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**A Case study Report on Curriculum Modifications to Support Inclusion of Physical Education for a child with special education needs in Dubai, United Arab Emirates**

*BY*

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**Abstract:**

Physical Education (PE) is an important element in the development of all learners and especially learners with special needs. Although inclusion in the still fairly young in the UAE, developing education system of the physical education has been the focus of adoption in schools following the newly adopted National Strategy for Empowerment of People of Determination (2017). Nowadays inclusion in general and PE support in the curriculum is the norm. This paper examines the modifications applied to an IEP to support the inclusion of a child with special needs in a mainstream school in United Arab Emirates (UAE). The focus of this paper will be to highlight the modifications which can be made to curriculum to meet the educational needs of a child with special education needs that includes PE as a main curriculum subject in a school in a private school Dubai. It ends with a set of recommendation for future practice.

**1. Introduction**

Currently Inclusion in the still fairly young and developing education system of the United Arab Emirates (UAE) however it has been adopted in practice (Gaad 2010b). Physical Education however has been the focus of adoption in schools following the newly adopted National Strategy for Empowerment of People of Determination (2017). The times has changed after almost 20 years ago, due to

numerous reasons of which the most conspicuous is the fact that at the present time “there is no federal legislation requiring accessibility for people with special needs” to education in the UAE (Bradshaw et al. 2004), nowadays inclusion in general and PE support in the curriculum is the norm. Mittler states that “the starting point for inclusion must be the curriculum and individual lessons that are accessible to all pupils” (2000). Therefore the focus of this paper will be to highlight the modifications which can be made to curriculum to meet the educational needs of a child with special education needs that includes PE as a main curriculum subject in a school in a private school Dubai.

## **2. Methods**

For collection of data for this study and validity purposes data triangulation (Bell 1999) was conducted consisting of observation based field notes, informal interviews with the teacher and teacher’s assistant as well as a review by discussion only of substantiating documentation.. All participants were assured that ethical constraints would be adhered to regarding anonymity given and respect of personal privacy strived for.

## **3. Background**

The subject of this case study is Khalid<sup>1</sup>, a seven year old boy in a private school in Dubai, UAE. He has been diagnosed as having Dandy- Walker syndrome (Parisi and Dobyns 2003) which is a “congenital brain malformation involving the cerebellum (<sup>2</sup>) and the fluid filled spaces around it” (<sup>3</sup>) with hydrocephalus (Buttriss and Callander 2003:27) developing in many instances which requires the insertion of a shunt<sup>4</sup> to aid in drainage of excess cerebral fluid build up in the brain. Khalid has had a shunt inserted for this purpose therefore care has to be taken during his physical therapy or play with the other

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<sup>1</sup> A pseudonym used for ethical reasons

<sup>2</sup> The base of the brain that controls movement.

<sup>3</sup> <http://www.ninds.nih.gov/disorders/dandywalker/dandywalker.htm>

<sup>4</sup> A tube surgically implanted to divert fluid

children as well as ongoing monitoring for signs of malfunction. This syndrome also presents with numerous autistic like characteristics <sup>(5)</sup> as seen by his frequent hand flapping and poor social interaction etc (Buttriss and Callander 2003:10). He has been enrolled at this school since September 2015, prior to which, according to his teacher he was in a mainstream school in Cairo, Egypt. His report from this school describes him as “a cheerful and happy boy”<sup>6</sup>, but does not give any details on his educational status or progress if any. The latter point and the teacher’s own recent ongoing experiences (approximately three months) working with Khalid resulted in her expressing disbelief and concern as to exactly what extend he had been included at his previous school. Khalid’s teacher is still currently developing and finalizing an individualized education plan (IEP) but no PE was spotted in the draft IEP. for his particular needs as the initial focus has been on managing and reducing his extreme screaming while familiarizing him with the classroom and his peers as well as developing his communication skills and sense of body awareness regarding toilet training. He is currently in a small class of 17 children all with mixed special education needs and abilities grouped in the age range 7 to 10 with a teacher’s assistant always present. The British National Curriculum is followed throughout this school and according to his teacher the level being taught in this class is based on being first grade (Lewis 1995) but varies in implementation according to each child’s ability.

