

Mediating Literacy Skills Acquisition among Learners with Cerebral Palsy in Schools for the Physically Handicapped in Kenya

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Abstract: Research has shown that learners with cerebral palsy (CP) experience difficulties with literacy acquisition which has affected their academic performance in school. Several studies conducted have focused on general and specific areas of instruction to learners with CP to explain why these learners go through difficulties with school work. However, studies on mediation with regards to instructing learners with CP on literacy acquisition are scant. This study examines the types of mediated instructional strategies used by teachers in literacy skills acquisition among learners with cerebral palsy in schools for the physically handicapped in Kenya. The study was based on Social cultural theory, the zone of proximal development. Descriptive survey and embedded case study designs were used. Saturated sampling technique was used to draw a sample of 65 teachers from a population of 72 teachers from five out of seven schools for the physically handicapped in Kenya. Data was collected through questionnaires, observational guides and informal interviews. Nine teachers participated in classroom observations and informal interviews. Obtained data was analyzed using descriptive statistics for quantitative data and interpretational analysis for qualitative data. Teachers used scaffolding: prompting, teacher modeling, artifacts; differentiation combined with direct teaching. However, teachers used them in varied ways. Mediated instructional strategies used by most teachers were not tailored to meet individual literacy skill acquisition needs of learners with significant speech and motor difficulties. Teachers who used mediated instructional strategies were not even aware that they had used them. Studies need to be conducted to establish teachers' level of understanding of the use of mediated instructional strategies in teaching literacy skills acquisition to learners with cerebral palsy.

Keywords: Mediated instructional strategies, Literacy skills, acquisition, cerebral palsy, physically handicapped, Kenya.

INTRODUCTION

Teaching literacy skills require approaches and strategies that meet the diverse learning needs of learners within a classroom [1].

Certain approaches have been found to be useful in teaching reading and writing skills to beginning readers. They stress on mediation which is embedded in theories and systems that are useful in teaching reading and writing. These include the mediated learning, active learning and conductive education, also referred to as Peto program [2]. Mediation as an approach is one of the ways to teaching reading and writing to children [3, 4]. Instructional strategies that differ from typical literacy instruction may be necessary for students to master the task [5].

Literacy instruction needs to focus on both reading and writing, and very often writing is neglected in terms of literacy intervention especially with individuals who require Augmentative and Alternative Communication (AAC) systems [6]. These are individuals with speech and motor difficulties, and

those without speech whose communication needs to be facilitated, such as learners with cerebral palsy [7, 8]. Children with cerebral palsy have different learning styles and learning needs just like other ordinary people or those with other special needs and the strategies can vary according to individual needs of children in a classroom situation [9]. Therefore, no one strategy will fit all children with cerebral palsy in a literacy class. They have to be customized for each child to address his learning needs; strategies that promote active student participation and engagement [10].

According to Friend [11], the term cerebral palsy literary means "paralysis of the brain". *Cerebral* refers to the brain and *palsy* to muscle weakness and poor control [12]. The disability is a group of conditions involving muscle control, posture, and movement that is not progressive, meaning that it does not get worse over time (Friend, (2008). People with cerebral palsy have permanent disorders of the development of movement and posture, causing activity limitation that are

attributed to non-progressive disturbances that occurred in the developing fetal or infant brain [13].

A child with CP faces many challenges in school given the limitations, and is likely to need individualized support that can be accorded through mediation (National Dissemination Centre for Children with Disabilities [14]. However, the exact mediated instructional strategies that teachers may be using in teaching literacy skills to learners with cerebral palsy are not clear. Whether teachers used the phonics approaches (synthetic & analytic phonics), whole language approaches or basal readers approaches, learners with disabilities like CP require mediation by an adult or teacher to grasp the skills [15].

A study on Teacher-Mediated Instructional Strategies in USA by Hirn, & Park [16] focused on students with emotional or behavioral disorders. It showed how teacher-mediated interventions are integrated for better inclusionary practices for students with behavioral concerns. However studies conducted have scarce information on use of teacher-mediated instructional strategies in teaching literacy skills acquisition to learners with cerebral palsy. It has not been established how teacher-mediated instructional strategies could influence literacy acquisition among learners with cerebral palsy. Mediated learning also helps learners to acquire the prerequisite skills essential for learning. The prerequisite skills involve motor skills, increased independence, bodily movement, balance, sensory and perceptual functions, emotional development, language and cognitive function [17]. The skills assist the learners to learn how to learn and enable them to acquire the reading and writing skills.

Mediated learning emphasizes social interaction that serves as a tool for transmitting knowledge for learning how to construct problem-solving activities [18]. Mediation encompasses different kinds of support that could assist learners with CP reach a higher zone of proximal development [2] in their literacy skill acquisition. The study therefore, sought to

examine types of mediated instructional strategies used by teachers in teaching literacy skills acquisition to learners with cerebral palsy in special primary schools for the PH in Kenya.

METHODOLOGY

Descriptive survey and embedded case study research designs were used in this study. The aspects of the phenomena under study needed to be described as exhibited by the teachers. Multiple-case study design was used for an in-depth study of the phenomenon in its natural setting to generate rich data and to provide an understanding of the participants' frame of reference, setting, and voice [19]. It is a study that involves studying more than one subject, settings, or depositories of data in different setting [20]. The study was carried out in 4 out of 47 counties in Kenya. Target population consisted of 72 special needs education teachers and 18 learners with CP. Saturated sampling technique was used to select 65 teachers and 18 learners with CP in five special schools. Data collection instruments included questionnaire, observation guide and document analysis guide. Validity of research instrument was established through expert opinion. Reliability of research instruments was determined through test-retest method. Quantitative data was analyzed using frequency counts and percentages. Interpretational method was used to analyze qualitative data.

RESULTS AND DISCUSSIONS

The first objective was to examine the type of mediated instructional strategies used by teachers in teaching literacy skills acquisition to learners with cerebral palsy. The second objective was to examine how teachers used the mediated instructional strategies.

Mediated instructional strategies used by teachers in teaching literacy skills to learners with cerebral palsy

Teachers' use of mediated instruction strategies

Table 1: Use of mediated instruction strategies during instruction

How often use mediated strategies	Number of teachers	Percent
Very rarely	5	7.7
Rarely	6	9.2
More often	34	52.3
Most often	17	26.2
None committal	3	4.6

Results show that 34 (52.3%) of the teachers more often use mediated instructional strategies in teaching literacy skills to learners with cerebral palsy while 26 (26.2%) of the teachers most often use mediated instructional strategies when teaching learners

with Cerebral palsy; 6(9.2%) rarely use and 5(7.7%) use mediated instruction very rarely as summarized in Table 1

The result indicates that not all the 65 teachers who participated in this study use mediated instructional strategies. The study shows that 62 of them use mediated instructional strategies. However, the degree of usage varied from more often with

34(52.3%) responses, most often 17(26.2%), rarely at 6(9.2%) to very rarely which registered 5(7.7%) of the teachers' responses, 3(4.6%) did not indicate whether they use mediated instructional strategies or not.

