Strategies when teaching pupils with Global Development Delay within physical education

Global Developmental Delay (GDD) occurs in 1,043,449 people in England (The Improving Health and Lives Learning Disabilities Observatory IHAL, 2013), it is therefore likely that physical educators will cross paths with GDD students within their career. GDD is a significant delay in a number of key human skills and is not just where students are slightly behind other peers. It is a substantial lag and as such needs specific attention and careful planning. There are five areas developmental delay students have difficulties with, language, social, behaviour and daily living (Department of Community Child Health, 2006) but the main concern to physical educators is the delay in fine and gross motor skills. Although this will create many challenges within mainstream core lessons, Physical educators can play an important role for GDD students with research showing that they are able to decrease the learning gap for pupils affected by GDD (Rogers & Dawson, 2010).

This article goes about to substantiate how physical educators can provide for those with global developmental delay, despite the fact that lessons consist of the development of fine and gross motor skills. Specific detail will focus on the effective use of ICT and questioning and how these can be planned and used effectively within lesson to help develop and progress pupils with GDD.

Presentation of lessons through ICT

Research has proven that global learners are most likely to be visual processors (Silverman, 2002). For students with GDD learning processes need to be simplistic, repetitive and systematic in order for them to remain interested and develop knowledge. Criteria should be given to these students in a structured, clear and basic format since it suits their learning needs (Grabe & Grabe, 2007). ICT should be at the forefront of this since these students generally have a visual eye and it can easily be incorporated into a physical education setting such as reciprocal sheets. These students are able to focus on not only the performing strand of physical education but the coaching strand where they can provide feedback to their partner, effectively coaching them on how they can improve. It develops the student in all aspects of physical education; it helps them to achieve academically,

something that is rare for these students. Lessons that can be converted onto technology such as Prezzi that are used as a specific ICT tool within special educational settings which is receiving increased attention (Forcier & Descy, 2008; Parette, Blum & Hourcade 2010). This use of ICT is thereby at the forefront of improved learning and since it can include visuals, audio and questioning it engages students with developmental delay and enhances learning further.

<u>Structuring the lesson through ICT</u>

Effective use of ICT within physical education breaks the information down into manageable amounts helping students to retain the information faster. It is important that visuals provide structure in a useful manner (Hansen, 2014) which helps students understand new material and the use of slides within a Powerpoint presentation, Prezzi or Nearpod can help achieve this. For example, within swimming, providing an overview on one slide of the technique of front crawl and then then within further slides break down the technique into phases , arm stroke technique, bilateral breathing technique and streamlined position, repeating the information at intervals. This content is approached in a way that students are able to understand and assist comprehension of instructions and learning outcomes (Turner & Spears, 2011). This allows students to look at the content in a different way, unique to them, making them more likely to grasp the concept and progress their learning. Structuring the lesson this way through the use of images, pop up visuals and limited text is crucial to stimulate these learners to want to continue. The use of visuals prevents the overloading of information which collapses the information processing system of a student with developmental delay (Akizuki & Ohashi, 2015). For example if the lesson is based upon the side foot pass in football it is crucial to mix up the ICT tool with relevant images such as where the non-kicking foot is placed in relation to the ball, where the kicking foot makes contact with the ball and then include irrelevant images which are of interest to the individual such as their favourite cartoon or TV show. This enables students to remain focused on the task as it contains content that is of interest to them which helps them to stay engaged in learning as they then believe all the images are important. It helps

students not to be fearful of learning new material and to become more independent within the lesson, like their peers.

Use of sound

Those with developmental delay find reading difficult and have a reading age lower than their actual age (Tunmer & Chapman, 2015; Metsala & Ehri, 2013; Balajthy & Lipa-Wade, 2003). The use of individualized audio teaching points via podcats or using similar technology can channel these students away from this weakness, creating a level of independence for the GDD student as they do not have to rely on the teacher or other students to understand the information given.

> "It makes the independence easier for students through software that will be developed to make the learning process easier" (Kurosu, 2014, p211).

