implementation in their schools, the majority of head teachers from both public and private schools noted that the adaptation of instructional methods was challenging when it came to CBC

implementation. The following were some of the responses head teachers gave:

From the public schools: One of the head teachers maintained:

'It influences CBC because time is very limited to do all these.

Another head teacher also remarked:

'It takes more time to attend to a few learners than many learners'.

However, a teacher remarked:

'We give more time to these learners to feel at home

From private schools: a head teacher indicated:

'This method was to help the slow learner to improve in their performance'.

Still, another head teacher maintained:

'*Time taken by special needs learners is much hence neglecting the others in the class.*

A head teacher also said:

We lack trained teachers since the methods need Tailor-made to fit the needs of learners'

These findings supported the findings by Adewumi, Rembe, Shumba, and Akinyemi (2017)) which indicated that even though most of the teachers were untrained, they accommodated the LSN in their classes. The findings were also in line with the findings by Anderson & Boyle (2015). This revealed that inclusive education had several barriers that had not been quickly fixed and teachers had limited knowledge that could enable them to adapt instructions and teaching approaches. Further, these findings were in line with the findings by Miles, Westbrook, and Croft (2018) which revealed that an insignificant number of teachers could adapt speech, seating, and posture, and create instructional materials that facilitated learning and participation among LSNs. These findings could show that majority of teachers in both public and private schools were still not endowed with the knowledge to adapt the instructional methods for learners with disabilities in their class. Hence, accessibility of learning by LSNs in regular schools could be difficult.

B. Systematic Instruction useful for Learners with Disabilities

In this sub-section, the researcher sought to find out the most useful systematic instructional methods as shown in Table 2.

Table 2: Useful Systematic Instruction for Learners with Disabilities

Systematic Instruction		Public		Private		Total	
		F	%	F	%	F	%
Defining the Skill to be taught	No	5	12.5	5	12.5	10	25
	Yes	16	40	14	35	30	75
Categorize the behaviors to be taught as discrete or chained	No	5	12.5	6	15	11	27.5
	Yes	16	40	12	30	28	70
Simultaneous prompting	No	10	25	5	12.5	15	37.5
	Yes	11	27.5	14	35	25	62.5
Time delays	No	13	32.5	8	20	21	52.5
	Yes	8	20	11	27.5	19	47.5
Least Intrusive Prompts	No	13	32.5	12	13	25	62.5
	Yes	8	20	7	17.5	15	37.5
Reinforcements	No	8	20	5	12.5	13	32.5
	Yes	13	32.5	14	35	27	67.5
Most to least intrusive prompts	No	13	32.5	6	15	19	47.5
	Yes	8	20	13	32.5	21	52.5
Generalization of teaching in the context in which skill is most likely to occur naturally	No	8	20	5	12.5	13	32.5
	Yes	13	32,5	14	35	27	67.5

Table 2 shows that the most useful systematic instruction for learners with disability in Public schools was defining the Skill to be taught and categorizing the behaviors to be taught as discrete or chained. This was according to 16(40 %) of the respondents in each case. In the Private schools, the most useful systematic instruction was Defining the Skill to be taught, Simultaneous prompting, Reinforcements, and Generalization teaching in the context in which the skill was most likely to occur naturally. This was reported by 14(35%) of the respondents in each case. However, these findings were not in tandem with the results of the observation checklist, which showed that teachers were just using the standard methods and not alternate methods in their classes, both in public and private schools. Further, these findings disagreed with the findings byWanjiku (2010) which revealed that the individual educational needs of a learner should determine the choice of the instructional method adopted. These findings could imply that teachers only used the systematic instructions that they knew most of the time and were not guided by the individual educational needs of a learner.

Similarly, Table 2 indicates that the least useful systematic instruction in the Public schools were Time delays, Least Intrusive Prompts, and most to least intrusive prompts. This was reported by 13(32.5) % of the respondents in each case. In the private schools, the least popular systematic instruction was Time delays 8(20 %) of the respondents. These findings

implied that even though the most useful systematic instruction among the public schools was defining the skill to be taught and categorizing the behaviors to be taught as discrete or chained at 16(40%) respectively, still the majority of teachers found it not useful. The same case applied to private schools where Defining the Skill to be taught, Simultaneous prompting, Reinforcements, and Generalization teaching in the context in which skill was most likely to occur naturally at 14(35%) in each case, still, the majority of the teachers did not find it useful. Therefore, the majority of the teachers could be teaching normally using traditional methods without considering the use of systematic instruction (alteration) for learners with disabilities.