Previous usage of Mediated instructional strategies by the teachers

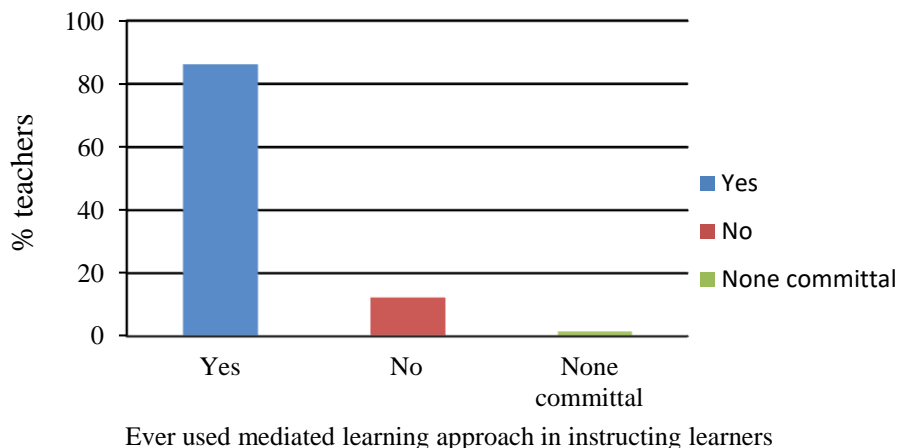


Fig-1: Teachers who had used mediated instructional approach in instructing learners with cerebral palsy

Most of the teachers stated that they had used mediated approach in instructing learners with cerebral palsy, 56 (86.2%). The rest of the teachers, 8 (12.3%)

had not used mediated approach in their instruction while 1 (1.5%) of the teachers was not aware if he/she was using mediated approach or not.

Table 2: Training in physical disabilities with use of mediated (supported) instructional approach in instructing learners with cerebral palsy

	Have you ever used mediated (supported) instructional approach in instructing learners with cerebral palsy		
	Yes	No	Total
Trained in physical disabilities	31 (91.2%)	3 (8.8%)	34 (100%)
Not trained in physical disabilities	23 (82.1%)	5 (17.9%)	28 (100%)

Cross tabulation of teachers training in physical disabilities and the use of mediated instructional approach

Use of mediated (supported) instructional approach in instructing learners with cerebral palsy was not significantly differed ($\chi^2 = 1.115, P = 0.450$) with teachers training in physical disabilities. The 91.2% of those who were trained in physical disabilities had used mediated instructional approach while 8.8% had never used mediated instructional approach. However, 82.1% of those teachers who had not trained in Physical disabilities used mediated instructional approach while only 17.9% of them never used mediated instructional strategies (Table 2).

the teachers using the strategies most often and 52.3% using mediated instructional strategies more often. It implies that not all the teachers were using these strategies. This is further confirmed by the cross tabulation, which did not show a significant difference ($\chi^2 = 1.115, P = 0.450$) between teachers' training and use of the mediated instructional strategies. It also revealed by this study that 1.5% of the teachers who participated in the questionnaire surveys were not aware whether they were or had used the mediated instructional strategies.

Mediation encompasses different kinds of support that would assist learners with CP reach a higher zone of proximal development [2] in their literacy skill acquisition. The result show only 26.2% of

Type of Mediated instructional strategies used by the teachers in teaching literacy skills

Multiple responses were registered from the teachers on the types of Mediated instructional strategies they used in teaching literacy skills to learners with cerebral palsy (Table 3).

Table 3: Type of mediated instructional strategies used by the teachers in teaching literacy skills to learners with cerebral palsy (N = 65)

Type of instructional strategy	f	%
Peer support	45	69.2
Collaborative teaching and learning	41	63.1
Scaffolding	9	13.8
Peto strategies	15	23.1
Use of artifacts (tools and materials)	46	70.8
Guided participation (practice)	39	60.0
Shaping	23	35.4
Prompting	41	63.1
Individualized adaptation	47	72.3
Differentiation	28	43.1
Teacher modeling	26	40.0
Flexible grouping mediation	28	43.1
Direct teaching	38	58.5
Cooperative learning	43	66.4

The responses registered were mainly: Individual adaptations, used at a frequency of 47 and a percentage of 72.3 of the teachers followed by a frequency 46(70.8%) of the teachers who used artifacts, 45(69.2%) used peer support, 41(63.1%) used prompting and 41(63.1%) used collaborative teaching while fewer teachers, 9 (13.8%) used scaffolding. 15(23.1%) of the teachers used Peto strategies whereas 23(35.4%) use shaping strategy in teaching literacy.

Correlation Analysis of the teachers' use of mediated instructional approach in instructing learners and the teachers' trainings in methods of teaching literacy skills

Using a Pearson product moment correlation, the study established the teachers' training in methods of teaching literacy skills (reading and writing) to learners with cerebral palsy with the mediated instructional strategies they use in teaching learners with CP. The result showed that, there was a significant relationship in the teachers training in the methods of teaching literacy to the teachers use of mediated instructional approach ($r = 0.469$, $P = 0.0001$). Those teachers who were trained on methods of teaching literacy skills used mediated instructional approach in instructing learners with cerebral palsy than those who were not trained on the methods.

Table 4: Use of mediated instructional strategies by Teachers trained in methods of teaching literacy skills

Type of mediated instructional strategy	Number of teachers using strategy (N = 65)	Number trained in methods
Peer support	45	30
Collaborative teaching and learning	41	28
Scaffolding	9	5
Peto strategies	15	11
Use of artifacts (tools and materials)	46	30
Guided participation (practice)	39	27
Shaping	23	17
Prompting	41	26
Individualized adaptation	47	27
Differentiation	28	17
Teacher modeling	26	17
Flexible grouping mediation	28	17
Direct teaching	38	20
Cooperative learning	43	27
r – value	0.469	
P – value	0.0001	

Analysis of variance (ANOVA) used to establish variations in the number of strategies used in teaching with the training in physical disability

When a One way ANOVA was used to establish variations in the number of mediated instructional strategies used by the teachers in teaching learners with cerebral palsy with the teachers training in physical disabilities, the result showed there was no significant difference ($F = 0.037, P = 0.848$). Teachers

who were trained in physical disabilities (mean number of strategies used 7.24 ± 0.61) did not significantly differ in the number of mediated instructional strategies used from those who had no training in physical disabilities (mean 7.17 ± 0.43). Difference is not significant between the trained and the untrained teachers in physical disabilities. That is, what they use correlates with what they trained in.

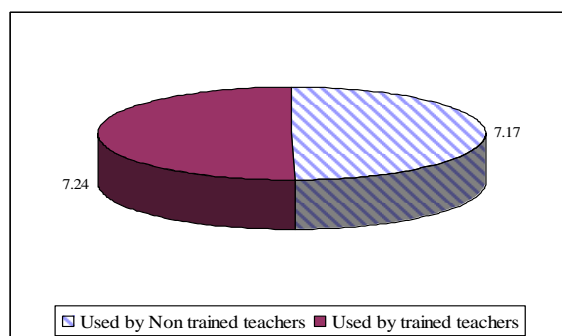


Fig-2: Number of mediated instructional strategies used by teachers trained and those not trained in physical disabilities

Analysis of variance (ANOVA) used to establish variations in the number of strategies used in teaching with their training levels in special needs education

The number of mediated instructional strategies used by the teachers in teaching learners with cerebral palsy with the teachers training in special needs education showed that there was no significant difference ($F = 1.832, P = 0.152$). Teachers who were trained in special needs education at masters level (mean number of strategies used 4.50 ± 2.36), those

who had undergraduate (mean 8.25 ± 0.72), those who had Diplomas in special needs education (mean 6.85 ± 0.52) and those who had certificate in special needs education (mean 7.50 ± 1.54) were not significantly different in the number of mediated instructional strategies used. Therefore, training level had no significance to the number of strategies used by the teachers. This could have depended on other factors such as teaching experience, attitude, or age which were not the focus of this study.

Table 5: Number of items of mediated instructional strategies used by teachers trained in special needs education

Level of training in special needs education	Mean number of items \pm Standard error
Masters	4.50 ± 2.36
Undergraduate	8.25 ± 0.72
Diploma	6.85 ± 0.52
Certificate	7.50 ± 1.54

Duration of using mediation strategies in instructing learners with cerebral palsy

During literacy lessons, 25 (38.5%) teachers out of 65 had used mediation strategies in instructing learners with cerebral palsy for more than 5 years. 14

(21.5%) had used the strategy for 1 – 2 years, 14 (21.5%) had used for 3 – 4 years while 13.8% had used the strategy for less than 1 year. 3 (4.6%) of the teachers declined to indicate the duration they had used the strategies (Table 6).