This learning process is made easier yet through the use of different audios such as you tube links, audio recordings which can link back to questioning where students can record their answers and play them back with sounds that indicate their answer to these questions is correct - applause. These pedagogies establish ideal learning conditions to sustain engagement, encourage achievement and increase the eagerness to learn (Noonan, 2013). Since their reading level is generally lower than their age the audio speaks in simple sentences using basic words and prepositions to increase the rate of language development (Edwards, 2014). This looks at not only improving students in a physical education context but in cross curricular subjects such as English where students make links between sound and word recognition. Global learners want to acquire knowledge holistically (Felder & Spurlin, 2005) where they want to learn to understand everything there is about the skill being taught from the technique required to word recognitions and a tool such as audio guides them to do this.

<u>Personalising ICT</u>

Personalising the video to say the students name, (e.g. Tom) should be used in order to keep students attention focused on learning as they "have problems such as distractibility and short attention spans." (Harris, Nagy & Vardaxis, 2014, p510). Explaining tasks and giving students information prior to saying their name helps students feel involved in the learning process and it ensures learning outcomes have been met as they have remained fully engaged. It is important to consistently say the students name when giving instructions or learning criteria (Swift, 2013), particularly in busy situations (Andrews, 2012) where their attention span may be shorter.

Questioning

<u>Assessment for learning</u>

In any Physical Education setting questioning should be prominent since it is an integral part of assessment for learning which helps Physical Educators evaluate students learning. It is important that students with developmental delay are questioned just like any other learner on their knowledge, but that it is pitched at the correct level; the learner's information processing capabilities must match the questioning of a task making motor learning most efficient (Akizuki & Ohashi, 2015). For example, consistently referring back to key teaching points of front crawl arms in swimming and continually questioning them on these points helps these students to remember the correct technique and as a result perform better.

<u>Teacher led questions</u>

Using repetition within questioning attracts the learner to critical elements of the taught technique, skill or learning objectives within the lesson, prompting them to answer correctly (Rice, 2006; Parette, Hourcade & Blum, 2011) when posed with teacher-directed questions. Despite the fact that teacher led questions are out of developmental delays' comfort zone **(**Walcot-Gayda,2004) it provides a new challenging and stimulating learning environment, just like ones their peers face helping

them to feel included in the lesson whilst still being individually catered for. If the teacher question only provides two possible answers to the questions, this creates a challenging environment whilst not totally disengaging the GDD students from learning. It pushes them to achieve more through improved self-efficacy. These two possible answers can begin with simple 'Yes' or 'No' options and then move up the scale of Bloom's hierarchy of questions to develop the students thinking skills.

Self-selected topics

Deviating from teacher led questions also allows the chance for self-selected topics to occur within the Physical Education settings. The teacher can still guide the GDD students but allow some element of choice for them to be able select some aspect of the learning from within the lesson. Developmental delay students "exhibit knowledge of concepts when tested orally on self-selected topics." (Walcot-Gayda,2004). The teacher can see from these answers if learning intentions have been met and to what extent and then might use more directed questioning for the particular topics that were not slected by the GDD students.

The use of teacher-directed and self-selected questions before, during and after a skill, for example the B.E.E.F shooting technique in Basketball ingrains this content in their mind, helping them to make connections and understand the links made throughout the lesson; "Global learners tend to learn in large jumps, absorbing information almost randomly without seeing connections and then suddenly getting it" (Williams, 2003, p442).

ICT and questioning can be specifically tailored to meet the requirements of the individual (Parette, Hourcade & Blum, 2011) setting them achievable targets which explicitly nurture and improve students capabilities in the area of physical education. Global learners are not fully aware of their strengths and traditional teaching does not make room to address these strengths (Fedler & Spurlin, 2005) however the use of ICT tools targets these individual students to exercise them in their own unique learning environment.

Summary

The strategies listed enhances all four aspects that someone with GDD may find difficult;

Perceiving, thinking, remembering and learning (Zhang, 2008).

Perceiving - repetitive strategies are used,

Thinking - answers questions orally either teacher directed or with topic self selection

Remembering and learning - information given is concise, brief with easy terminology and answers can be recorded for their own learning purpose.

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