However, when the head teachers were asked about some of the instructional methods adopted they responded as below:

A head teacher in a private school remarked:
Demonstrations, questions, and answers as well as discussion'.

Still, another head teacher indicated:
Playing materials and environment modification'.

In the public school, a head teacher maintained:
Reading for learners who are not able to read but they can answer. It also allows some extra time for these learners who work slowly'.

A head teacher also said:
Storytelling, singing songs, and greetings'.

These findings implied that only a small number of teachers could be employing the systematic instructional method and a large number were incompetent in the use of systematic instructional methods. The findings could also imply that most schools lacked teachers trained in SNE and the untrained teachers could just be doing trial and error since these LSNs were present in their classes.

When the educational officer (EO2) was asked whether regular schools adapted instructional methods for learners with disabilities, the officer agreed that to some extent there was instructional methods adaptation. Further, the officer was asked how effective the adaptation of instructional methods to learners with disabilities was. The officer stated that for severe cases, the learners were accommodated at special units but mild cases were catered for through inclusion/integration. However, the officer was unaware of how to mitigate the challenges faced by the teachers during the adaptation of the instructional method.

C.The Influence of Assistive Technology on Learners with Disability

In this sub-section, the researcher sought to explore the extent to which assistive technology influenced instruction by teachers as shown in Figure 1. The researcher also sought to explore the extent to which assistive technology influenced instruction across the school category as shown in Figure 1.

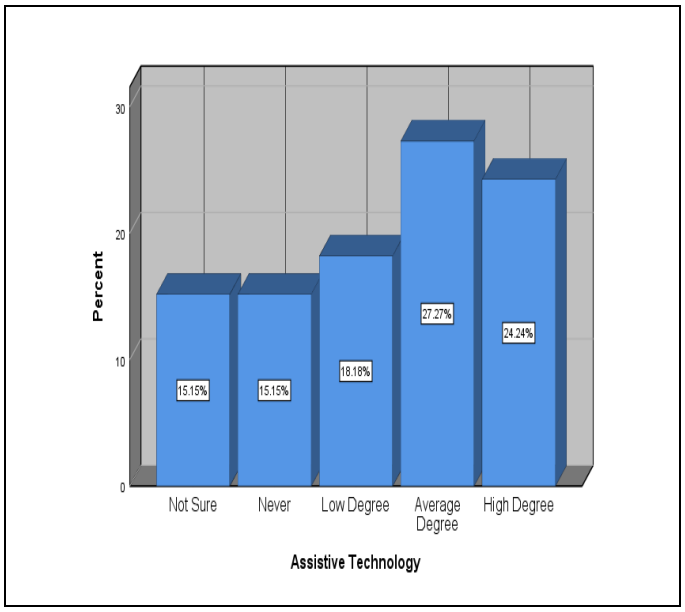

Figure 1: The Extent of the Influence of Assistive Technology among Teachers

The majority of the teachers (27.27%) maintained that assistive technology influenced instruction to an average degree. However, 15.1% were not sure and never used the assistive technology respectively. These findings were confirmed with findings by Gitari (2018) who indicated that computers and iPads were the most appropriate assistive technology for learners with visual impairments. This was further shown in Figure 2.