Table 6: Use of mediation strategies in instructing learners with cerebral palsy

Use of mediation strategies	No. of teachers	Percent
Below 1 year	9	13.8
1 – 2 years	14	21.5
3 – 4 years	14	21.5
5+ years	25	38.5
None committal	3	4.6
Total	65	100

Teachers' use of Mediated Instructional strategies in teaching Literacy skills to learners with cerebral palsy

Information was gathered from nine teachers who were observed and interviewed during the teaching of literacy skills to learners with CP in three special schools for the physically handicapped.

T1's class consisted of 14 learners with physical disabilities of which three had CP. Of the three, Only Jaba and Tieni had significant speech difficulties and motor problems. In the two lessons observed, T1 taught reading and writing in the same lessons.

T2 The class consisted of 21 learners of which two had CP. This teacher integrated reading and writing in the two lessons observed.

T3's class consisted of 20 learners with physical disabilities of which four had CP. Of the four learners, two had mild CP and had clear speech. Two had significant speech difficulties as well as motor difficulties. T2 taught reading and writing skills separately.

T4

T5. Her class has 32 learners. Three of them have CP. She taught reading and writing together in the two lessons observed.

T6's class, grade three had twenty one (21) learners with different types of physical disabilities. Out of the twenty one, three learners had CP in which two use wheel chairs. The one who does not use a wheel chair is monoplegic, only one arm is involved. Reading and writing lessons were taught using several instructional strategies.

T7 Started off all her lessons with rhythmic statements and singing. Together with the co- teachers T7 engaged the learners in the performance of the activities. In the first lesson observed, the first twelve (12) minutes were spent in greetings. Then the teacher went on to introduce the lessons. The first lesson consisted of teaching of the vocabulary on parts of the body. The second lesson observed was about the letter names and third on phoneme segmentation.

T8 taught level two classes. This is a class of ten learners (10) of which two experience speech and motor difficulties.

T9This is a class of eight learners. Three use wheel chairs. Two had significant CP of which one had no speech at all and all the limbs paralyzed. The other one had slurred speech and motor difficulties. The

teachers used Scaffolding, artefacts/materials, Differentiation, Reinforcements and direct teaching

Direct teaching was another strategy used by T1 in both lessons when she taught reading and writing to the learners. For example, in the second lesson, she introduced the writing lesson then engaged the learners in going over the words taught in the previous reading lesson before embarking on the writing exercise. She asked the learners, "*who can remember the words we learnt yesterday?*"

Scaffolding

Learners were supported in various ways. T1 used prompts, context clues, reinforcements and use of artefacts as presented below:

Visual Support and Context clues

In the first literacy lesson observed, T1 started off her lesson by reminding the learners of the words learnt in the previous lesson. Then she introduced the new lesson topic on "*Parts of our body*". In teaching new words on parts of the body, she constructs sentences using the words. For example, the word 'head' is introduced and pointing at a pupil in class she says, "*Dodo (not the real name) is touching his head*". *The learners turn to look at Dodo and asked to repeat the sentence. She writes the word on the chalkboard. She then introduces another word, 'Thumb'. She asks learners "Show me your thumb". Another was, 'This is my thumb'. They were prompted by the visual support and context clues to read new words.*

Prompting

T1 wrote the word '*hands*' on the chalkboard, Jaba raises up his hand and the teacher gives him the opportunity to read. He struggles to read with difficulty, with unclear speech and reads it as '*head*'. "*Is it head? Class?*" asked T1. "*No!*" they respond. "*Jaba, is it head? Jaba look at it again. Who can help Jaba? Is it head?*" The question is repeated and the learners say, "*No*". T1 goes on to ask, "*If it is not head, then what is it? Who can help Jaba?*" Another learner says, "*head*". This teacher then says, "*We learnt about sounds the other day*". She then writes '*ha*' on the chalkboard and asks Jaba to identify the sound. He reads it as '*he*'. T1 then writes '*he*' and asks him to identify the sound, she underlines '*hands*' and asks him to identify which one it resembles. Jaba manages to read it as '*hands*' and the teacher acknowledges by saying, "*Good*". Tieni was asked to read a word on the chalkboard. She read it as, '*ear*'. The teacher prompts by asking her to look at the word again and she reads it correctly as '*eyes*'.

Gestural prompt

In one of the reading lessons, T1 asked a learner to read a word on the chalkboard. The word was

'fingers'. The learner had difficulty reading the word 'fingers'. T1 then gestures to him by showing the learner her fingers in a beckoning motion, to assist a learner to associate 'fingers' with the word written on the chalkboard. The learner then responds in Kiswahili and says, "*mkono*" (*hand*). *The teacher shakes her head and shakes her fingers, again then he says, "Finger". "Good, but we read this word (pointing with a pointer) as 'fingers' because they are many" (shakes her fingers at the class and says, "say fingers"; they repeat the word, in chorus, "fingers" as they imitate the beckoning motion with their fingers.*

Demonstration

This teacher demonstrated to the learners during the reading lesson by touching and naming parts of the body through a song, "*Head shoulder knees and toes, knees and toes knees and toes, head shoulder knees and toes, eyes ears, mouth and nose*". This was done at the end of the first lesson as a summary of the words taught.

In the second writing lesson observed, T1 demonstrated to the learners how to write the patterns of letter 'r' and 'n', the task that she later assigned Tieni and Jaba to perform.

In the other lesson, T1 demonstrated an action while saying a sentence using the new word, 'leg': "*I am swinging my leg*". *What is the teacher doing class?*"

Use of artefacts/materials

T1 Showed both hands to Jaba to read the word 'hands'. Leg, eye, thumb, ears, finger were also shown during the reading lesson when the learners were stuck. T1 used both the course book and the chart to teach the vocabulary. For example, in the second lesson on writing, asked Tieni to identify the word 'eye' from a chart. She said, "*Tieni, would you please point at the word 'eyes' on the chalkboard*". Tieni pointed at the word 'ears' instead. *The teacher then displays a chart with parts of the body with labels on a chart, asks Tieni, "Show us the eyes on this (pointing) chart?"* Tieni identifies correctly.

Differentiation

In the first lesson observed, T1 assigned different activities and materials to learners during the reading and writing lessons. In the first reading lesson observed, Jaba was engaged in one-word reading as the rest of the class read short sentences. In the second lesson, during the writing activity, jaba and Tieni were to write patterns of letter '*rrrrrrrrrrrrrrrrrr...*' and '*nnnnnnnnnn*' then copy few words from the book as the rest of the class worked on an exercise of filling in the spaces with correct words from the box from the course book, *New Primary English, Pupil Book One, page 45-46(Appendix.....)*. Another child in the same class was

involved in drawing a 'child' with a crayon on a plane book and was asked to indicate the eyes, ears, head and hands.

Reinforcements

Learners' efforts were reinforced. For example, in one of the reading lessons, Tieni managed to read the word 'eyes with a pulling effect and the teacher asked the class to clap for her. "*Everybody, clap for Tieni*", and the rest of the class clapped while saying, "*well done! Well done! Try again another day, a very good girl!*". *She also used the word 'good' and very good at individual learners' correct attempts at reading or answering questions.*

T2's use of Mediated Instructional strategies in teaching Literacy skills to learners with cerebral palsy

The class consisted of 21 learners of which two had CP. This teacher integrated reading and writing in the two lessons observed. The following were the instructional strategies used.