#### 4. Discussion

##### 4.1 Educational Needs based on characteristics

Both the teacher and the teacher assistant described Khalid’s behaviour and characteristics as varied and challenging regarding meeting his education needs, many of which I personally observed and recorded in the field notes given. For the purposes of this paper

<sup>5</sup> <http://www.specialchild.com/archives/dz-021.html>

<sup>6</sup> (passage read to me during the informal interview but copy not provided)

those characteristics which specifically affect his educational needs are given as follows :

- Easily distractible, short attention span
- Poor Fine motor control : Apparent lack of flexibility and stiffness in manipulating smaller objects
- Infrequent eye contact
- Easily excitable by loud noises or busy activities resulting in bouts of inappropriate and uncontrollable laughter/ high pitched screaming or mumblings often preceded by blocking of his ears
- Difficulty in understanding concepts and relating theory to practice.

#### 4.2 Current Curriculum offered

The numeracy lesson observed was based on a lesson from New Heinemann Maths 1 ‘Numbers to 20’ School work book 1 and 2. This is in accordance with the British National Curriculum followed for a first grade lesson offered in a main stream classroom for number sequencing from 1 -10 (building to sequencing 10- 20) using a number line guide. According to the teacher the learning objectives/goals for a main stream class would be correct identification of numbers 1-10 and their sequence on the number line, matching similar numbers both orally and written. The children would begin by tracing over number sequences initially followed by writing in the missing numbers in blank spaces to complete the sequence with a number line as a guide. This would be followed up with identifying individual numbers by counting out similar objects in a picture and colouring them in to reinforce and clarify the abstract nature of numbers visually by providing visual counters. No PE was assigned as a goal in the IEP as he simply joined the whol class PE activity.

#### 4.3 Teacher’s Current Modifications to the Curriculum

In the case of Khalid several modifications to this outline of the curriculum have already been made by his teacher and can be described as follows :

- To combat the shortened attention span, for sequencing of numbers the teacher has used two laminated white and black number lines with each number in a box adjoining the next like a ladder with closed ends, where the printed sequence is broken into two smaller tasks 1-5 and 6-10 and she repeats the activity.
- For help in fine motor control large loose cards with numbers on are used to place on top of matching numbers on the number line as well as three dimensional plastic animalsto count by placing his finger on each one and counting aloud. The written component of the lesson is omitted.
- The teacher would call Khalid by name several times before starting his turn working at the activity or ask him to look at her and cue him by asking him where she was in order to encourage him to make eye contact with her.
- The teacher is very aware of his disruptive and easily excitable behaviour and would at times ask to hold his hands and call him by name in order to redirect him to the lesson before placing the task in front of him. She also kept activities as simple as possible and worked with him on a one to one basis frequently throughout the lesson.
- To improve Khalid's chances of understanding what was being taught several repetitions of the number sequence at short intervals was implemented. The use of props (plastic animals) was to provide further reinforcement of the concept. The teacher also explained and corrected Khalid more often to reinforce and clarify his understanding of the sequencing concept.

#### 4.5 Recommended Modifications to the Curriculum to Include PE

As can be seen from the above discussion and the account of the lesson observed some modifications have already been made by the teacher to accommodate and facilitate Khalid's access to the curriculum and attempt to improve meeting of his educational needs. However to further enhance his experience of this lesson and

accessibility to the curriculum additional modifications would be recommended to support the inclusion of PE as outlined below:

- Although the lesson has been shortened to counter his shortened attention span the bland black and white number line could be replaced with a more colourful option of numbers and corresponding pictures or a more three dimensional alternative consisting of a large colourful wooden bead abacus with printed numbers to count while moving across a rod which would help to keep the activity short but more interesting. That can be achieved in the playground too during routine games.
- The teacher could use a dowel stick balanced across an empty shoebox with a groove cut out of each end as the rod. Painted and numbered cardboard tubes as the beads could be threaded over this stick for counting. The use of a ‘surprise bag’ filled with different props for counting that the children could select themselves would also be useful to add variety to the activity to try and maintain Khalid’s attention focused on task for longer. An additional option is the introduction of a simple inexpensive toy keyboard where a sound key can be pressed in an incremental (tone) manner for each number counted aloud till you complete the sequence. e.g. 1(beep) , 2(beep) , 3(beep), 4(beep), 5(beep). That can be transmitted to any games activity in the playground to support adoption of sport. With the range of synthesized sounds available even in toys today this may be a fun way to learn for the entire class through association and if calm tones are used excitement levels could be contained.
- Khalid’s difficulty with fine motor skills could be eased by the use of bigger and thicker cards or even textured number blocks which could be positioned and ‘stuck’ onto a card number line with the use of Velcro. That could also happen in a game in the playground by involving the PE teacher in the IEP. This would help Khalid to manipulate the numbers with more ease when matching numbers

to a sequence and prevent him from unintentionally moving or bumping those already placed out of sequence. To achieve this fine grade sand paper or coloured glitter glue stuck onto thicker cardboard cards, wooden blocks or empty boxes with painted numbers on one side and Velcro on the other could be used. A corresponding number line with velcro running along its length would be used. Khalid could also use a cotton glove or sock on his hand to ease picking up of these modified counters as the cotton surface will form a large surface area to 'grab' onto the textured rougher surfaces while the Velcro will still aid in helping him to release the objects once place on the number line. Other possibilities could include the use of large magnetic numbers on a magnetic number line and the use of bigger props or plastic animals by the teacher when she asks him to count by touching each in turn.

- The teacher could alternate props and pictures to find which Khalid is most interested in, such pictures could include pictures of different sport activities. Once this has been established she can use them in conjunction with verbal and physical prompts to move them up to her eye level to encourage Khalid to follow them and so make more frequent eye contact with her and hopefully increase the level of his attention being directed to the task at hand.
- There are numerous software programmes and other assistive technologies (AT) available which are tailor made for specific special education needs. This lesson and its concepts could be made accessible to Khalid through AT delivered interactive activities especially since it has been observed that he enjoys low volume interactive music toys. Therefore as the classroom already has its own personal computer it would be recommended that this aspect be investigated further and if possible implemented as part of Khalid's educational provision in a quiet corner when the rest of the class is engaged in very busy or noisy interactions and

activities. Thereby ensuring that time available is maximized for his learning instead of behaviour management.

- To assist Khalid with his difficulty in understanding concepts numerous approaches should be employed with frequent repetitions to reinforce newly presented ideas. For number sequence besides the use of numerous and varied props, pictures used could be colour coded to match symbol number cards and their specific place on an enlarged large number line. Another option could be the use of a single symbol number card e.g. number 2 with a picture of 2 rabbits on it, attached by a string to additional picture cards amounting to that number. E.g. 2 separate cards with a rabbit picture on each. Additionally white artificial fur could be stuck onto an oversized number 2 to correspond with the same number of white rabbit cards where a small piece of the same fabric could be stuck onto each rabbit picture. Each activity should incorporate counting aloud to reinforce the concept of number sequence. Now this can also move to actual PE based activity in the playground.

## **5. Conclusion**

Expectations from the recommended modifications would be to hopefully improve the level and completeness of the education Khalid is able to receive through increasing his accessibility to the curriculum being provided but with a focus on sport and PE activities that are included in the IEP. As the teacher still expressed her frustration with dealing with some of the more challenging aspects of Khalid's behaviour which impact on his education it is to be questioned how well the current modifications made are serving his educational needs. Therefore although additional curriculum and lesson modifications would further impact on the teacher's workload due to their labour intensive nature, I believe that any suggested recommendations that include PE activities which may improve on the situation would warrant a trial application period. Provision of additional PE based support for the teacher in the form of training and resources etc,

should be considered as part of all recommendations. This would be in order to ensure that the continuation of further such ongoing trial and error attempts that effective educational provision can be made a reality for all children and one more step taken towards enabling inclusion.

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