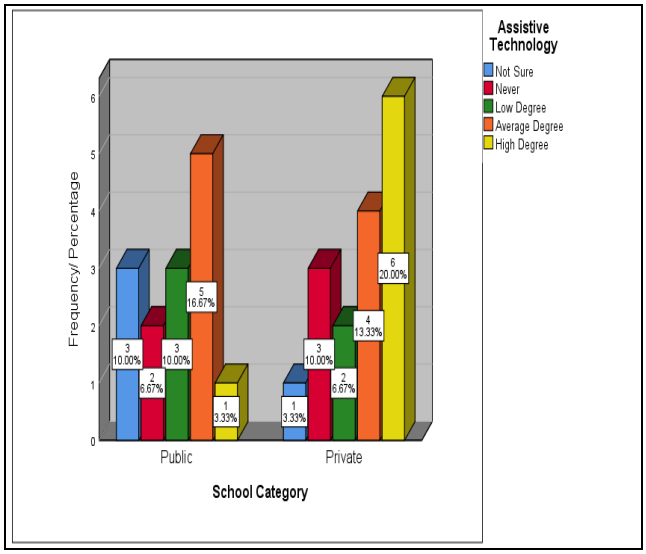

Figure 2: Influence of Assistive Technology Across School Categories

Figure 2 shows the result when the school category was considered. A low number of teachers 5(16.67 %) in public schools said that assistive technology influenced the instruction of learners with a disability to an average degree while a high number of teachers 6(20%) of the teachers in private schools reported that this technology influenced instruction to a high degree.

Nonetheless, during the marking of the observation checklist, the teachers from both public schools and private schools were not observed using assistive technology in the classes. Similarly, there were no classes that had assistive technology (/pads, computers) installed or used in class.

These findings support the findings by Gitari (2018) which revealed that inadequate computers and a lack of computer literacy skills among students and teachers challenged the usage of assistive technology. However, the findings contradict the findings by Makewa and Mutie (2018) who pointed out that the teachers used assistive technology to develop effective teaching-learning resources. These findings imply that both the absence of assistive technology in regular class as well as the limited skill of operation contributed to their limited usage.

D.The extent to which the Various Technologies were Used in Teaching Learners with Disabilities

In this variable, the researcher sought to establish the extent to which assistive technologies were used during teaching. The result is shown in Table 3.

Table 3: Extent of the Use of Assistive Technology

Instructional methods		Public		Private		Total	
		F	%	F	%	F	%
Use of Videos	NU	17	42.5	12	30	29	72.5
	Used	4	10	7	17.5	11	27.5
Computer Assisted Instructions	NU	12	30	7	17.5	19	47.5
	Used	9	22.5	12	30	21	52.5
Radios	NU	17	42.5	8	20	25	62.5
	Used	4	10	11	27.5	15	37.5
Note Takers	NU	18	45	9	22.5	27	67.5
	Used	3	7.5	10	25	13	32.5
Obit Readers	NU	18	45	15	37.5	33	82.5
	Used	3	7.5	4	10	7	17.5
Magnifying Glass	NU	17	42.5	14	35	31	77.5
	Used	4	10	5	12.5	9	22.5
Interpreters	NU	20	50	17	42.5	37	92.5
	Used	1	2.5	2	5	3	7.5
Acoustic wall	NU	19	47.5	19	47.5	38	95
	Used	2	5	0	0	2	5
Talking Spell checker	NU	19	47.5	19	47.5	38	95
	Used	2	5	0	0	2	5
Sound Filled System	NU	19	47.5	19	47.5	38	95
	Used	2	5	0	0	2	5
Sip and Puff Systems	NU	18	45	19	47.5	37	92.5
	Used	3	7.5	0	0	3	7.5
Draft Builders	NU	19	47.5	18	45	37	92.5
	Used	2	5	1	2.5	3	7.5
Sandwiched Charts	NU	19	47.5	18	45	37	92.5
	Used	2	5	1	2.5	3	7.5
Math Talk	NU	19	47.5	17	42.5	36	90
	Used	2	5	2	5	4	10
Math Simulations	NU	19	47.5	18	45	37	92.5
	Used	2	5	1	2.5	3	7.5
Low Tech handouts	NU	20	50	18	45	38	95
	Used	1	2.5	1	2.5	2	5
Proofreading Software	NU	21	52.5	19	47.5	40	100
	Used	0	0	0	0	0	0
Gotit	NU	21	52.5	19	47.5	40	100
	Used	0	0	0	0	0	0

Table 3 shows that the most used assistive technology among public schools and private schools was computer-assisted instruction by 9(22.5%) and 12(30%) of the respondents respectively. These findings contradict the data from the observation checklist, which observed insignificant assistive devices present for use in class.