Direct teaching

T2 taught the reading of new words to grade two learners in the first lesson observed. For example, he explained to the learners why the word 'spoon' sounds differently. *Using the chalkboard illustration, he wrote 'oo- u' and explained that the double 'oo' produces the sound /u/ so the word 'spoon' would read /spu:n/ with a prolongation of the /u/ sound.* He went on to introduce other new words as he engaged the learners in oral reading.

In the second reading lesson observed, T2 started off his lesson by asking the learners to identify the activities they do at home. They named them. Bobby was asked to identify one activity. He said, "*Washing*". The teacher then asked the learners to name the tools used in performing these activities at home. He wrote the words on the chalkboard as they identified them. He then asked the learners to state their uses. For example, He displayed a plate and asked the class, "*Class, what is this?*" a learner identified it correctly and said, "*plate*".

T2 then engaged the learners in a writing exercise of sentence construction using the language pattern taught involving the tools and their uses. He gave work on the chalk board for filling in blank spaces with words learnt and read in the story. Examples were, "*This is a.....It is used for.....*"

T2 used the mediated instructional strategies. However he seemed not to be aware that these were actually the mediated instructional strategies that he was using as revealed by the excerpt from the informal conversation." "*No, I don't use that. I teach these*

children normally alongside their peers but give them tasks they are able to accomplish. You see that child (referring to Linsa), sometimes I have to come down to her level to make her understand the vocabularies and show her how to write.....”

Scaffolding

T2 tried to scaffold learners’ learning needs during teaching of reading and writing. He used prompts and demonstration.

Prompting

Different types of prompts were used by T2 during reading and writing lessons observed. In the first lesson, he revised with the learners the vocabulary taught previously. These were the activities done at home and the tools used.

Visual prompts

In one of the lessons, he displayed a bucket for the learners to identify. “*Class, what is this? A bucket*”, they respond in chorus. “*Linsa, can you say bucket?*” asks T2. She tries but the sound does not come out clearly. Bobby was also asked to say the word and with a slurred speech he managed to say the word. Use of drawn images was also observed in a writing exercise when T2 gave an exercise with drawings for learners to name the items drawn in a writing exercise involving filling-in the blank spaces..

Verbal prompts

This was observed during the first oral reading lesson when T2 moved closer to Linsa’s desk to help her pronounce the word ‘bucket’. The teacher asked her, “Say /b/, /a/, /ba/; ‘bucket’”. Linsa repeated the single and blended sounds as demonstrated on phoneme segmentation. The word ‘spoon’ was also taught the same way as the teacher engaged Linsa in pronouncing it correctly sound by sound and blending of sounds phonetically to produce the words as, ‘/s/ /p/ /oo/ /n/ ; /s/ /sp/ /oo/ /n/ , ‘spoon’. /p/ /l/ /a/ /t/, ‘. “Plate”

During the reading of the passage, T2 prompted the individual learners’ reading of the words they experienced difficulty reading or pronouncing. For example a learner was appointed to read the second paragraph. The teacher prompted by starting off for him, “*It is used...*” then the learner repeated and attempted to read the rest of the sentences as the teacher kept on prompting by reading out loud the words or sentences for him. In other instances, teacher 2 read a whole sentence. An example was, “*....for his clothes to hang*”. These verbal prompts were accorded to all the learners who participated in reading aloud.

Individualization

In the reading lesson, as the rest of the class were engaged in the writing task, T2 moved to linsa’s

desk to show her how to do the exercise he had assigned the class to perform. Bobby was not accorded the individualized assistance. He worked alone.

Reinforcement

This teacher reinforced learners’ efforts during the reading lesson. For example, a learner was asked to read the first paragraph. She read it correctly and the teacher said, “*Good*”. This continued with the rest of the learners. He also encouraged the learners to read loudly.

Guided reading

During the second reading lesson, learners were engaged in reading aloud in turns. Linsa’s desk mate is appointed to read the first paragraph on page 51 of the New Primary English Pupils Book 2 as T2 assists Linsa to follow closely the text being read.

Use of Artifacts

In the second reading lesson, T2 used home items to teach the vocabularies. These were, plate, spoon, brush, and bucket. Displaying one item at a time, he introduced the new words. *Linsa identified one item and said, “brush” He corrects her and says, “it is a comb”. Linsa, what is it? With a slurred speech, Linsa says, “a c.o....mb”, prolonging the sound /o/.He then writes the word on the chalkboard for learners to read.* The other materials used were the Primary English Pupils books for grade 2, an English course book. In the other lessons observed no other teaching material was used.

Demonstration

This was observed in the second reading lesson. T2 asked learners to read the new words written on the chalkboard. To prompt, them he asked, “What do we use when we are washing?” A learner says “/Shop/” Then he says, “Shop *ama* (or) soap?” He writes “soap” on the chalkboard and tells the learner, “**We say /s/ /o/ /p/**”, ‘soap’ not ‘shop’. He does not explain further the difference between the two words. He continues to introduce the rest of the items one by one as learners identify them and the words are written on the chalkboard.

T3’s use of Mediated Instructional strategies in teaching Literacy skills to learners with cerebral palsy

T3’s class consisted of 20 learners with physical disabilities of which four had CP. Of the four learners, two had mild CP and had clear speech. Two had significant speech difficulties as well as motor difficulties. T2 taught reading and writing skills separately. The following were the mediated instructional strategies used by T3 in literacy lessons:

Direct teaching

In one of the lessons observed, T3 started her reading lesson by reminding the learners about the sounds which are made by five letters they learnt previously. In teaching reading in one of the lessons,

Prompts

Verbal prompts

In one of the reading lessons, T3 drew a picture on the chalkboard and asked Linta to name it. As she struggled to respond, T3 used verbal gestural prompts with Linta. Pointing at a drawn picture on the chalkboard, she asked, "*Judu, what is that?* Judu struggles to say, and then the teacher mediates by using Kiswahili. "*Hata siku moja niliona mama alikuletea* (One day I saw mum had brought it to you)," she said. This made Judu very excited. She made some vocal sounds as her body movements became exaggerated, quick and jerky as she uttered the word 'c--c--ca--ke' (cake) with all her strength and a slurred speech; dropping from her sitting position on the floor and banging her head on the floor.

Peer mediation

This was experienced in the lessons observed. Linta in T3's class tries to respond to the teacher's question when asked to identify a picture. "*The words have refused to come out. Who can help Linta?*" says T3. One of the learners volunteers and says, "*Cake*". Linta is then asked to repeat it and she says with a slurred speech, 'c-a-k-e'.

In another reading lesson, T3 asked the learners, "*Can somebody make for me the sound made by this letter (writes letter 'b' on the chalkboard)?* Teacher asks individual learners to attempt. "*Yes, Stanley,*" He tries but can't sound it. "*Yeah, he can't make it. Somebody to help him*", says T3.

Demonstration

T3 was observed to be using demonstration in her lessons. For example, in one of the reading lessons, T3 tried to echo back what the other learners had said in answering the question on sounding out the vowels 'a-a-a' and asks everybody to sound out the vowels as, /a/, /e/, /i/ /o/ /u/

Use of artifacts/materials

In all the lessons observed, there were no other materials used during the teaching of reading and writing skills apart from the New Primary English book 3 and chalkboard illustrations.

Encouragement/ Reinforcement

In the writing lesson observed, Linta was given a piece of chalk to write 'cake' on the chalkboard. T3 tells her, 'letter 'a' says? She responds by saying /e/. She writes the word using her left hand. Each time

she writes a letter, the teacher acknowledges with a vocal sound, "Ehe! Linta looks at what she has written, sees its crooked, rubs and tries to write it better. "Good!" says T3.

Differentiation of activities

In a dictation lesson, as the rest of the class listened and wrote in their books Juddy was asked to pronounce the words after the teacher. These were: 'gate /gāt/, fade /fād/, rake /rāk/, tale /tāl/, bake /bā k/

T4's use of Mediated Instructional strategies in teaching Literacy skills to learners with cerebral palsy

T4 taught reading and writing lessons separately.

Direct teaching

In the first reading lesson observed, she taught vocabulary. T4 pulled out a flash card with a new word and said to the learners, "If you can read this one, put up your hand". She displays the word 'Colours'. She chooses Debi to read it aloud and she reads it as "nose". "Nose!? Nose!?" Repeats T4 in question form then she says, "No"

She displays another card and a learner reads it as 'brown' and then the class is asked to repeat. "We have another colour here, who can read it?" A learner reads it as 'white'. "Very good", says T4. Another learner is asked to read another word and she reads it as, 'yellow'. "Very good!" says T4. The class is asked to repeat the word 'yellow. T4 asked the class to identify an item, hand bag, which Grace said in Kiswahili, "*Kibeti*" (handbag).

In a writing lesson, T4 started off by asking the learners to sing the ABCD song. "*Hebu imba ile wimbo wa letters*" (Please sing that letter song). They sing, "*ABCD ni ngumu sana wee! Siwezi kukumbuka, ewe mama ewe baba unisaidie!*" (ABCD is very difficult, I cannot recall, oh! mother, oh! father, do help me!). Then pointing at the letters on a chart, they read from A to Z in unison.

T4 explained to the learners that they were going to write the letters of the alphabet from A to Z, both the capital and small letters(lower case). They first recited, "Capital 'A', Small 'a'.....up to z. She drew ruled lines on the chalkboard using a blackboard ruler and wrote the letters of the alphabet in a sequential order, each letter consisting of both upper and lower case.

Repeated practice/ Guided practice

After teaching the new words, T4 engaged her learners in the identification of the words. Individual learners were asked to identify the words. For example,

the word 'white'. T4 says, "Nataka wenye wanakumbuka hizi colours (I need those who can remember these colours)". She then displays the word and a learner identifies it correctly. When asked to spell it, she does that correctly as, "w...h...i...t...e", the word is white". "Nataka Kody a spell the word brown". He struggles with unclear speech but says at the end of spelling of the word as, "brown". Learners were engaged in repeating the words and spelling them.

Differentiation of content/Individualization

This was observed in one of the lessons when Kory was engaged in reading the blended sounds /ra/ /re/ /ri/ /ro/ /ru/; Kody was engaged in the identification of letters per word taught, as the rest of the class was engaged in reading aloud the whole words about colours from their text books.

Artifacts/Use of materials

T4 used different items of different colours to teach the words. She used yellow, blue and red files; white plastic plate, her brown skirt and a black handbag. Chalkboard illustrations were used in explaining the letter- sounds, and spelling of words. She also used New Primary English book 1 during the reading lessons.

Prompting

She used the items to assist the class to read the words. In one of the instances, T4 asked Kory to identify and read one of the new words. With a slurred speech, she reads "y...e...llow". "Very good!", says T4. And the class asked to repeat. When Kody was asked to spell the word 'brown', he said blue instead. T3 said, "Eh! Rudia! Rudia!" (Eh! Repeat! Repeat!) Which word is this (*displaying the flash card for him to see*)? Brown, he says. Okay, spell for me the word 'brown'.

Demonstration

T4 wrote on the chalkboard 'Aa Bb...Zz' as she said aloud, "Capital 'A' small 'a' Bb Cc Dd Ee", and learners repeated after her. She then instructs them in Kiswahili, "Ukifika mwisho wa kuandika, unaruka laini mmoja na kuja chini hapa (pointing at the lower line) na kuendelea kuandika (When you reach the end of your writing, you jump one line, you come down here (pointing) then you continue writing). She then continues to write as the class reads out the letters aloud in unison.

Encouragement/Reinforcement

T4 used a variety of ways of motivating learners. These were observed in the reading and writing lessons. Learners' efforts were acknowledged through claps by the whole class, songs of praise and smiles. In a writing lesson, the learners were asked to recite the letters of the alphabet. When they did it correctly, she asked them to clap for themselves and

sang, "Well done me, try again me, a very good me, receive and rejoice".

T5's use of Mediated Instructional strategies in teaching Literacy skills to learners with cerebral palsy

T5. Her class has 32 learners. Three of them have CP. She taught reading and writing together in the two lessons observed. Mediated instructional strategies used were:

Direct teaching

T5 taught the reading lesson orally. Introducing sentences and getting learners to read aloud. For instance, in word identification, Learners were engaged in identifying items whose names were on the chart. Timi was read for the second word, 'a cup' and Timi picked the cup from a group of items.

Physical prompt

This was observed in one of the lessons when Timi was asked to write the word 'calf' on the chalkboard. He was shaking quite a lot; T5 went and held his body to steady him up. He managed to write the word 'calf' shakily. Teffi's hand was held by the teacher to write the words 'bag' and 'box' on the chalkboard. During the individual activity, T5 held Teffi's wrist in writing the word 'child' three times in her exercise book. She was ten left to write on her own.

Peer mediation

This was observed in one of the reading lessons when Teffi was asked to read single words from sentences on the chalkboard. The teacher asked her to point at words on the chalk board. "Teffi, can you point for us the word 'child'?" "Yes, said T5. Teffi points at the word 'sun'. "Oh! She has pointed this word (pointing at the word sun). Can you read this word for Teffi?" The class reads, "Sun", twice as directed by the teacher. She also pointed at the word 'child' and asked the class to read it aloud for Teffi.

Encouragement/Reinforcement

Learners were asked to read the words Teffi pointed at correctly and clapped for her. She acknowledged with a dance and a smile. Timi managed to correctly point at two sentences read from the chart by the rest of the class. He also read the third sentence, "Our teacher is dancing". He was clapped for by the class with the well done song and he danced with excitement. *Glorious just continue, you are on the right track. Glorious has tried. Good.*

Use of artefacts

Flash cards with new words, charts with sentences were used to teach a reading lesson.

Individualization

This was observed in all the lessons observed. In one of the lessons, T5 asked individual learners to read words flashed. For example in the first reading lesson, Timi was asked to read the word 'Sun'. Teffi identified the word 'box' on a flash card.

Differentiation

During the whole class activity in one of the writing lessons, learners copied sentences and filling in of blanks written on the chalkboard while T5 assigned individual tasks to Timi and Teffi. They were assigned writing tasks on work sheets to copy in their exercise books. Timi was engaged in drawing and labelling of a mug, glass and a plate while Teffi was given a plastic mug, jug and a steel plate to draw in her exercise book.

T6's use of Mediated Instructional strategies in teaching Literacy skills to learners with cerebral palsy

T6's class, grade three had twenty one (21) learners with different types of physical disabilities. Out of the twenty one, three learners had CP in which two use wheel chairs. The one who does not use a wheel chair is monoplegic, only one arm is involved. Reading and writing lessons were taught using several instructional strategies.

Direct teaching

In the reading lesson observed, T6 started her lesson by asking learners to remind themselves of the words learnt in the morning. One by one, learners stated the words individually as, 'dressing', 'bleed', 'cutting'. These were the new words they were going to meet in the story to be read.

T6 engaged the learners in reading aloud in turns, the story on page 74, "*Dressing can be dangerous*". Individual learners were asked to read sentences, one after the other. Those who managed to read correctly were told to sit down while those who were defeated were asked to remain standing. The whole class was then involved in reading in unison, "*In his room he has only one socket. It is very dangerous because it has too many....*"

Scaffolding

T6 traced with her finger along the reading line for a learner to read. T6 provided individual assistance to learners in need. Both teachers attended to individual learners across the classroom during the handwriting skills practice.

Prompting

During the stating of words learnt previous lesson, Jerro was asked to state one of the words. He uttered something the teacher could not get clearly. He

was asked to write it on the chalkboard. He wrote "*dairl*" to mean "blood".