These findings were in conjunction with the findings by Gitari (2018) which maintained that braille was the primary reading and writing mode used by many learners to revise and do assignments and computers and iPads were not used though they were the most appropriate assistive technology.

On the other hand, the least used assistive technology among public schools and private schools were

computer-assisted Proofreading Software and Gotit, which were reported by 21(52.5%) and 19(47.5%) of the respondents respectively. In other words, no respondents reported having used them. These findings were not in line with the findings by Makewa and Mutie (2018) which indicated that teachers used assistive technology in developing teaching-learning resources. An implication could be drawn that majority of teachers both in public and private schools did not use assistive devices for instruction to learners with disabilities in regular classes due to inadequate skills in their usage.

At this point, the second hypothesis was tested. To test this hypothesis, the Chi-square test was used at a significant level of P=<.005, to determine the degree of association between each instructional method identified and the level of competency-based curriculum adaptation. The null hypothesis stated H_0: There is no association between instructional methods adaptation and competency-based curriculum in primary schools. The results are shown in Table 4.

Table 4: Test of Association between Instructional Methods Adaptation and Competency-Based Curriculum

Association between:		Chi-square Tests		
Level of CBCI	**Instructional method adaptation**			
		Value	**Df**	**Asymptotic Significance (2-sided)**
	Oral Instruction	12.02	2	.002
	Written Instruction	6.58	2	.037
	Group work	11.54	2	.003
	Individual work	14.22	2	.001
	Reading aloud from text together	11.38	2	.003
	Class Discussion	12.81	2	.002
	Use of Models	13.91	2	.001
	Mediated Learning	21.19	2	.000
	Audio Taping of Textbooks	7.12	2	.028
	Graphic Organizers	14.30	2	.001
	Peer Tutors/ Child to child approach	17.21	2	.000
	Doing or Manipulation	19.40	2	.000
	Collaborative teaching/ Co-teaching	17.44	2	.000
	Self-directed learning	5.89	2	.053

Table 4 shows the result of the hypothesis test. The researcher tested each item for measuring instructional adaptation independently. The findings show that there was a significant association between the levels of implementation of competency-based for learners with disabilities and adaptation of instructional methods. The null hypothesis, which stated H0: There is no significant association between instructional methods adaptation and competency-based curriculum implementation for EYL in primary schools was therefore rejected. The alternative hypothesis, which stated there is a significant association between instructional methods adaptation and competency-based curriculum implementation for EYL in primary schools was adopted.

These findings could imply that instructional methods adaptation and competency-based curriculum implementation varied together. Hence, more instructional methods should be adapted during the early years level of education for a better implementation of CBC for learners with disabilities in regular classes.

V. CONCLUSION

This objective was to investigate the association between instructional methods adaptation and the levels of implementation of CBC for EYL with disabilities in primary schools. The scores of instructional method adaptation and CBC in primary schools were scrutinized. Outcomes revealed that teachers with a high mean score on instructional methods adaptation also had high mean scores on CBC implementation in the early years level of education for learners with disabilities. Further, findings revealed that alternate instructional methods appropriate for LSN in regular classes were underused.

Concerning the findings that there was a significant positive association between the levels of implementation of a competency-based curriculum for learners with disabilities and adaptation of instructional methods at P=<0.05, a logical conclusion could be made that when alternate instructional methods were lowly employed for teaching LSN in a regular class, learners were lowly accommodated and achieved less in learning in a regular class. It could also be concluded that more instructional methods need to be adapted for learners with disabilities for greater improvement in learning achievement in regular classes. Finally, it could be concluded that teachers who were trained in either PTE or ECE and not SNE faced challenges in the adaptation of instructional pedagogies for learners with disabilities using CBC design in the regular classes.

VI. RECOMMENDATION

The Ministry of Education could consider conducting special training in delivering CBC to LSNs by use of

alternative instructional methods. The Ministry of Education could Train one teacher across all the regular schools, where they receive appropriate retooling, and then commissioned to conduct peer tutoring in their respective schools.

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