Jeffi was asked to read the sentence, "He fell over with a thud, "Ouch! my leg!". He tried, reading a word at a time and slowly with pauses, T6 said to him, "*sauti baba*" (louder, baba) and reading the words out aloud to him when stuck, for instance, "*ouch! My leg!*" and telling to repeat it with the same intonation. As he continued, he was stuck again and could not read the word, 'cry'. T6 went and wrote it on the chalkboard and pointing at it, asked him, Jeffi, read for me this word". T6 did not let him complete what he was reading, instead asked another

Peer mediation

This was observed when the teacher could not understand what Jerro was saying, he asked the peers to repeat what he was saying. "What is he saying?" and the peers say, "blood".

Use of artefacts/materials

T6 used pictures in pupils' English text book. This was observed when she told the learners to open page 74, look at it and tell what they can see. T6 also used a ball pen to trace the words for one of the learners to read. There was no adapted material used during the reading lesson. All the learners read the passage in the text book, New Primary English Pupils' book 3.

Encouragement/reinforcements

This was observed in all the lessons taught. T6 rewarded her learners with verbal praise such as 'good', yes, For instance when Jeffi was asked to state what he could see in the picture on the story they were about to read, he said he had seen a man falling down. T6 said, "good".

T6 taught writing skills in a separate lesson from reading lessons. She taught handwriting skills together with a co-teacher.

Collaborative teaching

T6 introduced the lesson and Ms Ombije (not the real name) explained to the learners what was expected of them, drew lines on the chalkboard using a ruler and copied the sentences on the chalkboard. T6 told her learners "*...and today I want you to write so well, neat, neat things that can be seen, things that are legible. And you shall shape letters well the way madam will.*" Ms Ombije is then welcomed. "*So we are going to learn about handwriting the way madam has said,*" says Ms Ombija. "*In handwriting we deal with what we call upper case and lower case*". She draws ruled lines on the chalkboard using a metre ruler then reads the first sentence aloud, "*She likes reading, so is her brother*". The learners repeat then she writes on the drawn ruled lines.

T7's use of Mediated Instructional strategies in teaching Literacy skills to learners with cerebral palsy

T7 Started off all her lessons with rhythmic statements and singing. Together with the co- teachers T7 engaged the learners in the performance of the activities. In the first lesson observed, the first twelve (12) minutes were spent in greetings. Then the teacher went on to introduce the lessons. The first lesson consisted of teaching of the vocabulary on parts of the body. The second lesson observed was about the letter names and third on phoneme segmentation.

Direct teaching

T7 taught all her lessons directly. In teaching the vowels in the second lesson observed, she introduced those using flash cards with letters and pictures and the sounds they make. New words on parts of the body were also taught directly, introducing each and touching the body part.

Peto strategies

This is an excerpt of how T7 started off her first reading lesson which involved Peto strategies.

Rhythmic Repetition

In the first lesson, T7 began her lesson by singing to the learners to perform an activity, in Kiswahili. "Children *meza matee...eeee...! meza mateeeeee...!* (Swallow saliva. eeeee.... swallow saliva eeee...!). Each child is called upon to do so. She then introduces the lesson on parts of the body.

T7 then tells the class, "everybody, touch your head", head". Angela, head; Jonnie, head. My head, head. Very good!" says T7. Look at Jogo's head. Very good officer! "Sadik, your head, *shika kichwa*". Very good, Lets touch our hair. "*Shika nywele*", your hair. *Bigi, hair Babu, hair; Lisa's, hair*. Parts of the body are identified as learners together with the teacher continue to read orally from a chart. The second lesson observed started with a musical tune and body movement:

T7: How are you good children?

Pupils: Thank you teacher (*with a drugging effect*)

T7: What is the day today?

Pupils: the day today is Thursday

All this while, the other teachers are responding to T7's questions on behalf of the learners who are not able to respond verbally, but going at the pace of those who are able to utter something.

T7 then says, "*Sasa tunataka kusalimia* Angela (Now we want to greet Angela).

Hello Angela Hello (*Singing*). How are you? Fine! (response). Good morning Angela, good morning. How are you Angela, Fine thank you. Are you a boy or a girl? I am a girl. Heeeee!! Then, clap! Clap! Clap! Well done, try again Angela is a smart and good girl.

Hello Joshua.... This continued until each and every learner has been greeted and recognized. Then the teacher introduces the lesson topic, vowels.

Prompting: In all the lessons observed, T7 used prompts

Physical prompt: This was observed when T7 steadied a child's head and touched his mouth while saying "mouth" during the teaching of parts of the body. Another child who was not able to touch his head was assisted to touch. The co- teacher went to him, held his hand and placed on his head. He was excited and the teachers clapped for him while saying, "well done well done try again another day, *watoto hawa ni wazuri sanaaaa!*(these children are very good)".

Verbal prompts: T7 assisted the learners in reading the words on parts of the body

Visual prompts: This was observed when the teachers touched parts of the body, ears, eyes, mouth, and head to teach reading of the new words on parts of the body.

Gestural prompt- Munching of an apple was demonstrated for the learners to identify the word 'apple'.

Encouragement/reinforcement

This was used in all the lessons observed. In the first reading lesson, T7 acknowledged Lisa's response, by saying 'very good and then went and shook her hand. All the learners who attempted to respond to teacher's instructions were encouraged in a variety of ways. In one of the lessons, Ian, a learner with some intellectual disability touched his nose and T7 acknowledged by saying, "very good, clap for Ian", and the whole class claps as they sing the 'well done' song.

Individualization

In all the lessons observed, learners were accorded individual attention, depending on their needs. For example, those who were unable to perform certain activities or actions on their own were physically or verbally assisted. In one of the literacy lessons, Mimi tried to touch her head when she was asked to show her head but she could not because of the weak hand muscles. T7's co-teacher held her hand and placed it on her head.

Use of artefacts/materials

The use of artefacts was in all the lessons taught. In the first lesson on parts of our body, T7 used a chart of parts of the body, 'Our body'. Lisia is asked to identify the 'head' on the chart brought closer to her. She struggles to reach out to the chart and touches a boy's head in a picture.

Real objects like an umbrella and flash cards with pictures and letters were used to teach the vowels. For example, T7, teaching reading to learners in level 1

used flash cards in two of the reading lessons. In one of the lessons, she taught the vowels and the sounds they make. Flashing a card showing a picture of an apple with letter 'a', she says, "/a/ for apple" and the learners repeat the same. She then flashes it at each child until all of them have had a chance of attempting the same statement. She picks on a card with a steam engine and letter E, same routine, /e/ for engine, /i/ for ice cream, /o/ for orange and /u/ for umbrella.

Teacher modelling/Demonstration

This was observed in both lessons. In the second reading lesson, teaching the vowel sound /a/, she mimicked the munching of an apple to introduce the association of the letter, picture with the word 'apple'. T7 also demonstrated covering herself with an umbrella to teach the word 'umbrella', as a word that starts with letter 'u' that gives a vowel sound. She said, "if it rains, we use umbrella". With the umbrella and the flash card, she went to each child, tries to cover herself with the child, shows the flash card and says, "/a/ for umbrella". Teaching vocabulary for different parts of the body was also observed when T7 demonstrated to the whole class.

Repeated reading

This was observed when the teacher engaged the learners in reading new words taught in all the lessons observed. During the second lesson, learners were engaged in repeating over and over reading of the words on parts of the body. This continued for each and every child. Towards end of the lesson, T7 engaged her learners in singing, 'Head shoulder knees and toes... eyes ears mouth and nose' as they touch and name parts of the body learnt. In the second lesson on vowels, the learners repeated each vowel introduced with the visual support. Once all have been taught and read, she led the learners in reading over again the vowels on the flash cards, the alphabet chart, and the chalkboard. T7 then engaged the learners in singing a song to piece them together as 'a e i o u' hizi ni nukta ndogo hesabuni mmoja kwa mmoja kama a e i o u (a e i o u, these are small letters, count them one by one as a e i o u)".

Collaborative teaching and learning

T7 taught grade one together with a co-teacher. As the teacher teaches, the co-teacher assists the other learners in either repeating statements with the learners or assisting individual learners physically with activities. In the first lesson when T7 was teaching 'our body, the 'head', Mimi could not touch her own head. The co-teacher held her hand and place on her head instead.

T8's use of Mediated Instructional strategies in teaching Literacy skills to learners with cerebral palsy

T8 taught level two classes. This is a class of ten learners (10) of which two experience speech and

motor difficulties. Below are the strategies that were used by T8.

Peto strategies

She started off her lessons by singing the song, "Head shoulder knees and toes..." together with the learners and touching body parts as they sang. She then introduced the reading lesson.

Rhythmic repetition

In the second lesson, T8 greeted the learners and started in rhythmic fashion, today is Thursday, tomorrow will be?" "Count the days of the week", says T8. They start, with T8 leading them and they follow in chorus. "Monday, Tuesday....." A poem is recited. "I wake up in the morning, I brush my teeth, I wash my body, I take my breakfast, I put on my uniform, I take my bag, and I run to school!" Good morning good, morning teacher, teacher, we are happy to see you teacher, teacher we are ready to learn here teacher, teacher (they shake hands as they sing) good morning good morning, good morning to you and how do you do? Fine!"

The next stage they are asked questions and they respond in unison.

T8: 'Where is the chair?

Pupils: The chair is there (pointing)

T8: Where is the table?

Pupils: The table is there.

T8: Where is the blackboard?

Pupils: The blackboard is here!

They continue until several items are identified with their location in the classroom. Individual learners are then asked to point at different items in the classroom. For instance, "Akoli, another boy with a physical disability is asked to go and point at the bottle". He goes and does it correctly. The class is asked to clap for him, as they say, "well done, well done Akoli is a good and smart boy!"

When asked to say how many boys are there in the classroom, Tabia started by counting aloud and pointing at each boy in class, "one, two, three, and four". "Very good, clap for Tabia!" says T8. The whole class claps and sings the "well done" song.

T8 then moves on to the alphabets and corresponding items with the first letter. "'A' for apple; 'B' for ball; 'C' for cat, 'D' for dog; and they continue " up to Z. The mediated instructional strategies used by T8 included:

Direct teaching

In the first lesson observed, T8 wrote letter 'A' on the chalk board and asked, "Brany, letter 'a' says? Brany responds with a slurred '/a/' sound. The other learners are asked the same question in turns. She again asked

another learner, Boby, 'A' for? He responds by saying "apple". The class is asked to clap for him. She draws a sketch of an apple on the chalkboard and asks Tabia, "Tabia, 'A' for? 'A', Apple", says Tabia.

Prompting

Different kinds of prompts were used by T8.

Physical prompts

In one of the writing lessons, Tabia was assigned writing of letter 'D'. With a pencil in her left hand, she tries to write like the teacher but experiencing difficulty. This teacher then holds the end of Tabia's pencil and glides it on the paper to write letter 'D'. After assisting another pupil in class, she moves to Brany, places the pencil in his hand, holds his hand to steady the wrist to write letter 'D'. This teacher supported Tabia by holding her wrist and gliding the pencil in her exercise book to produce letter 'C'

Pictorial prompts

Pictures with different items were flashed to individual learners and the whole class to prompt their reading of the words they had difficulties reading. For instance, Tabia could not read the word 'ball'. The teacher drew the picture of a ball on the chalkboard and Tabia remembered the word and said, "Ball". In the second lesson observed, another learner in class was asked to state what letter "B" stands for. T8 then displayed a picture of a ball and Tabia shouted with excitement, "Ball". Brany could not read the word 'Cat'. T8 drew a sketch of a cat (Appendix.....) and he said 'Cat'.

Verbal prompts

During the teaching of lesson two, learners were asked to identify what letter 'C' stands for. When they were defeated, T8 produced the sound made by a cat, "Mew", and they shouted out, "Cat, 'C' for Cat".

Teacher modelling/demonstration

This was observed in the first lesson when this teacher wrote letter 'C', both upper and lower case on the chalkboard. She told the learners, "let us draw it in the air". She motions writing of the letter in the air while facing the learners as they do the same. Tabia uses her left hand, writes 'C' facing opposite direction, following the teacher's hand movement. She realises her mistake then changes to her right hand and does it correctly, as 'C'. The teacher then says 'C' for cat. She draws a cat on the chalkboard then asks the learners, "Who is this?" "Cat", they repeat. "Tabia, who is this?" "Cat", she says.

Guided practice

T8 led the learners in practicing the identification of the letters of the alphabet and the names of items whose first letters correspond with the

letters of the alphabet introduced. These were: 'A' for apple; 'B' for Ball; and 'C' for Cat. In the second lesson, they were again led in practicing the same but with two additional names; 'A' for aeroplane; 'B' for ball; 'C' for Cat and 'D' for Dog.

Collaborative teaching and learning

T8 taught level two together with a co-teacher. The subjects were shared between them where each teacher handled different subjects. Even though they teach individual subjects, they partner in their respective lessons. While one teaches, the other assists with the learners' assignments and other class activities. This was observed in the two literacy lessons taught by T8. In both lessons, T8 was assisted by the co-teacher in issuing the reading materials and the work cards to the pupils. In the second lesson on writing, the co-teacher worked with Brany and the desk mate in showing them how to colour the drawing of a cat as T8 worked with Tabia.

Differentiation

During the writing lesson, the learners were engaged in writing the first four letters of the alphabet while Brany was engaged in colouring the space in letter 'D' and Tabia practicing writing letter "D" severally.

Use of artefacts/materials

T8 used different materials in teaching reading and writing. This teacher used flash cards with letters of the alphabet, Chalkboard illustrations, pictures and pupils' books, The ABC alphabets read, write and colour, by KIE. In lesson one, each learner was issued with a work card with letter 'C' both upper and lower case (C c) and a drawing of a cat and crayons for colouring the drawing.

T9's use of Mediated Instructional strategies in teaching Literacy skills to learners with cerebral palsy

T9 This is a class of eight learners. Three use wheel chairs. Two had significant CP of which one had no speech at all and all the limbs paralyzed. The other one had slurred speech and motor difficulties.

T9 started off one of her reading lessons by greeting the learners and calling out each learner by name through singing until each learner was greeted in a rhythmic fashion. She used the same method in teaching the new vocabulary. T9 started off her first lessons by singing "ABCD" song together with the learners. The following were the mediated instructional strategies used by T9.

Direct teaching

New words were introduced in the first lesson. Using sentences, T9 introduced the new words. She

started by asking the learners, “Who is there at the door?” Who is that? (Pointing) and the learners respond by saying, “Teacher Momo”. She then writes ‘**who**’ on the chalkboard. The learners read after her several times. She asks one of the learners to stand up. He struggles to stand and Teacher says, “ the pupil is standing up. He is standing up”. “Say ‘**he**’”. They repeat several times then she writes it on the chalkboard. She introduces the remaining words relating with their immediate environment and writes each word introduced on the chalkboard. These were ‘**has**’, ‘**she**’, ‘**her**’, ‘**his**’, ‘**my**’, and ‘**your**’. Ones all the words were taught orally, the teacher engaged the learners in reading them. During the writing lesson, This teacher involved the learners in reading the new words taught the previous lesson severally then rubbed single letters from each word and writing it above the presumed exercise. She told the learners, “Today we want to write. You are going to fill in missing letters.

Collaborative teaching

She taught reading and writing skills with her female co-teacher. In one of the writing lessons observed, T9 taught writing by filling in blanks with correct choice of letters to write complete words. *As the rest of the class copies the words in their exercise books, Munzi is assisted by the co-teacher in writing the exercise on a slate by filling in the gaps. The teacher has written the words with missing letters on a slate. Moody (Munzi) chooses the letters by looking at the letters and pointing his choice with a mouth stick. The co-teacher then writes Munzi’s choices whether correct or incorrect.*

Differentiation and Individualization

During the writing lesson, learners were engaged in writing in their exercise books. Munzi’s work was written on a slate with a piece of chalk, and he used a mouth stick to point at the missing letters to be used in filling in the blanks. Another learner also has a slate and a piece of chalk. He utters out the missing letters in each word with unclear speech as T9 writes his choices on the slate. The other learners use their exercise books and pencils to write.

Pace/Time

Jena writes in her exercise book, with the help of T9. Jena was also given more time to do the exercise for she takes long to write a word. She has unsteady movement and uses left hand to write.

Prompting/Scaffolding

Visual prompt

Before assigning a writing exercise, T9 engaged the whole class in creating gaps in each word. For instance, “when I rub one letter, you tell me what I have rubbed”, says the teacher. She then erases letter ‘o’ from the word ‘**who**’ and leaves it as ‘**Wh**’. Ashe then asks the class to tell her what letter she has rubbed. They respond in unison, “**O**.” “Good”, and I give you letter ‘o’ up here”, says T9. She then writes letter ‘o’ above the list of words. She does the same to all the other words (Appendix.....).

Verbal prompts

They were used during the reading lesson. Each statement to be repeated by the learners was repeated by the co-teacher. For example T9 asked a learner, “What colour is your dress?” Teacher Momo responded, “*My dress is blue*”.

Physical prompts

Munzi was assisted by the co-teacher in the writing lesson during the exercise. During the writing lesson, T9 shows jena the words not well spelt by physically pointing for her to see and work on them.

Repeated reading

learners were engaged in repeated reading. They read the new words over and over. In the writing lesson, the teacher wrote the words learnt on the chalkboard and led the learners in reading them repeatedly before embarking on writing.

Use of artefacts/materials

The teacher used the learners and the teachers’ clothes to construct sentences. For instance, ‘Look at teacher Momo’s dress, her dress is blue’. This sentence was used to introduce the word ‘**her**’. Another sentence was, “ Munzi is a boy. ‘**His**’ shirt is white and blue. He is not she. We use ‘**he**’ because he is a boy. We use ‘**she**’ for Jena”.

Encouragement/reinforcement

T8 reinforced her learners’ efforts by either clapping for them or offering verbal praise. When one of the learners was asked to stand up, T8 said , Brenda is standing up. **She** is standing up”. She then asked the class to clap for Brenda. They clapped while saying, “well done! Well done!” She also used ‘very good’ when she instructed Munzi to repair her statement, “my blouse is orange”.

Cross case analysis of the Mediated instructional strategies used by teachers in teaching literacy skills to learners with cerebral palsy**Table 7: Mediated instructional strategies used by teachers in teaching literacy skills to learners with cerebral palsy**

Mediated instructional strategy	Teachers who used mediated instructional strategies	Teachers who did not use mediated instructional strategies	summary on cross-cases
Prompting	All 9 teachers	0	All the nine (9) teachers used prompts
Peto strategy	T7, T8 and T9	T1, T2, T3, T4, T5, & T6	Only three (3) teachers used Peto strategy.
Direct teaching	All the 9 teachers	0	All the nine (9) teachers used direct teaching method
Collaborative teaching	T6, T7, T8 & T9	T1, T2, T3, T4, & T5	Only four teachers used collaborative teaching.
Use of artifacts	All the 9 teachers	0	All the nine (9) teachers used artifacts
Scaffolding	All the 9 teachers	0	All the nine (9) teachers used
Differentiation	T3, T5, T8, T9	T1, T2, T6 & T7	Only 4 out of 9 teachers used differentiation
Repeated reading/guided practice	T1, T3, T4, T5, T6, T7, T8, T9	T2	Only T2 did not use repeated reading strategy.
Demonstration/Teacher modeling	All the 9 teachers used	0	All the nine teachers used demonstration
Peer Support	T3 and T6	T1, T2, T4, T5, T7, T8, T9	Only two teachers used Peer support
Reinforcement/Encouragement	All the 9 teachers	0	All the nine teachers used reinforcements

T4 differentiated the content for learners with CP during a reading lesson. T5 differentiated the activities for learners with CP, T8 differentiated a reading and writing activities, T9 differentiated in both the reading and writing lessons.

The first objective looked into the type of mediated instructional strategies used by teachers in literacy acquisition among learners with CP. Results on teachers' use of mediated instructional strategies in teaching learners with CP stemmed from the responses analyzed from the teachers' questionnaires and the observations conducted in the classrooms. Bigge and Best [21] observe that since severity of cerebral palsy varies greatly from child to child they require programs that encompass individualized adaptations and differentiation of the classroom learning tasks and exercises. This implies mediating their learning which can cut across all other disciplines. The teachers used mediated instructional strategies in teaching literacy skills to learners with CP (Table .1, 2 and Fig. 3). All the 9 teachers whose lessons were observed used six mediated strategies of prompting, direct teaching, use of artifacts, scaffolding, teacher modeling and reinforcement. Even though the teachers indicated that they were using the mediated instructional strategies, they were not aware that what they were using were in fact the mediated instructional strategies. This was

revealed through observation and informal interviews conducted. An example was T2.

Collaborative teaching was observed in T6's class in one of the writing lessons. It was also observed in T7, T8 and T9's classes as they worked and assisted each other during the literacy lessons. It has been observed that teachers can also modify assignments that require a good deal of writing or request the assistance of an aide or student mentor to aid those with cerebral palsy in task performance [22]. T6 assisted Jeff in writing tasks. T6 enlisted the help of a co-teacher in the writing tasks to her learners of grade 3. This was strength on the part of T6. It is important to enlist the help of others as a form of mediation in teaching a concept as noted by Vygotsky in the zone of proximal development [2]. T1, T5, T6 differentiated writing tasks and writing materials as per the individual learner strategies. This is in line with National Dissemination Centre for Children with Disabilities and Hall and Harding [23] who observe that teachers should have knowledge of different learning styles to use the approach best suited for a particular child with CP, based upon that child's learning abilities as well as physical abilities. However, this did not go beyond the timely lessons instead, new concepts followed in subsequent lessons; meaning, no adequate time was set

aside for more practice. This explains why learners with CP have problems with reading and writing skills.

CONCLUSION

All the 9 Teachers observed used mediated instructional strategies in teaching literacy skills to learners with cerebral palsy. The study also revealed the variation in the strategies used by each teacher. The study revealed that not all the teachers were aware that the strategies they were using were the mediated instructional strategies, to an extent that they did not pay attention to important aspects of mediation, instead focused on the normal teaching without individualization of the instructions.

The study reveals that Teachers used elements of scaffolding such as prompting, artifacts, modeling and differentiation and combined these support systems with direct teaching. However the use of scaffolding combined with direct teaching varied among teachers since some teachers used only two strategies when mediating instructions in specific lessons.

RECOMMENDATIONS

Teachers should assess and establish the untapped skills or strengths in learners with CP to help in choosing a combination of mediated instructional strategies appropriate in teaching literacy skills to these learners.

RECOMMENDATIONS FOR FUTURE RESEARCH

Studies need to be conducted to establish teachers' level of understanding of the use of mediated instructional strategies in teaching literacy skills acquisition to learners with cerebral palsy

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